

Agenda
8:00 a.m. Thursday, May 17, 2018
Hamilton Campus, Wilks Hall A and B

Public Business Session - Announcements, Attachment A

- 5 min** Chair
Approval of Prior Meeting Minutes, Final Attachment
ASG Updates
Graduate Student Update
University Senate Updates - Executive Committee Chair

Interdisciplinary Presentation, Attachment B

- 70 min** Integrated Presentation - Academic Degrees, Programs and Services, Provost, SVP Kabbaz, and VP Brownell

Student Affairs Reports - Vice President for Student Affairs

Presentations and Reports:

- 10 min** VP Update - As Necessary, VP Brownell, Attachment C
20 min Student Counseling and Mental Health, Director John Ward, Attachment D

Written Report Only:

Student Affairs "Good News", Attachment E
Campus Safety Data (Office of Ethics and Student Conflict Resolution), Director Susan Vaughn, Attachment F

- 10 min** Break

Enrollment Management and Student Success - SVP for EMSS

Presentations and Reports:

- 10 min** VP Update - As Necessary, SVP Kabbaz
20 min Enrollment Update, AVP Susan Schaurer, Attachment G

Written Report Only:

EMSS "Good News", Attachment H

Academic Affairs Reports - Provost

Presentations and Reports:

- 10 min** Provost Update, Attachment I
- Reports to the State
- Resolutions for Consideration
20 min Commerce and Nursing Highlights, CLAAS, Attachment J

Written Report Only:

Academic Affairs "Good News", Attachment K
E-learning, Asst Provost Cheryl Young, Attachment L
Advising, Assoc Provost Jeff Wanko, Attachment M

Academic Dean Presentation and tour

- 50 min** College of Liberal Arts and Applied Sciences, Dean Cathy Bishop-Clark, Attachment N

Other Areas

Forward agenda, Attachment O
Prior Meeting Minutes, Attachment P

Executive Session

If Required



Annika Fowler
Secretary for Academic Affairs
Associated Student Government
fowlerak@miamioh.edu

TO: Board of Trustees Academic/Student Affairs Committee
FROM: Annika Fowler
DATE SUBMITTED: May 7, 2018

Ladies and Gentlemen of the Board,

It has been my honor to report to you this year, and thank you for welcoming me to your meetings. As my first term comes to a close, I would like to share with you some of the outstanding work that has been done by ASG this year.

Academics

In early March, I had the opportunity to serve on a panel titled “College Textbooks and the State of Affordable Learning Initiatives in Ohio” held in Columbus and hosted by the Ohio Department of Higher Education and OhioLINK, as a part of the Governor’s State of the State events. As the only student on this panel, I was able to share Miami’s progress on open educational resources and affordable learning initiatives. I also met with several State Representatives and State Senators with our Director of Institutional Relations and Dean of Libraries following the panel. I have attached the flier for the event which shares some additional information.

This semester, we awarded the ASG Affordable Education Leader Award for the first time. Dr. Andrew Paluch, Assistant Professor in the Department of Chemical, Paper, and Biomedical Engineering, was selected as the 2018 winner. Dr. Paluch created an open textbook for the course: Chemical and Bio-Engineering Computation and Statistics. He developed the text with the following goals in mind: to create an “open” (free) textbook for the class, to lower the barrier of education, to be able to completely customize the text for class, and to create a resource for future classes and future endeavors. The idea for this award came from the Open Educational Resources & Affordable Initiatives Committee. The goal of this award, a collaboration between the OER committee and ASG, is to inspire educators to take part in these initiatives, helping to make education affordable not only here at Miami, but across the country. Dr. Paluch was chosen as the winner by both the OER committee and my committee of Student Senators.

For the annual ASG Outstanding Professor of the Year Award (OPA), we received 69 nominations (a record) from graduating seniors, recognizing 65 different professors for their hard work, dedication, and commitment to the university and student body. Dr. Mark Scott, Department of Electrical and Computer Engineering, was selected as the 2018 ASG Outstanding Professor Award Winner based on the criteria of fostering positive classroom experiences, engaging outside the classroom, impacting the greater Miami community, and impacting the nominator’s educational and career aspirations. We are grateful for Miami’s commitment to undergraduate education, and I enjoy this opportunity to honor such wonderful faculty.

Student Organization Funding

This year, our Secretary of Finance and Secretary of the Treasury worked with their Funding & Audit Committee to allocate \$753,601.88 to hundreds of student organizations through five funding hearings. With a substantial increase in the number of student organizations over the past few years without a substantial increase in funds, student organizations are seeing cutbacks to their requests. Next semester, the Red Brick Rewards Funding system, introduced to student organizations this semester and supported by the Student Senate, will be fully implemented to ensure allocated funds are being used for the greatest impact on Miami student life as possible.

On-Campus & Off-Campus Life

Our Secretary for Governmental Relations continued her initiative to aid in combatting high risk alcohol consumption by hosting free water bottle pass-outs Uptown on Friday nights. She hopes to continue this program on a larger scale next year and collaborate with student organizations beyond ASG. Additionally, ASG held voter registration drives on campus leading up to the deadline before the primary elections. Our Secretary for Advancement & Alumni Affairs hosted a

networking event for the College of Engineering & Computing in early May, giving students the opportunity to connect with about nine different employers and many other fellow students.

ASG collaborated with several different “green” student organizations to host Green Week 2018 in mid-April. Each day of the week focused on a certain topic such as recycling, renewable energy, local food, bees, and our ecological footprint. The week of events culminated in Earth Fest at Uptown Park on Saturday morning.

During “It’s On Us” Week this semester, ASG collaborated with Panhellenic, IFC, the Collective, Peer Hawks, and Diversity Affairs Council to host a Safety Forum for students. This forum included a panel of student leaders who discussed sexual assault on campus and brainstormed action steps. During the week, ASG tabled in Armstrong to raise awareness for the It’s On Us campaign and raised over \$400 which will be donated to Women Helping Women whose mission is “preventing gender-based violence and empowering all survivors.”

Student Senate

This semester, ASG Senate and Cabinet participated in Diversity Training, planned and hosted by Dr. Kelley Kimple and Ms. CJ Witherspoon and coordinated by our Secretary for Diversity & Inclusion. As an organization, we learned a lot about identity, bias, and inclusion, and we look forward to helping other student organizations connect with Miami resources to also engage in this valuable training next year.

Additionally, our Secretary for Diversity & Inclusion spearheaded an effort to establish an ASG Inclusion Plan for the 2018-2019 school year. The ASG Diversity & Inclusion Committee drafted an ASG Inclusion Statement to be included in our bylaws, and it was approved unanimously by Student Senate. Next year, ASG will be prioritizing attendance at multicultural events, and ASG will ensure election packets and funding cycle information are translated into four other languages – Mandarin, Vietnamese, Korean, and Spanish. Student Senate has also passed legislation on the lowering of on-campus laundry prices and on support for increased Resident Assistant (RA) compensation.

In March and April, ASG held the Student Body President and Vice President Election, as well as elections for Executive Cabinet, Off-Campus Senators, and Academic Senators. Three tickets ran for Student Body President & Vice President, and over 3,000 students voted in the general election. We look forward to the leadership of the next administration as we continue many initiatives from this year and tackle new challenges.

ASG would like to extend our congratulations to Student Trustee Cremeans on her appointment. We have already seen her attending Student Senate meetings and our diversity training, and we are excited to work with her during her term. I look forward to reporting to you next year, as I was re-elected to my position. As always, thank you for your dedication to Miami University and your continued support of the student body.

Love & Honor,

Annika Fowler
Secretary for Academic Affairs



Department of
Higher Education



OhioLINK

An OH·TECH Consortium Member

College Textbooks and the State of Affordable Learning Initiatives in Ohio

March 6th, 2018

State of the State

10:00–11:30 a.m.

Otterbein University

Towers Hall

Ohio is lowering the cost of course materials for its college students.

We'll be celebrating our successes—and talking about what's next—as part of the activities surrounding Governor Kasich's 2018 State of the State at Otterbein University, and you're invited.

Join OhioLINK and the Ohio Department of Higher Education for a discussion on textbook affordability and open educational resources, led by an esteemed panel of experts, practitioners, and students from around the state. Topics to be covered include ongoing grant activities, academic freedom and choice, inclusive access, and commercial textbooks.

We'll share how Ohio is leading the way on the issue of affordability and open educational resources, outline current initiatives in the state, answer audience questions, and we'll make some exciting announcements of our own. We hope you'll join us.

Meet our panelists



Patrick A. Bennett

Franklin University's Vice President, International Institute for Innovative Instruction & Global Operations



Kelly Broughton

Assistant Dean at Ohio University Libraries



Bob Butterfield

Instructional Resource Services Director for the University Library at University of Wisconsin-Stout



Dr. Dorey Diab

President of North Central State, representing the 15 community colleges in the OER Grant Group



Alyssa Darden

Franklin University's Director of Learning and Library Resources



Gigi Meyer Escoe

Vice Provost for the University of Cincinnati



Annika Fowler

Student and Secretary for Academic Affairs at Miami University



Dr. Shanna Jaggars

Director of Student Success Research for the Office of Distance Education and E-Learning at The Ohio State University



Sara Rollo

Assistant Professor at North Central State College



Gwen Evans

(Moderator)
Executive Director of OhioLINK

This event is open to the public. No RSVP required. Please feel free to forward the invitation to interested parties.

Free parking will be available on surface lots near the building. For a detailed map of campus, go to campustour.otterbein.edu/downloadcampusmap. Towers Hall is marked as 31, with parking options marked in blue, numbers 14 and 17.

I Amam Miami,

I believe...-

that a liberal education is grounded in qualities of character and intellect.

I stand...-

for honesty, integrity, and the importance of moral conduct.

I respect...

I defend...

the dignity, rights, and personal property of others and their right to hold and express
disparate beliefs.

I honor...

I defend...

the freedom of inquiry that is the heart of learning.

I exercise...-

good judgment and believe in personal responsibility and accountability for others.

I welcome...-

a diversity of people, ideas, and experiences.

I embrace...-

the spirit, academic rigor, opportunities, and challenges of a Miami Experience,
preparing me to make the world a better place.

I demonstrate...-

Love and Honor by supporting and caring for my fellow Miamians.

And because ~~I Am~~We are Miami,

We act...-

through ~~my~~ words and deeds in ways that reflect these values and beliefs, and will
speak up when we see others not living up to our ideals.

With a deep sense of accomplishment and gratitude,

We will...-

Love, Honor, and make proud those who help me earn the joy and privilege of saying,

"To think that in such a place, I led such a life."

**EXECUTIVE COMMITTEE of UNIVERSITY SENATE**

Shelly Jarrett Bromberg, Chair

Terri Barr, Chair-elect

University Senate Website: www.miamioh.edu/senate/

May 18, 2018

To: Board of Trustees, Academic and Student Affairs Committee
 From: Shelly Jarrett Bromberg, Chair, Executive Committee of University Senate
 RE: University Senate Report to Board of Trustees - May 18, 2018 Meeting

Executive Committee of University Senate membership:

- Shelly Jarrett Bromberg, (Spanish and Portuguese), Chair
- Terri Barr, (Marketing), Chair-elect
- Helaine Alessio (Kinesiology and Health), at-large member
- Maggie Callaghan (Student Body President), undergraduate
- Caitlin Martin, graduate student
- Phyllis Callahan, Provost, Chair of University Senate
- Jeffrey Wanko, (Associate Provost), Secretary of University Senate
- Becky Sander (Executive Assistant for Admin Services), Recording Secretary

The following summarizes items of University Senate Business conducted since the Executive Committee submitted a report to the Board of Trustees on February 16, 2018.

- New Business, Specials Reports and Updates delivered to University Senate:
 - **February 12, 2018** – SR 18-03 - Proposed change to the University Honors Program Advisory composition, Senate ByLaws, 6.B.13.a
 - **February 12, 2018** - SR 18-04 - Proposed change to the Council on Diversity and Inclusion composition, Senate ByLaws, 6.C.4.a.
 - **February 12, 2018** - SR 18-05 - Proposed change to the International Education Committee composition, Senate ByLaws, 6.C.7.a.
 - **February 12, 2018** - Fiscal Priorities and Budget Planning Committee, Amit Shukla, Chair
 - **February 26, 2018** - Council for Undergraduate Curriculum – Gillian Oakenfull, Chair
 - **February 26, 2018** - Graduate Student Survey results – Jeff Carr, President, GSA
 - **February 26, 2018** - Athletic Policy Committee, Bob Applebaum, Chair
 - **March 12, 2018** - SR 18-06 - Applied Biology Major – Paul Harding, Department of Biological Sciences
 - **March 12, 2018** - LCPL Report – Stephen Wright and Sherrill Sellers, LCPL Ad Hoc Committee Co-Chairs
 - **March 12, 2018** - Governance Committee Report - Jim Kiper, Chair
 - **April 2, 2018** - SR 18-07 – LCPL Second Promotion Point
 - **April 2, 2018** - Academic Policy Committee, Dana Cox, Senate Liaison
 - **April 2, 2018** - Council on Diversity and Inclusion, Ron Scott and Jane Goettsch, Co-Chairs
 - **April 9, 2018** - SR 18-08 – LCPL Title Changes
 - **April 9, 2018** - SR 18-09 – Amendment to Second Promotion Point Resolution (SR 18-07)

- **April 9, 2018** - Compliance Issues and State Mandates – Carolyn Haynes, Associate Provost and Randi Thomas, Director of Institutional Relations
- **April 9, 2018** - Faculty Welfare Committee, Keith Fennen, Chair
- **April 9, 2018** - Campus Planning Committee, Rob Schorman, Chair
- **April 9, 2018** – SR 18-10 Promotion and Tenure Guidelines
- **April 16, 2018** - MUPIM 7.11.E Discussion
- **April 30, 2018** – Associated Student Government Report, Maggie Callaghan, ASG President
- Minors, revisions to existing degrees, name changes and University Policies received and approved on the University Senate consent calendars:
 - **February 12, 2018** – New Certificate, CJS – Criminal Justice Administration Certificate
 - **February 12, 2018** – New Certificate, CMR – Customer Service Certificate
 - **February 12, 2018** – Revision to Existing Major, GEO – Urban and Regional Planning
 - **February 12, 2018** – Revision to Existing Major, NSG – Nursing (RN-BSN)
 - **February 12, 2018** – Revision to Existing Major, NSG – Nursing (4 year)
 - **February 12, 2018** – Revision to Existing Degree, ENG – English – Doctor of Philosophy
 - **February 12, 2018** – Revision to Changes of Registration Policy (Student Handbook 1.2.C.1)
 - **February 12, 2018** – Revision to Textbook Policy (MUPIM 10.4)
 - **February 12, 2018** – Revision to Guidelines for Forming Master’s Examining Committees (Graduate Handbook 4.1.D)
 - **March 12, 2018** – New Major, BSC - Applied Biology (Bachelor of Science)
 - **March 12, 2018** – Revision to an Existing Major, CEC – General Engineering
 - **March 12, 2018** – Revision to an Existing Major, CEC – Computational Electrical and Computer Engineering
 - **March 12, 2018** – Revision to an Existing Major, EDT – Foreign Language Education
 - **March 12, 2018** – Revision to an Existing Major, ECE – Computational Electrical and Computer Engineering
 - **March 12, 2018** – Revision to an Existing Major, FSW – Social Work
 - **March 12, 2018** – Revision to an Existing Major, MKT – Marketing
 - **March 12, 2018** – Revision to an Existing Major, POL – Political Science
 - **March 12, 2018** – Revision to Registration - Graduate Students (Graduate Handbook 1.2)
 - **April 2, 2018** – Revision to an Existing Degree, Associate of Technical Study
 - **April 2, 2018** – New Minor, ARC – Architecture and Interior Design
 - **April 2, 2018** – Revision to an Existing Major, ARC – Architecture
 - **April 2, 2018** – Revision to an Existing Major, ARC – Interior Design
 - **April 2, 2018** – Revision to an Existing Major, ENG – Linguistics
 - **April 2, 2018** – Revision to an Existing Major, MME – Manufacturing Engineering
 - **April 2, 2018** – Revision to an Existing Major, SOC – Sociology
 - **April 2, 2018** – Revision to an Existing Major, THE – Theatre
 - **April 2, 2018** – Revision to an Existing Major, WST – Individualized Studies
 - **April 9, 2018** – Revision to an Existing Major, EDT – Pre-Kindergarten Education
 - **April 9, 2018** – New Minor, ENG – Medical Humanities
 - **April 9, 2018** – New Minor, ISA – Information Security
 - **April 9, 2018** – Revision to an Existing Major, BUS – Interdisciplinary Business Management
 - **April 9, 2018** – Revision to an Existing Major, ECE– Engineering Management
 - **April 9, 2018** – Revision to an Existing Major, EDT – Early Childhood Education
 - **April 9, 2018** – Revision to an Existing Major, ENG – Professional Writing

- **April 16, 2018** – Revision to an Existing Major, EDT – French Education
 - **April 16, 2018** – Revision to Schedule Changes for Final Examinations or Other Evaluative Substitution (Student Handbook 1.4.B and MUPIM 10.3.B)
 - **April 23, 2018** – Revision to an Existing Major, ECE – Computer Engineering
 - **April 23, 2018** – Revision to an Existing Major, ECE – Electrical Engineering
 - **April 23, 2018** – Revision to an Existing Major, KNH – Kinesiology
 - **April 23, 2018** – Revision to an Existing Major, NSG – Nursing (RN-BSN)
 - **April 23, 2018** – Revision to an Existing Major, SPA – Speech Language Pathology (MA, MS)
 - **April 23, 2018** – Revision to an Existing Major, THE - Theatre
 - **April 23, 2018** – Proposal to Revise P&T Criteria (Commercialization) (MUPIM 7.4.A)
- Senate resolutions:

SR 18-03

February 12, 2018

University Honors Program Advisory Committee Composition

BE IT HEREBY RESOLVED that University Senate endorse proposed revisions to the ByLaws of University Senate, 6.B.13.a, regarding Committee composition and membership of the *University Honors Program Advisory Committee*.

SR 18-03 passed by voice vote

SR 18-04

February 12, 2018

Council on Diversity and Inclusion Committee Composition

BE IT HEREBY RESOLVED that University Senate endorse proposed revisions to the ByLaws of University Senate, 6.C.4.a, regarding Committee composition and membership of the *Council on Diversity and Inclusion Committee*.

SR 18-04 passed by voice vote

SR 18-05

February 12, 2018

International Education Committee Composition

BE IT HEREBY RESOLVED that University Senate endorse proposed revisions to the ByLaws of University Senate, 6.C.7.a, regarding Committee composition and membership of the *International Education Committee*.

SR 18-05 passed by voice vote

SR 18-06
March 12, 2018
Applied Biology (Bachelor of Science)

BE IT HEREBY RESOLVED that University Senate endorse the proposed degree, Bachelor of Science, with a major in Applied Biology, College of Liberal Arts and Applied Science;

AND FURTHERMORE, that the endorsement by University Senate of the proposed degree and major will be forwarded to the Miami University Board of Trustees for consideration.

SR 18-06 passed by voice vote

SR 18-07
April 2, 2018
Lecturers and Clinical/Professionally Licensed Faculty – 2nd Promotion Point

BE IT HEREBY RESOLVED that University Senate endorses a second promotion point for Lecturers and Clinical/Professionally Licensed Faculty. To achieve promotion, the candidate must demonstrate:

- a cumulative record of high-quality teaching and academic advising;
- continued strong productive professional service; and,
- distinction or excellence in some area of pedagogy or service.

SR 18-07 passed by voice vote

SR 18-08
April 9, 2018
Lecturers and Clinical/Professionally Licensed Faculty – Title Changes

BE IT HEREBY RESOLVED that University Senate endorses changes in titles for Lecturers and Clinically / Professionally Licensed Faculty as follows:

For those lecturers currently holding a Ph.D. or other terminal degree, their title will be:

- Assistant Teaching Professor;
- Associate Teaching Professor; or,
- Teaching Professor

For those clinically / professionally licensed faculty currently holding a Ph.D. or other terminal degree, their title will be:

- Assistant Clinical Professor;
- Associate Clinical Professor; or,
- Clinical Professor

For those lecturers currently holding a non-terminal Masters degree, their title will be:

- Assistant Lecturer;
- Associate Lecturer; or,
- Senior Lecturer

For those clinically / professionally licensed faculty currently holding a non-terminal Masters degree, their title will be:

- Assistant Clinical Lecturer;
- Associate Clinical Lecturer; or,
- Senior Clinical Lecturer.

SR 18-08 was approved by roll call vote: 32 yay; 6 nay; 15 abstentions

SR 18-09

April 9, 2018

**Lecturers and Clinical/Professionally Licensed Faculty –
2nd Promotion Point (Revision to SR 18-07)**

BE IT HEREBY RESOLVED that University Senate endorses the following revisions to SR 18-07:

Senate endorses a second promotion point for Lecturers and Clinical/Professionally Licensed Faculty. To achieve promotion, the candidate must demonstrate:

- a cumulative record of high-quality teaching ~~and academic advising~~;
- **a cumulative record of high-quality advising (as assigned);**
- continued strong productive professional service; and,
- distinction or excellence in some area of pedagogy or service.

SR 18-09 passed by voice vote

SR18-10

April 16, 2018

Promotion and Tenure Guidelines for Dossier Preparation 2018-2019

BE IT HEREBY RESOLVED that University Senate adopts revisions as amended to the 2018 – 2019 *Promotion and Tenure Guidelines for Dossier Preparation*

SR 18-10 passed by voice vote

Sense-of-Senate

SR 18-11

April 30, 2018

Amendment to MUPIM 5.1

Whereas Miami's academic freedom statement (MUPIM 5.1) firmly associates academic freedom protections with tenure,

Whereas in 1950, when the statement was adopted, the board could not have predicted that seventy years later, the majority of faculty would lack due-process protections,

MUPIM 5.1 shall be amended to clarify academic freedom protections at Miami and ensure that they are robust. Two statements will be added after the penultimate paragraph.

1. The institution thus commits to the teacher-scholar model and seeks to preserve and, whenever possible, increase the ratio of tenure-line faculty to non-tenure line faculty.

2. Where provisions for tenure do not exist, the university will work to ensure academic freedom by establishing the process protections, opportunities for advancement through ranks, recognition of seniority, and conscientious peer evaluation.

Sense-of-the-Senate - SR 18-11 passed by voice vote

SR 18-12

April 30, 2018

Creation of Ad-Hoc Committee by Senate Executive Committee

BE IT HEREBY RESOLVED that an ad-hoc committee be appointed by Senate Executive Committee in consultation with Faculty Welfare Committee and Faculty Rights & Responsibilities Committee to consider Miami's needs, values and goals in relation to its faculty composition and to make recommendations about faculty composition that include due process and academic freedom protections appropriate to each category.

SR 18-12 passed by voice vote

SR 18-13

April 30, 2018

**Promotion and Evaluation Guidelines for
Teaching Professors, Clinical Professors, Lecturers and Clinical Lecturers 2018-2019**

BE IT HEREBY RESOLVED that University Senate adopts revisions as amended to the *2018-2019 Dossier and Evaluation Guidelines for Teaching Professors, Clinical Professors, Lecturers and Clinical Lecturers*.

SR 18-13 passed by voice vote

SR 18-14

April 30, 2018

Appointments to Standing and Advisory Committee of University Senate

BE IT HEREBY RESOLVED that University Senate confirm the 2018-2019 appointments to open seats of the standing and advisory committees of University Senate; and

BE IT FURTHERMORE RESOLVED that Senate authorizes Senate Executive Committee to confirm remaining 2018-2019 appointments to the standing and advisory committees of University Senate.

SR 18-14 passed by voice vote

SR 18-15

May 7, 2018

**Number of Teaching Professors, Clinical Professors, Lecturer and Clinical Lecturers
(MUPIM 7.11.E)**

BE IT HEREBY RESOLVED that University Senate endorse revisions to MUPIM 7.11.E., Number of Teaching Professors, Clinical Professors, Lecturer and Clinical Lecturers

The total number of any and all ranks of Teaching Professors, Clinical Professors, Lecturer and Clinical Lecturers shall not exceed **twenty-five percent (25%)** of the total number of fulltime tenured and tenure-track faculty.

SR 18-15 was approved by roll call vote: 43 yay; 9 nay; 5 abstentions

cc: Provost Phyllis Callahan, Chair, University Senate
Shelly Jarrett Bromberg, Chair, Executive Committee of University Senate
Jeffrey Wanko, Secretary, University Senate
Becky Sander, Recording Secretary, University Senate

Academic Degrees, Programs, and Services

ASA Integrated Report

Board of Trustees
May 17, 2018

Jayne Brownell
Phyllis Callahan
Michael Kabbaz



Academic Degrees, Programs, and Services- Purpose

- Academically, there is a strong focus on curricular offerings that advance the AAC&U Liberal education and America's Promise (LEAP) outcomes through the courses in the Global Miami Plan which is required of all students.
- Miami implements rigorous and thorough curricular approval processes while reducing or eliminating curricular redundancy.



Academic Degrees, Programs, and Services- Purpose

Support units, including Enrollment Management and Student Success and Student Affairs, are essential to maintaining academic quality because they offer co-curricular and other activities and opportunities that promote quality learning. Some examples are:

- service learning,
- community engagement,
- undergraduate research opportunities,
- library services and
- state-of-the-art classroom and research facilities.



Conclusion

Miami has an established record of high quality academic programs led by talented and dedicated faculty.

- The *2018 U.S. News & World Report* ranks Miami University the top public university in the nation for an "unusually strong commitment to undergraduate teaching."
- The *Fiske Guide to Colleges 2018* recognizes Miami for a "strong academic reputation, dedicated and accomplished faculty, high-caliber students, and high graduation rates."
- Since 2013, Miami has done an effective job of streamlining its course offerings. Since 2013, 700 new courses have been developed, while 2346 have been eliminated.

Although Miami has taken strides to streamline and enhance course offerings, more work needs to be done in relation to other aspects of the curriculum. During the same time period, 21 new majors have been created, with only one being eliminated. Similarly, 22 new minors have been developed, yet only six have been terminated.



Acknowledgments

- Carolyn Haynes, Associate Provost
- Denise Krallman, Director, Office of Institutional Research



Key Discussion Questions

1. What additional steps can be taken to address low-enrolled courses and programs, while still leveraging Miami's tenure-line faculty who might have expertise in these areas?
2. How might we better support programs with increasing and projected growth given the constraints on faculty resources?
3. How can we ease scheduling bottlenecks?
4. What processes / policies might we develop to ensure our curriculum is forward looking and competitive while retaining the breadth of knowledge and strong skill sets critical to student success?





ASA Integrated Report - Board of Trustees
Academic Degrees, Programs, and Services
May 17, 2018

SUMMARY

As with previous reports to the Academic and Student Affairs Committee of the Board of Trustees, this report has been created to align with the Higher Learning Commission's five broad criteria for accreditation. They are:

1. Mission.
2. Integrity. Ethical and Responsible Conduct.
3. Teaching and Learning: Quality, Resources, and Support.
4. Teaching and Learning: Evaluation and Improvement.
5. Resources, Planning, and Institutional Effectiveness.

Academically, there is a strong focus on curricular offerings that advance the AAC&U Liberal education and America's Promise (LEAP) outcomes through the courses in the Global Miami Plan which is required of all students. Miami implements rigorous and thorough curricular approval processes while reducing or eliminating curricular redundancy. Support units, including Enrollment Management and Student Success and Student Affairs, are essential to maintaining academic quality because they offer co-curricular and other activities and opportunities that promote quality learning. Some examples are: service learning, community engagement, undergraduate research opportunities, library services and state-of-the-art classroom and research facilities. Academic Program review, assessment, tested experience criteria for faculty and annual faculty evaluation ensure that a high quality learning experience continues to be the hallmark of a Miami University education.

INTRODUCTION

The mission statement of Miami University focuses on providing "a strong foundation in the traditional liberal arts for all students and [offering] nationally recognized majors in arts and sciences, business, education, engineering, and fine arts, as well as select graduate programs of excellence." Offering a purposeful, rigorous and efficient curriculum that leverages faculty resources optimally is critical to ensuring that Miami thrives as a top tier university and its students receive an outstanding education, graduate on time, and are well prepared for lifelong success.

Toward that end, Miami offers bachelor's degrees in over 120 areas of study. Graduate students choose from more than 60 master's and doctoral degree programs, and several associate's degrees as well as over a dozen bachelor's degrees are offered through study at the regional locations.

To keep pace with the changing needs of employers, Miami has developed new degree programs since 2014-15. Undergraduate programs in public health and education studies and a new MFA program in experience design are offered on the Oxford campus. New *certificate programs* in autism spectrum disorders, outdoor leadership, sport management, instructional design & technology, conservation biology, TESOL, and sport psychology have also been created. Additionally, a new games and simulation undergraduate major, as well as a professional master's program in digital entrepreneurship, are currently under development.

New baccalaureate programs on the Regional Campuses include: applied social research, commerce, communication studies, community arts, health information technology, English studies, forensic

investigation, forensic science, information technology, liberal studies (degree completion program), nonprofit and community studies, and psychological sciences. A new master's program in criminal justice has also been approved. A new baccalaureate degree in biological sciences is currently undergoing the approval process.

Miami assures the quality and appropriateness of its degree programs through a wide variety of summative, formative, internal, and external mechanisms that will be summarized in this report.

UNIVERSITY CURRICULAR INITIATIVES

In the past five years, Miami has instituted several major tools, policies and initiatives designed to enhance the quality and shape the size of its curricular offerings:

- **General Education Reform:** A major revision of the Global Miami Plan was completed and implemented in fall 2015. In addition to requiring fewer credit hours, the new general education program advances written communication and critical thinking and other 21st century outcomes and includes a new experiential learning requirement, i.e. a project-based capstone.
- **New Curricular Streamlining Policies:** To ensure that our curriculum uses resources effectively, several important academic policies have been recently developed:
 - Beginning in 2012, a threshold for low enrolled courses was implemented. At least 12 students must be enrolled in a section of an undergraduate course, and 7 students in a graduate section.
 - In 2017, a new procedure for deleting minors, certificates and Thematic Sequences with a five-year history of low or no enrollments was instituted. The impact of implementing this procedures is summarized in the Table 1.

Table 1: FIVE-YEAR CURRICULUM SUMMARY – 2013-2017 ACADEMIC YEARS

Curriculum Additions	Curriculum Deletions
700 Courses	2,364 Courses
21 Majors	1 Major
9 Co-Majors	
4 Concentrations in Existing Majors	3 Concentrations
15 Certificates	
22 Minors	6 Minors
29 Thematic Sequences	24 Thematic Sequences

- In 2016-2017, the required number of credit hours needed for graduation with an associate or bachelor's degree was reduced to 62 or 124, respectively, to better align our requirements with state standards and to promote college completion.
- **Multi-Term Course Scheduling** was begun in 2016 to help departments and divisions better align staff hiring plans with curricular needs.
- **Reduction of Program Duplication:** In response to a 2017 request by the Ohio Department of Higher Education, Miami University conducted an evaluation of six bachelor degree programs and three associate degree programs that were identified as having a track record of low enrollment while also duplicating similar programs at University of Cincinnati. The evaluation was based on retention rates; graduation rates; enrollment pattern over the past five years; employment of its graduates; and contributions to the core liberal education mission of the University. Miami engaged in a comparative analysis of the Miami and University of Cincinnati

programs to explore possible similarities, overlaps, distinctions, and possible synergies. To do this, the missions, requirements, and outcomes of the Miami program and its counterpart at University of Cincinnati were reviewed and analyzed. Additionally, Miami encouraged departments to engage in collaborations with University of Cincinnati as appropriate. For example, one department—the Department of German, Russian, Asian, & Middle Eastern Languages and Cultures—used this invitation as an opportunity to initiate collaborations with similar language departments at University of Cincinnati. In 2017-18, the two universities piloted a shared course in Hebrew language via synchronous instruction (remote video hookup), modelled on an existing collaboration between Miami and Ohio University in classical languages. The pilot will not be continued as the small scale proved inefficient and did not merit the necessary investments in technology and staff. Nonetheless the project enabled Miami to better identify the challenges and requirements of such a collaboration, for future use.

- **A First-Year Experience Course (UNV 101)** was developed in the past five years to assist students in transitioning into college. All academic divisions and campuses offer the course, and over 80% of entering first-year, first semester students enroll in it. In Oxford, completion of UNV 101 or other First Year Experience (FYE) courses did not result in a statistically significant difference compared with those who did not complete an FYE course (3.26 vs 3.31). In addition, there was no statistically significant difference between the retention rates for those who completed an FYE course (90.9%) relative to those who were not enrolled in an FYE course (91.2%). There was, however, a stronger impact of the FYE courses on the regional campuses. Students on the regional campuses who took UNV 101 had a first-semester cumulative grade point average of 2.74, while incoming regional campus students who did not enroll in UNV 101 earned an average cumulative GPA of 2.59. In addition, FYE completion relates to a higher retention to the second year (64.8% compared to 57.8%). It should be noted, however, that UNV 101 and other FYE courses have a number of learning outcomes, designed to meet the needs of first-year students, and the course was implemented to help with a number of issues at Miami University—only one of which is retention. As we review and revise our FYE courses, it is important to remember that retention is not a primary goal for these courses, but it is an important issue and all units of the university continue to pay attention to it.
- **New Curricular Technologies** have been launched in the last two years:
 - Miami implemented a new Course Catalog and Curricular Approval software (called “CIM” or Curricular Information Management System) to streamline the curricular approval process. The software (Leepfrog product) imports course information from Miami’s student information system (Banner), provides customized pre-populated forms for faculty proposers, automatically creates workflow without human intervention, identifies all impacted courses by a proposed change, tracks edits and comments, reports on status, and it automatically updates the General Bulletin (catalog) and student information system at the end of the process.
 - To ensure that classes align as closely as possible to approved time blocks, Miami launched a new online tool, called [PAVER \(Policy And Validation Effectiveness Report\)](#). This tool helps to determine how well an academic unit (department, division, campus) is meeting course-scheduling guidelines within established ranges to maximize student class selection, enhance room utilization, and reduce time block overlap.

Several significant curricular initiatives are now in the planning stages:

- **Boldly Creative: Strategic Academic Enrichment Program** (<https://miamioh.edu/academic-affairs/faculty-affairs/boldly%20creative/index.html>) is a new presidential initiative to support promising academic programs and research projects. These projects will advance knowledge in fields considered to be the most in-demand in the region and nation, prepare students with critical skills and processes, bolster Miami's reputation for academic quality and innovation, and demonstrate long-term sustainability. New programs related to health, data analytics and professional Master's Programs (degrees or certificates) will be the focus areas for pilot programs. In the fall of 2018, faculty will submit preproposals for review and evaluation for future programs.
- **Academic Interest Pathways** (Oxford campus) and **Career Clusters** (Regional Campuses) are new programs in the planning stages. Beginning in the 2018-19 academic year this initiative will support students on the Oxford campus who are exploring majors (undeclared majors) as well as all students on the regional campuses. This program will provide students with educationally coherent pathways (course scheduling blocks and co-curricular options), along with customized academic support and progress monitoring. Students will be able pursue a pathway which is associated with their interests and career goals and which guides them through initial academic requirements and into their chosen major or program of study. These new initiatives will be enhanced by charging a career development fee beginning with the 2018 student cohort. With these funds, Miami will broaden and deepen career exploration and professional development services. The fee will decrease the career advisor to student ratio, expand internships and immersive experiences, and enhance support for career exploration and planning activities for all students.
- Using input from a recent program evaluation, a significant **reform of the Miami University Dolibois European Center (MUDEC) curriculum** is in progress to advance the goals of increasing student enrollment and promoting best practices in international education.
- Early planning is underway for the launch of **uAchieve and uAchieve Planner** (College Source products) which will enable students and their advisors to build a four-year graduation plan which can be used to validate planned courses against the interactive degree audit check, and thereby potentially increasing graduation rates and decreasing time-to-degree. It will also enable department chairs and deans to plan course offerings to better match students' needs.

CURRICULAR PROCESSES

Standard Approval Processes are described in section 11 of the Miami University Policy and Information Manual ([MUPIM](#))

To ensure Miami is offering a high quality curriculum, all curricular proposals are vetted at multiple levels.

Departments submit proposals for *new degree programs and majors*. The forms include information relating to third-party accreditation, departmental mission, support services, program goals and learning outcomes, courses and course sequence, delivery methods, assessment, quality and expectations of faculty, budgetary implications as well as library and other resources. Proposal forms for new degree programs (including certificates) are revised annually to ensure that they include information that is needed to make informed decisions and that is aligned with the Ohio Department of Higher Education expectations.

Once proposals are created, new degree programs and majors undergo a rigorous, multi-tiered internal review and approval process that includes: the department or program, academic division curriculum committee, university-level curriculum committee (i.e., the Graduate Council or the Council for Undergraduate Curriculum), Council of Academic Deans, University Senate, and the president. The Associate Provost reviews all proposals at the initial stage to ensure that they are complying with federal, regional and state regulations, and the Board of Trustees approves all new degree programs, after all other internal bodies have granted approval.

Following the appropriate internal approvals, proposals for all undergraduate and graduate degree programs are then forwarded to the Ohio Department of Higher Education (ODHE). In its review of degree programs, ODHE follows a set of academic program guidelines that are articulated in the [“Guidelines and Procedures for Academic Program Review.”](#) Proposals are also posted for public scrutiny before receiving final approval.

Individual courses also undergo a multi-level review process that includes the department, the division, the Council of Academic Deans, and University Senate (MUPIM, section 11). The associate provost also conducts an initial review of all new and revised courses to ensure compliance with federal, state and regional regulations and to assess whether the proposed course unnecessarily duplicates or overlaps with an existing course.

Over 300 introductory Miami courses have been reviewed and approved by the faculty review panels of the Ohio Department of Higher Education to meet the outcomes and standards of the “Transfer Assurance Guides,” “Career Technical Assurance Guides,” and the “Ohio Transfer Module” so that course credit can be transferred within the State of Ohio System for general education and other degree requirements.

Special Approval Processes

Miami also offers a diversity of different types of courses and programs, such as online, hybrid, accelerated, or study abroad. Courses or programs that do not fall within the traditional parameters (e.g., on ground, on campus, and across a full semester) as well as general education courses must follow special guidelines and/or approval processes.

Proposals for all of the special courses are submitted into the Course Information Management System (CIM) and undergo the same multi-layered approval process used for all new courses. The only exception is international/study abroad courses and programs that are submitted on a separate platform and reviewed by staff in Global Initiatives.

These special courses undergo another approval step that is related to the unique pedagogy or objective of the course. Below are brief descriptions:

- **Global Miami Plan courses** must meet specific learning outcomes and are reviewed and approved by the Liberal Education Council (University Senate Committee). See below for more information.
- **Online courses and programs** on the Regional Campuses are developed, monitored and approved by the e-Campus staff. Faculty undergo [intensive training](#) prior to developing or teaching an online course. Oxford faculty are encouraged but not required to undergo [development](#) on using technology in the classroom.
- **Service Learning courses** must meet particular [learning objectives](#) and are approved by the Center for Community Engagement & Service Learning Committee.
- **University Honors courses** also must meet [specified criteria](#) and are approved by the Honors Program Advisory Committee (University Senate Committee).
- **International Credit Workshops** are reviewed by the Global Initiatives staff members for [best practices](#) in international education.

- **Accelerated delivery courses** (e.g., winter, summer, and sprint) must adhere to [federal and Miami guidelines](#) to ensure that the outcomes and quality of the course offered in a compressed format are similar to those offered in the same course across an entire semester. Faculty must seek approval from their department chair and dean to offer courses during the winter and summer terms.

PLACEMENT & DEGREE PROGRESS

Placement

Placement in appropriate courses is assured through placement guides as well as online examinations in mathematics, foreign language and other subjects. Students typically complete placement examinations prior to summer orientation so that they can plan their schedule appropriately with their advisor.

Miami also awards course credit and placement for students who earn particular scores on Advanced Placement (AP) examinations, College Level Examination Program (CLEP), and International Baccalaureate (IB) examinations. AP and CLEP course credits are awarded based upon guidelines mandated by the Ohio Department of Higher Education.

Orientation

Miami offers a two-day summer orientation to all incoming students on the Oxford campus with the goal of promoting the 4 C's: confidence, connection, curiosity and comfort. Orientation features group sessions on a variety of college success topics (e.g., health and wellness, personal development, involvement and activities) as well as individualized advising by faculty and professional staff to assist with decisions about degree, academic opportunities, and courses. Additionally, orientation contains components that are aimed at educating students' parents on key transitional issues, and later in the summer, students are required to complete an online educational module about high-risk alcohol use and Title IX issues. On the regional campuses, all incoming students participate in the SOAR (student orientation, advising, and registration) program which facilitates a seamless transition to the regional campuses' academic support systems.

Special onboarding orientations are offered to international students and transfer students on each campus each semester as well as to College Credit Plus students on the Regional Campuses. The International Student and Scholars Services staff coordinate the international student orientation for incoming undergraduate and graduate students held the week before classes begin in August and in January. In addition to all of the general topics covered for students and families in the standard orientation, this in depth orientation covers visa and immigration compliance and navigating US higher education and American culture. Programming continues throughout the year with courses, workshops, and advising to address basic needs, connections and resources, and increasing student confidence.

Orientation and Transition Programs offers one-day orientations for new transfers each summer (between May-August), as well as in January. These small sessions, with an average attendance of 12-14 students, allow for individual attention to each new student and family. The program includes information about student life, campus services and support, community expectations (Title IX, alcohol, and sexual assault), academic advising, and course registration. All academic divisions collaborate to support academic advising at transfer one-day orientations, and transfer students also meet with upper-class student leaders during the program. Any new transfer students who cannot attend a transfer one-day orientation will attend August or January orientation with new students.

Transcription of Credit

Policies governing the transcription of credit are authorized by the Academic Policy Committee and University Senate, and they must be aligned with the ODHE transfer and articulation policies. Described

in the General Bulletin, these policies articulate the standards for AP and CLEP credit, requirements concerning minimum length of study, credit-hour equivalency, the process of evaluating credit and applying transfer courses to the general education requirements, and clear parameters for graduation requirements, including the number of credits that must be completed at Miami. The Bulletin also explains the specific course credit students receive for completion of the Ohio Transfer Module (which is a set of core courses equivalent to 36-40 semester hours that all Ohio public colleges and universities have agreed count for credit at any Ohio school) as well as Transfer Assurance Guides, Military Transfer Assurance Guides and Career-Technical Assurance Guides. Miami has also entered comprehensive data in the ODHE “Transferology” system (a statewide online tool that prospective students can use to gauge how well their college credits from high school and other public institutions will transfer to Miami and other Ohio public institutions).

Miami also participates in the “Credit When It’s Due” initiative which is a process to award associate degrees to students who earned credits which satisfied residency requirements at a community college, did not earn their associate degree, and subsequently transferred to Miami.

The Office of Liberal Education, the Office of the Provost as well as Veterans Services are currently working on developing a Prior Learning Assessment (PLA) portfolio option to enable nontraditional students’ to receive credit for prior military and work experience.

The Office of the University Registrar conducts evaluations of undergraduate credits. Students may petition for transcription of credit. Petitions are evaluated by the University Registrar and require detailed information about the course for which credit is being sought as well as approval by the relevant department.

GLOBAL MIAMI PLAN

Overview

Miami University was founded on the belief that a liberal education provides the best possible framework for life in a changing world. At Miami, liberal education complements specialized studies in the major and helps students understand and creatively transform human culture and society by giving students the tools to ask questions, examine assumptions, exchange views with others, and become better global citizens.

Toward that end, the university devoted considerable energy and time to revising its Global Miami Plan; those revisions were implemented in 2015. Key goals of the revisions were to: (i) advance 21st century learning outcomes (based on [AAC&U’s LEAP outcomes and employer studies](#)), (ii) include a meaningful and efficient assessment plan and (iii) be mindful of the human and financial resources.

The new plan underwent four major revisions with each new version drawing from extensive feedback gathered from the entire Miami community, via surveys, open sessions, public presentations, website communications, and divisional and departmental meetings.

In the revised plan, all undergraduate students at Miami complete the GMP requirements which total 42 credits. Grounded in the [AAC&U LEAP framework](#), the newly approved Global Miami Plan is comprehensive, spanning all four years of a student’s undergraduate education and involving:

- Foundation courses that focus on the humanities, arts, natural science, mathematics & quantitative reasoning, composition, and global perspectives;
- a Thematic Sequence (series of courses which include some upper-level ones) focused on a topic of study;

- an advanced writing course, an intercultural perspectives course, and an experiential learning requirement; and
- Capstone experience that includes a student-led project.

The revised [Global Miami Plan](#) advances the AAC&U Liberal Education & America's Promise (LEAP) outcomes in four broad categories: (1) knowledge of human cultures and the physical and natural world; (2) intellectual and practical skills (e.g., inquiry and analysis, critical thinking, written communication, quantitative literacy teamwork); (3) personal and social responsibility (e.g., civic engagement, intercultural knowledge, ethical reasoning), and (4) integrative and applied learning.

Although all of the four categories and their related outcomes are promoted collectively across the revised Global Miami Plan, two intellectual and practical skills—critical thinking and written communication—are embedded in each Global Miami Plan course. Each foundation course should incorporate written communication, promote critical thinking, and advance at least two other outcomes. Each thematic sequence will collectively include opportunities for written communication and critical thinking and will advance at least three other outcomes. The experiential learning requirement advances integrative and lifelong learning. Each capstone course includes a substantial student-led project that encourages students to integrate knowledge gained throughout their undergraduate experience, promotes inquiry and analysis, and involves written communication and critical thinking.

Requirements

Academic Foundation (27-28 Credits)

The Foundation component enables students to gain a breadth of knowledge across multiple domains of learning:

1. English Composition (3 hours)
2. Creative Arts, Humanities & Social Science (9 hours)
 - a. Creative Arts (3 hours)
 - b. Humanities (3 hours)
 - c. Social Science (3 hours)
3. Global Perspectives (6 hours)
 - a. Study Abroad OR
 - b. Global Courses
4. Natural Sciences (6 hours) – including a laboratory experience (often an additional credit hour)
 - a. Biological Science (3 hours)
 - b. Physical Science (3 hours)
5. Mathematics, Formal Reasoning or Technology (3 hours)

Intercultural Perspectives (3 Credits)

The Intercultural Perspectives requirement expands on the learning outcomes of the Global Miami Plan foundation requirements. These courses prepare students for effective citizenship in a diverse multicultural society in the US or beyond by helping students to recognize new perspectives about their own cultural rules and biases.

Advanced Writing (3 Credits)

Advanced writing courses (200 or 300 level) are offered by instructors in disciplines, departments, and programs across the university and feature student writing as the central focus, frequent opportunities to write with instructor feedback on multiple drafts of major projects, and substantial writing projects.

Experiential Learning (EL) Requirement (0 or More Credits)

Experiential learning is the process of making meaning from direct experience in a real world or an “out

of the traditional classroom” context. It offers students the opportunity to initiate lifelong learning through the development and application of academic knowledge and skills in new or different settings. Some of the approved courses include designated service-learning courses, credit- and non-credit-bearing internships, independent studies that involve significant independent work focusing on research and including a presentation, lab, or archive component, and student teaching.

Thematic Sequence (9 Credits)

The thematic sequence is met by completing related courses (at least nine hours) in an approved Thematic Sequence outside the student’s department of major. One foundation course may also apply to the thematic sequence. Each sequence will collectively include opportunities for written communication and critical thinking, and will advance at least three other competencies. The department(s) that propose and offer the Thematic Sequence may select those outcomes that best align with the objectives of the Thematic Sequence. A second major, co-major, or minor outside of the student’s department of first major can count for the Thematic Sequence. Students may propose self-designed sequences.

Capstone Course (3 Credits)

The capstone course requirement is met by completing three hours in an approved capstone course during a student’s senior year. Capstone courses feature a substantial written student-initiated project that encourages students to integrate knowledge gained throughout their undergraduate experience.

Assessment

Assessment of the Global Miami Plan includes both direct and indirect measures of the two signature outcomes—critical thinking and written communication—as well as support for several other outcomes featured in the program: intercultural perspectives, global learning, and experiential learning.

Assessment measures in the plan include:

1. Direct assessment of critical thinking and written communication in capstone courses, using rubrics for each outcome. At least 30% of seniors’ work is assessed through this method.
2. Indirect assessment of critical thinking and written communication, as well as overall perception of liberal education, in mock interviews of juniors and seniors. At least 20% of juniors and seniors will be assessed via this method.

These two measures will be supplemented, on occasion, by discrete assessment projects related to other components of the Global Miami Plan, such as assessment of written communication in select Advanced Writing courses, assessment of global learning in select Global Perspectives Foundation courses, comparison of on-ground and online version of the same GMP course, etc. This year, a special assessment project is being conducted which compares the learning in full-semester versus accelerated delivery Global Miami Plan courses.

In addition to the rubrics for critical thinking and writing, other rubrics have been created for other components of the Global Miami Plan, including the Global Foundation, Intercultural Perspectives, and Experiential Learning requirements. These rubrics serve several purposes:

1. Provide information to instructors who are developing or teaching courses for those portions of the GMP;
2. Reveal to students and others the goals and expectations of particular GMP requirements;
3. Serve as tools for faculty to design and assess key assignments within GMP courses;
4. Provide guidance to the Liberal Education Council when approving proposals for key components of the GMP.

QUALITY ASSURANCE

Compliance Review

Higher education is facing increasing regulations from the state and federal government as well as the University's regional accrediting body, Higher Learning Commission. Many of these regulations directly impact academic programs and curricula and their approval processes.

To better ensure that Miami's curricula are compliant with state, federal and regional accrediting regulations, Miami recently revised the approval process and the Provost's [webpage focusing on curricular approvals](#) to reflect the actual practice and the needed steps for compliance.

Early in the curricular development process, the Associate Provost reviews all proposals for new courses and academic programs as well as revisions to existing courses and programs.

If the course or program proposal includes any of elements that have any compliance implications, the Associate Provost refers the faculty proposer to the appropriate office for consultation and possible proposal revision. Compliance issues relate to online, accelerated delivery, off-site locations, experiential learning (internships), or faculty qualifications.

Academic Program Review

Program review is a longstanding practice at Miami. All academic departments and programs undergo academic program review (APR) every 5-7 years. In 2013-2014, the APR process and guidelines were revised to better ensure that the process is successful in advancing program improvement, focusing on ambitious but feasible goals, and promoting high quality academic programs. The revised process entails:

- Creation of a study document which includes an analysis of activities and performance since the last review, a five-year strategic plan, and a list of 3-5 key issues which are chosen based upon a comparative evaluation of the activities and performance since the last review;
- Selection of a review team which consists of external and internal experts and is developed in consultation with the department and dean;
- Two-day site visit which includes interviews with relevant parties, the dean, and the provost;
- Drafting of a final report by the review team, with follow-up fact-checking by the department;
- Response statements drafted by the department, dean, and provost to ensure that the feedback loop is completed;
- Summary report created by the Academic Program Review Committee and submitted to University Senate.

Selected degree programs also undergo third-party accreditation evaluations; in those situations, departments work with the dean to coordinate and incorporate this evaluation into the academic program review process. The Office of Institutional Research and the University Registrar provide consistent data to departments relating to faculty FTE, course offerings and enrollments, number of majors, etc. to aid in the review.

Key to this process is ensuring that improvements are made following the review. Toward that end, the provost, associate provost, dean, and department chair meet to discuss the report and responses and to formulate strategies for improvement.

The Academic Program Review process was evaluated in 2012 and a new process was implemented in 2013. The focus of the program review process was changed from being a retrospective review of past performance to a forward-looking process focused on a strategic plan. Since implementing the revised process, a total of 44 academic programs have been reviewed by APRC. Example outcomes include reviews of the Department of Political Science and the Department of History. In both cases, the role of the bachelor's and master's degrees were evaluated and their curriculum was re-aligned to create flexible

pathways in tracks designed to pursue multiple career options (e.g., research and advanced graduate studies, application of principles and practice for direct career placement). These pathways specifically included clear mechanisms for students to obtain both a bachelor's and master's degree within a 4+1 program. The review of the Institute of the Environment and Sustainability (IES) Master's of Environmental Science will result in an overhaul of the number of tracks within the degree program and a significant change in curricular requirements to align the degree with similar professional master's programs and allow students to complete requirements in a 2-year program. Program reviews help to identify areas of strength for further investment as well as areas where revisions should occur.

Accreditation

Miami University is accredited by the Higher Learning Commission.

The following academic programs are accredited by specialized accrediting bodies:

College of Arts & Science

- Biological Sciences, MAT Program, National Science Teachers Association (NSTA)
- Chemistry, American Chemical Society
- Chemistry, MAT Program, NSTA
- Clinical Psychology, Doctoral Program, American Psychological Association
- Earth Sciences, MAT Program, NSTA
- English, MAT Program, National Council of Teachers of English (NCATE)
- Mathematics, MAT Program, National Association of Teachers of Mathematics
- Physical Sciences, MAT Program, NSTA

College of Creative Arts

- Architecture & Interior Design Department:
 - Architecture: National Association of Schools of Architecture (NASA)
 - Interior Design: Council for Interior Design Accreditation (CIDA) and NASAD
 - Architecture (Master's): National Architecture Accrediting Board
- Art Department:
 - Art: National Association of Schools of Art and Design (NASAD)
 - Art Education: Council for the Accreditation of Educator Preparation (CAEP), National Association of Schools of Art and Design
- Music Department:
 - Music: National Association of Schools of Music (NASM)
 - Music Education (CAEP) (NASM)
- Theatre Department: National Association of Schools of Theatre (NAST)

College of Education, Health & Society

- Athletic Training Program, Commission on Accreditation of Athletic Training Education
- Nutrition Program, Accreditation Council for Education in Nutrition and Dietetics (ACEND)
- Social Work Program, Council on Social Work Education
- Teacher Education Programs, Council of the Accreditation of Educator Preparation (CAEP)

College of Engineering and Computing

The following degree programs are accredited by the Engineering Accreditation Commission of ABET:

- Bioengineering
- Chemical Engineering
- Computer Engineering
- Electrical Engineering
- Manufacturing Engineering

- Mechanical Engineering

The following degree program is accredited by the Computing Accreditation Commission of ABET:

- Computer Science

College of Liberal Arts and Applied Science

The following programs are accredited by the Engineering Technology Accreditation Commission of ABET:

- Mechanical Engineering Technology, Associate Degree
- Electrical and Computer Engineering Technology, Associate Degree
- Electro-Mechanical Engineering Technology (Technology Concentration) Bachelor Degree
- Electro-Mechanical Engineering Technology (Mechanical Engineering Technology Concentration, Bachelor Degree

The following nursing bachelor degree programs have been accredited:

- RN-BSN Completion, Commission on Collegiate Nursing Education
- Traditional Pre-Licensure, Commission on Collegiate Nursing Education, Ohio Board of Nursing

Farmer School of Business

The following degree programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB):

- Bachelor of Science in Business
- Master's in Business Administration
- Master's in Accountancy.

ASSESSMENT OF STUDENT LEARNING OUTCOMES

University Assessment Council

Assessment of student learning at Miami is overseen by the University Assessment Council. Chaired by an associate provost, the Council includes representation from all academic divisions as well as Student Affairs, University Libraries, Liberal Education and Institutional Research. It aims to promote a culture of assessment of student learning outcomes at Miami University in which data are used to improve the quality of the educational experience. Toward that end, the committee:

- Advises on policies, procedures, faculty development efforts, and best practices relating to assessment of student learning outcomes;
- Annually collects assessment reports from departments and programs, including academic support units;
- Periodically reviews the effectiveness of plans, reports, and practices for assessing student learning at the University, department and program levels;
- Communicates to Miami faculty and staff about assessment of student learning (e.g., Assessment Briefs);
- Assists divisional committees on evaluating assessment plans and reports effectively prior to a department's academic program review;
- Provides guidance to Liberal Education Council on the assessment of the Global Miami Plan;
- Assists with other initiatives involved in the assessment of student learning as requested by the Provost.

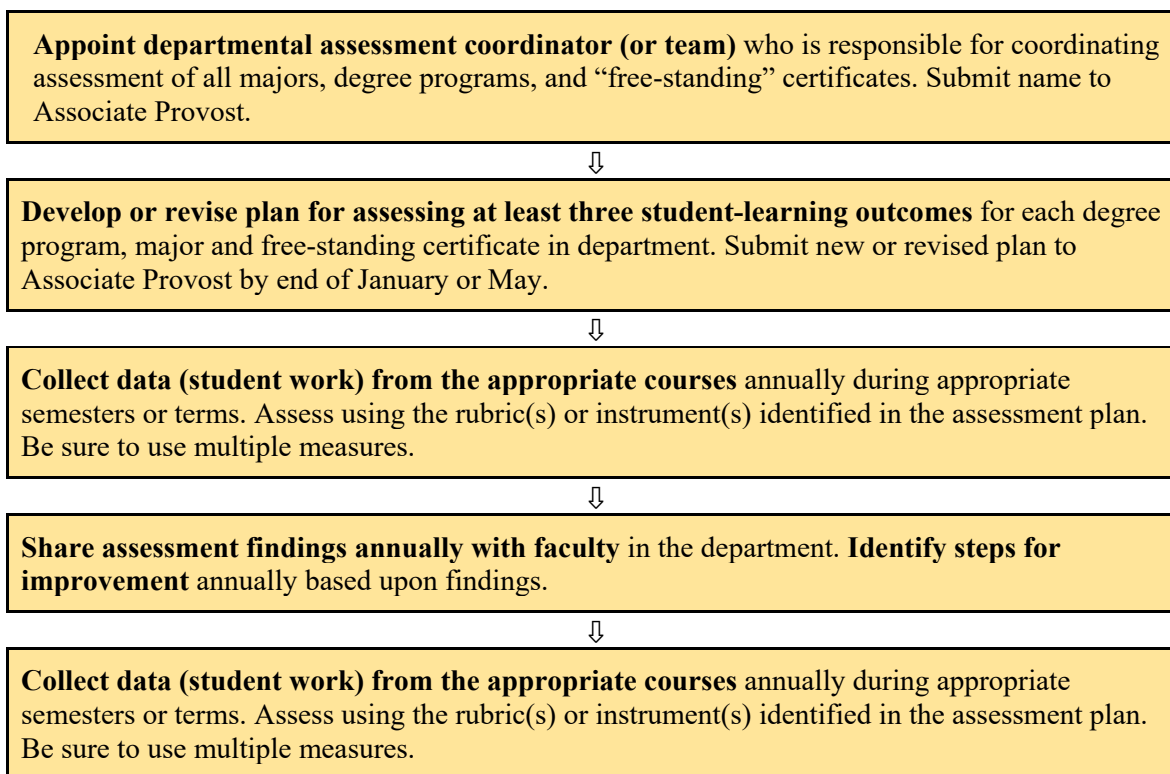
The Assessment Council provides the following forms of support:

- **Canvas Site for Assessment** includes an overview of assessment of student learning, templates for and samples of departmental assessment plans and reports, sample rubrics across multiple disciplines, templates and samples of evaluation reports of departmental assessment activity;

- **Feedback on All Assessment Reports** are one-page insights on strengths and areas for improvement given to each department annually;
- **Tracking and Storing all Assessment Plans and Annual Reports;**
- **Training Workshop for Divisional Assessment or Curriculum Committees** so that the committee members can provide a formal evaluation of departmental assessment activity prior to the department's program review;
- **Bi-Monthly Assessment Briefs** provide success stories, tips and assessment findings from departments and other units across the University;
- **Departmental Consultations** to assist departments in revising or improving their assessment plans;
- **Annual Assessment Award** is given to a department with outstanding assessment activity as well as a department which has demonstrated the most improvement in their assessment activity in the past several years;
- **Assessment Projects** focus on special topics of interest, such as the one being conducted this year on comparing the quality of learning in full-term versus compressed delivery courses.

Departmental Responsibilities

Each division's curriculum and/or assessment committee is responsible for reviewing each department's assessment activity at least one full semester before the department undergoes academic program review. The procedure is summarized below:



Divisional Responsibilities

Each division's curriculum and/or assessment committee is responsible for reviewing each department's assessment activity at least one full semester before the department undergoes academic program review. The procedure is summarized below.

University Assessment Council trains divisional committees on how to evaluate departmental assessment activity each year. Associate Provost provides committees with the annual assessment reports of the department as well as the annual feedback offered by the Council that have been created since the last program review.



Committee reviews and evaluates department's assessment activity and creates summary report. Committee submits report to Dean of Graduate School and Associate Provost.



Report is included in all program review materials and evaluated by the external and internal review teams as part of the normal program review process.

OTHER FORMS OF ASSESSMENT

National Surveys

Miami participates in a variety of national surveys (e.g., National Survey of Student Engagement, Faculty Survey of Student Engagement and Higher Education Research Institute (HERI) Faculty Survey) that allow comparisons of Miami students and faculty members with benchmark institutions. These instruments provide insight into the level of faculty-student engagement, perceptions about classroom and other types of learning, and the quality and rigor of academic learning.

For example, last spring, 1,305 first-year students and 1,117 seniors on Miami's Oxford campus completed the National Survey of Student Engagement (NSSE). NSSE's "Engagement Indicators" provide information about student engagement by summarizing students' responses to sets of related questions. Miami students, compared to students at peer institutions (same Carnegie Class), were more likely to engage in challenging intellectual and creative work and to report collaborating with others in their learning process. Miami students reported higher levels of student-faculty Interaction and were more satisfied with faculty interactions than were their peers.

Ongoing Curricular Analysis

The Office of the Provost and Division of Enrollment Management and Student Success regularly collaborate to analyze course and degree program enrollment trends and patterns using recently purchased software platforms (Education Advisory Board's Student Success Collaborative, Civitas Learning, and the Business Intelligence Tool). These ongoing analyses help to shape divisional hiring plans for instructional staff, and also help to identify critical milestones or success markers for advisors to share with students as they progress through the four years of their undergraduate program. As we gain more familiarity with these tools, we anticipate that the data could be used to revise curricular requirements and courses to better ensure student success, healthy course and degree program enrollment patterns, and timely college completion.

FACULTY

Qualifications & Hiring Process

One of the Higher Learning Commission (HLC)'s criteria for accreditation stipulates that the University must ensure that "all instructors are appropriately qualified." Since 2015, HLC has provided more specific information on how to determine whether instructional staff are appropriately qualified. According to HLC assumed practice B.2.a, Miami must ensure that:

Instructors (excludes teaching assistants enrolled in a graduate program and supervised by faculty) possess an academic degree relevant to what they are teaching and at least one level above the level at which they teach, except in programs for terminal degrees or when equivalent experience is established. In terminal degree programs, faculty members possess the same level of degree. When faculty members are employed based on equivalent experience (i.e., “tested experience”), the institution defines a minimum threshold of experience and an evaluation process that is used in the appointment process.

During the 2017-2018 academic year, the Academic Personnel Office and the Office of the Provost developed guidelines relating to faculty qualifications which were approved by academic deans and shared with all department chairs. These guidelines articulated that faculty in tenure-eligible ranks should hold an earned doctorate or terminal degree in the field in which they will be teaching (also noted in MUPIM 7.4.C-E). For faculty appointed to the ranks of Lecturer, Clinical, or Professionally Licensed (LCPL) Faculty, instructors, as well as Visiting Assistant Professors (VAP), a Master’s degree or higher, or the equivalent (MUPIM 7.11) will serve as the standard acceptable faculty credential.

Tested experience criteria may be developed and used for part-time faculty and, in rare situations, for Visiting Assistant Professors, instructors and LCPL faculty who exclusively teach undergraduate courses in highly applied or highly skilled professional disciplines. In this situation, the minimum threshold to teach such highly applied or skilled courses is a Bachelor’s degree plus at least five years of applied experience or equivalent certification or licensure in the field that clearly relates to the learning outcomes of the courses being taught along with a demonstration of the capacity for teaching excellence.

All faculty teaching at the master’s or doctoral level must have graduate faculty standing. Faculty must apply to the graduate school to obtain graduate faculty standing and must satisfy one of two criteria to qualify ([5.2 in the Handbook for Graduate Students and Faculty](#)):

- **Criterion I:** An approved terminal degree in the discipline.
- **Criterion II:** A master’s degree plus five (5) years of significant and relevant professional experience that meets the applicant’s departmental guidelines for tested experience. A department wishing to grant graduate faculty standing under criterion II must submit and have approved by Graduate Council, criteria for evaluating “significant and relevant professional experience” that is equivalent to the terminal degree for the graduate programs offered by the department. The definition of tested experience must be approved by Graduate Council prior to nominating an instructor for graduate faculty standing under criterion II

Departments wishing to use tested experience criteria for hiring non-tenure-eligible instructional staff have developed metrics that clearly articulate the types of degrees and applied experience that faculty (being hired to teach applied or skilled courses) would need. These metrics are kept on file in the Academic Personnel Office and Office of Provost.

Academic Personnel uses the guidelines and departmental metrics to review the credentials of all instructional staff each year. Faculty who do not meet the criteria set forth in these documents are not hired or renewed.

A list of instructional staff and their credentials is available on departmental websites, on the Provost website, and in the Office of Institutional Research.

To better guarantee that all instructional and support staff are well-qualified for their positions and ease the approval process, Miami purchased a new software system (HireTouch) in 2015. Contacts from each department or office who coordinate the review and evaluation of faculty and staff appointments are trained in the system. Instructional staff appointments are approved by the department, dean, and provost; and other staff appointments are approved by the supervisor, dean (if applicable), and appropriate vice president (see MUPIM 6.1 and 13.2). The Office of Equity and Equal Opportunity as well as the Department of Human Resources or the Academic Personnel Office carefully screen recruitment plans, advertisements, the applicant data collection process, and the selection process to ensure consistency, clarity, fairness, and alignment with university priorities. Background verifications are conducted on any candidate for employment.

In 2013, the University Senate approved dual enrollment guidelines (called College Credit Plus or CCP in Ohio) to ensure the quality of offerings and instructional staff. These guidelines statement that:

1. Instructors must be approved by the department or program offering the course. Instructors who are not members of the Miami faculty must hold the same qualifications as Miami University instructors for the course taught.
2. Instructors must hold a degree from a nationally accredited institution, and the degree must be at least one level above that of the program in which they are teaching with demonstrated expertise in that area. At least a master's degree is required for instructors of general education (Global Miami Plan) courses.
3. For programs involving clinical faculty, the credentials and involvement of clinical faculty must meet applicable professional standards for the delivery of the educational experience.
4. Special efforts must be made to maintain academic continuity and quality if instructors teach at a school district site. The efforts include participation in a course-specific orientation session facilitated by the relevant Miami academic department; classroom observations and syllabi review by permanent Miami faculty from the host academic department or program; regular communication between the dual enrollment (CCP) instructor and a Miami University faculty liaison in the academic department offering the course; and periodic discipline-specific professional development.

Faculty Evaluation

The Miami 2020 Plan (metric 11) sets the goal of an annual evaluation and a measurable professional plan for 100% of Miami employees, and the Miami policy manual mandates the annual review of probationary members of the instructional staff ([MUPIM 7.5](#)) and articulates a detailed process for the tenure and promotion process for tenure-eligible faculty ([MUPIM 7.8](#)) and promotion process for LCPL faculty ([MUPIM 7.11.F](#)).

Miami faculty are expected to demonstrate “high-quality teaching and academic advising” which includes “integrating new developments in the field and new methods of instruction” and “maintenance for regularly scheduled office hours and an interest in students indicated by availability for conferences, or one-to-one contact, etc.,” and tenure-track and tenured faculty should also produce “research, scholarly and/or creative achievement of high quality and its prospective continuation” (see [MUPIM 7.4](#)). Faculty submit annual performance reports and are awarded salary merit increments based in part on the criteria described in this paragraph.

To ensure the quality of faculty in delivering rigorous learning experiences, the annual activity report and dossier require tenure-track and LCPL faculty to demonstrate high quality teaching through multiple measures of teaching effectiveness such as course evaluations, peer reviews, Small Group Instructional Diagnosis (SGID), and teaching portfolios, and they are also expected to participate in

teaching development programs.

In 2015-2016, a common template for annual reports and dossiers for tenured and tenure-track faculty as well as LCPL faculty was developed, and this year, a new activity reporting database system created by Interfolio and called Faculty 180, has been launched. Faculty enter scholarship, teaching, and service activity information into the database. One of the expected outcomes of adopting this system is that chairs and deans should be able to run multiple reports on the information.

Using a common template and database system has been challenging for several reasons: (1) the large variation of academic programs and types of faculty work at Miami; (2) the varying levels of faculty comfort with technology; and (3) uneven user and technical support from the vendor.

Professional Development & Recognition

Professional faculty development is provided through programming offered by Center for Teaching Excellence (CTE), the Howe Center for Writing Excellence, the Howe Writing Initiative, e-Learning Miami, the Humanities Center, and other Miami divisions, offices, and centers. New faculty participate in a multi-day orientation co-sponsored by the Office of the Provost and CTE. Tenured and tenure-eligible faculty may also apply for on or off-campus Assigned Research Appointments (ARAs) and Faculty Improvement Leaves (FILs) (MUPIM [6.7](#), [6.8](#)) which enable faculty to engage in disciplinary or pedagogical research and development. Funds are also available for conferences, research-related travel, and other related expenses. The Office for the Advancement of Research & Scholarship regularly offers research-oriented workshops and support for grants and other research activity.

The Department of Human Resources provides numerous opportunities for the professional development of staff and faculty, including a supervisor development series, coaching, topical workshops, and LEAN leader certification. Information Technology Services makes available one-on-one consulting as well as online and face-to-face workshops on software applications and advanced technical skills, and the E-Learning Office offers workshops, programs, and consulting on instructional design and e-learning.

Because Miami places a premium on excellence in teaching, the university offers a number of prestigious teaching awards, including the Distinguished Educator Award, Distinguished Teaching Award, Affordable Education Leader Award, and the Associated Student Government's Professor of the Year Award.

SUPPORT FOR ACADEMIC PROGRAMS

High quality academic programs can only be possible with appropriate forms of support that advance learning outside of the classroom, such as libraries, undergraduate research, career development, leadership programs, and service learning. These learning opportunities are typically overseen by units, centers and offices in Academic Affairs, Student Affairs or Enrollment Management and Student Success, and each is required to engage in assessment activities to advance continuous improvement. This year, the Office of Provost and the University Assessment Council (UAC) have taken steps to enhance the assessment and evaluation activities related to support units. Beginning in 2018-2019, the UAC will require academic support and Student Affairs units to create annual assessment reports that include:

- At least three concrete goals or objectives for the unit
- Method for assessing how well the goals/objectives were met
- Summary of data collection; analysis of data
- Reflections on findings, including strategies for improvement based on data analysis
- Evidence that findings are discussed widely among faculty/staff of the unit

- Improvement strategies tracked over time.

All university administrative units will undergo evaluation in response to the 2015 Ohio Taskforce on Affordability and Efficiency (OTAE) Report's call for each Ohio public higher education institution to "continuously review its administrative operations." The Office of the Provost recently established a program review process for its non-academic units.

The goals of this process are to:

- Promote data-driven, continuous and constructive improvement and efficiencies;
- Align the review expectations and reporting requirements with the University's strategic plan and the vice-presidential divisional mission and priorities;
- Advance the criteria articulated in the Higher Learning Commission's accreditation process;
- Review units once every five years.

The program review consists of two phases: (1) a self-study created by the staff or leadership of the program, office, or center, and (2) an evaluation by reviewer(s).

The provost or dean establishes a schedule for those units in their division.

All offices in Student Affairs have already been part of a departmental review cycle that includes a self-study following guidelines from the Council for the Advancement of Standards (CAS), and a campus review led by external reviewers.

Career Development

According to our graduation survey, approximately 67% of students participate in internships, fieldwork, or co-ops during their time at Miami. This high level of participation is made possible by the following:

- **Career Link**, a database of full-time, part-time, seasonal and internship positions;
- **Internship & Career Fairs**: Miami sponsors one of the largest career fairs for a public institution of Miami's size. In 2017, 270 employers were in attendance at fall or spring fair (which is nearly twice as many as other universities of comparable size);
- **Internet Resources**, a compilation of links to help students find internships and jobs which are available on the Office of Career Services website, are categorized by major and specific-career interest, and include regional and international job sites;
- **Career Videos** which allow students to see and hear employers, career advisors, and students discuss dozens of career topics as well as internship and job search strategies, networking, and internship selection;
- **Career Success Certificate Program** which is awarded to students who complete an internship, client-centered classroom project, service learning course, or other practical learning experience;
- **Career-Planning Workshops** focusing on such topics as cover letter, resume and interview preparation;
- **Ongoing Partnerships with Miami's Employers** which includes 4,300 companies. Assessment is conducted through the NACE benchmark survey as well as graduation, alumni, and employer surveys.

Leadership

Miami students enjoy a plethora of leadership opportunities, ranging from leadership courses, speaker series, workshops, conferences, and honor societies to programs dedicated to leadership development—many of which are organized by the Wilks Leadership Institute. Other offices, such as Student Activities and the Cliff Alexander Office of Fraternity and Sorority Life, Diversity Affairs, and

Residence Life also offer leadership workshops and retreats throughout the year. Some of the highlights:

- **U-Lead** is an annual, four-day leadership development pre-semester experience for 50 incoming first year Miami students.
 - **Leadership Certificate Program** is a four-tiered learning experience that challenges participants to examine leadership from several perspectives and reflect on their personal leadership beliefs. Each tier is meant to be completed in a semester.
 - **Scholar Leader Program** is an upper-class residential living-learning community involving a one-year residence in Elliott or Stoddard Halls - two of the most historic residence halls in the nation. Endowments for each room provide partial scholarship to those students selected to live in the community. Each year, approximately 75 students are invited to join the scholar leader community after a multi-stage application and selection process. The community encourages resident-guided programming, academic involvement, service learning projects, and leadership exploration through intensive group engagement.
 - **Lockheed Martin Leadership Institute** provides an intensive three-year leadership certificate program and other events and workshops for students in the College of Engineering & Computing.
 - **The William Isaac and Michael Oxley Business Leadership Program** offers a combination of leadership assessments, practical leadership opportunities, academic studies of leadership, access to top business leaders, and service opportunities for select students in the Farmer School of Business.
- Each of these programs has assessment strategies, including portfolios, surveys, program evaluations, and focus groups.

Libraries

University Libraries is foundational to supporting excellence in learning and teaching. It houses over 4 million books and journals and provides library instruction to approximately 20,000 participants each year. Miami has four libraries on the Oxford campus and a library on the Hamilton and Middletown campuses as well as library resources at MUDEC and the VOALC. The University Libraries also maintains an off-site storage facility on the Middletown campus. This facility is operated in partnership with the University of Cincinnati, Wright State University and Central State University. These libraries provide research assistance, extended access, open access publishing, study and meeting space, a café, and several premier learning centers including the Howe Center for Writing Excellence, Center for Information Management, Center for Digital Scholarship, a gaming lab in partnership with the Armstrong Interactive Media Studies program and the Office for Research of Undergraduates. University Libraries also has developed a comprehensive strategic plan as part of the Miami 2020 planning effort and produces annual assessment reports.

Service Learning and Community Engagement

Miami students also actively engage in the community through service-learning courses, volunteerism, plunge experiences, advocacy work, and residency programs. Literally hundreds of Miami students participate annually in such programs as the Adopt-a-School, America Reads, America Counts, and the Over-the Rhine Residency Program.

Spearheaded by the Office of Community Engagement and Service, Miami provides support for faculty and students in the following ways:

- Organizing programming such as America Reads and America Counts tutoring program, hunger awareness week, Service Saturdays and Interfaith Day of Awareness;
- Implementing a new volunteer tracking and matching system (ComMUity Connect) to help students and the university gauge progress on student's community activities;

- Providing service-learning designated courses, including a review and approval process overseen by a faculty-driven committee;

Miami was one of 361 universities to receive the prestigious Carnegie Classification for Community Engagement in 2015. Miami has been named to The President's Higher Education Community Service Honor Roll every year since 2007.

Undergraduate Research

From the moment that they set foot on campus, Miami students are encouraged and expected to become involved in creative and scholarly inquiry, and much of this activity occurs outside of the traditional classroom. Not only do many faculty directly involve students in their own research projects, but the university offers a wide array of programs, centers, and opportunities for promoting undergraduate research, including the [First-Year Research for Undergraduates \(FYRE\) program](#), the [Undergraduate Summer Scholars Program](#), the [Doctoral Undergraduate Opportunity Scholarship \(DUOS\) program](#), the [Center for Psychological Inquiry](#), the [Geoffrion Family Undergraduate Fellowship Program](#), the [University Honors Program](#), and the [University Academic Scholars Programs](#). Several [journals and online sites](#) (e.g., COMPASS, Mi CUP OF TEA, GreenHawks Media, Global Citizen, Inklings and MER) exist at Miami for students to publish their work, and grants as well as other funds for research activities are available through departments, divisions, the Office of Advancement for Research & Scholarship, and the University Honors Program.

Each year, over 2,000 undergraduates work with professors on funded research, and in graduation surveys, 39% of seniors report that they have worked on a research project with a faculty member. In 2017, more than 500 students presented their work at the undergraduate research forum, and over 80 students presented their research at national conferences, in part supported by the undergraduate presentation awards program. Additionally, each year, the provost selects up to 12 students to receive an award for outstanding achievement in scholarly work and rigorous academic study. Over the past decade, Miami students have received prestigious international and national fellowships, such as the Fulbright, Astronaut, Beinecke, Boren, Goldwater, Gilman, Truman, Udall, and the NSF Graduate Fellowship.

Physical Space & Facilities

Miami has research and teaching laboratories for a wide range of disciplines and interdisciplinary fields, including human performance, dietetics, high field magnetic resonance spectroscopy, molecular microspectroscopy, neuromuscular performance, biological anthropology, archaeology, cultural and linguistic anthropology, robotics, rapid prototyping, and nursing. The information below summarizes Miami's space for laboratories in the 2017-2018 academic year:

Type of Space	Total Number	Total Net Sq. Feet
Class Laboratories	201	244,859
Class Laboratory Service Areas	203	49,516
Research (Non-Class) Laboratories	302	135,650

Research (Non-Class) Laboratory Service Areas	371	66,915
Open Laboratories	117	50,365
Open Laboratory Service Areas	24	3,609

Please note: “service” areas refer to storage areas, observation rooms, prep areas, etc.

Clinical Sites

The university has two on-site clinics—a psychology clinic and a speech and hearing clinic—located on the Oxford campus. Several academic programs, such as microbiology, nursing, and psychology, also utilize clinical practice sites throughout the southwestern Ohio region. Clinical space is summarized below.

Type of Space	Total Number	Total Net Sq. Feet
Clinic Areas	26	2,854
Clinic Service Areas	19	2,839

Miami features an art museum which is accredited by the American Alliance of Museums and features a sculpture park, five gallery spaces, and approximately 17,000 works; McGuffey Museum whose mission is to exhibit materials relating to life of William Holmes McGuffey, the McGuffey Eclectic Reader series, and the history of Miami University; the Limper Geology Museum which presents context- and specimen-rich displays centered on fundamental aspects of geology (and other natural sciences) that connect to and transcend the classroom environment; and the Hefner Museum of Natural History which is dedicated to promoting an understanding of, and appreciation for, nature and the human place in it for K-12 students.

The university also has two galleries: the Hiestand Galleries exhibit works by students, alumni, faculty, and artists on the national and international scale; and the Cage Gallery, which provides ongoing exhibits of professional as well as student work within architecture and interior design.

In addition, Miami has exhibit spaces in several buildings across various campuses, including MacMillan Hall, Voice of America Learning Center, King Library, and Alumni Hall.

Exhibition space is summarized below.

Type of Space	Total Number	Total Net Sq. Feet
Exhibition Areas	42	23,280
Exhibition Service Areas	22	9,829

Miami has a range of performance and production spaces on the Oxford and regional campuses, including:

- Wilks Auditorium which is a 500-seat theatre featuring a balcony level and is suited, with its state-of-the art sound and video systems, to host on-campus movies, as well as artistic talent from both select students and professionals;
- Center for Performing Arts which houses most of the production facilities and was opened in the fall of 1969;
- Gates-Abegglen Theatre which is a traditional proscenium theatre that seats 385 patrons and is equipped with a 35 line fly system, hydraulic pit lift, modest wing space, and a Strand 520i light board;
- Sidney W. Souers Recital Hall which is a 150-seat hall and provides an intimate performance space with a green room for the presentation of recitals and chamber ensemble concerts and adjacent audio and recording facilities;
- Hall Auditorium which was completely renovated in 1992, has a seating capacity of 735, and is the site of the music department's major concerts, as well as many concerts produced and supported by the university's performing arts series and lecture series;
- Millett Hall which was built in the early 1970s and can vary from 2,900 seats to 10,857 for full concerts;
- W. Paul Zimmerman Experimental Theatre (Studio 88) which is the home of the **Second Stage Season** (student-generated productions), has a flexible seating arrangement, and can accommodate 115 patrons.

Type of Space	Total Number	Total Net Sq. Feet
Auditorium Areas	13	42,811
Auditorium Service Areas	117	44,066

CONCLUSION

Miami has an established record of high quality academic programs led by talented and dedicated faculty. The *2018 U.S. News & World Report* ranks Miami University the top public university in the nation for an "unusually strong commitment to undergraduate teaching." Miami occupies the No. 5 spot overall—in good company with Princeton, Dartmouth, Brown, and Rice universities. Miami has ranked in the top five on this short, elite list of universities for the past eight years. The *Fiske Guide to Colleges 2018* recognizes Miami for a "strong academic reputation, dedicated and accomplished faculty, high-caliber students, and high graduation rates." The guide also commends Miami for its emphasis on liberal arts and

opportunities for research, travel abroad, and leadership.

One of the possible strengths of the Miami curriculum is its dizzying array of program and course offerings. Although this diversity of offerings can provide students with many choices and faculty with many different teaching opportunities, it also has some potential downsides. In addition to being less cost-effective, too many choices can be paralyzing for students. Brain research demonstrates that people feel anxiety when faced with too many choices and, consequently, are more likely to make poorly informed decisions or avoid the situation entirely (Begley 2011; Keller et al., 2011; Scott-Clayton 2011; Thaler & Sunstein 2008).

Since 2013, Miami has done an effective job of streamlining its course offerings. Since 2013, 700 new courses have been developed, while 2346 have been eliminated. Although Miami has taken strides to streamline and enhance course offerings, more work needs to be done in relation to other aspects of the curriculum. During the same time period, 21 new majors have been created, with only one being eliminated. Similarly, 22 new minors have been developed, yet only six have been terminated. See Appendix A for summary of curricular changes since 2013.

These data as well as other information provided in this report give rise to **important questions** related to future directions for Miami's curriculum:

1. What additional steps can be taken to address low-enrolled courses and programs, while still leveraging Miami's tenure-line faculty who might have expertise in these areas?
2. How might we better support programs with increasing and projected growth given the constraints on faculty resources?
3. How can we ease scheduling bottlenecks?
4. What processes / policies might we develop to ensure our curriculum is forward looking and competitive while retaining the breadth of knowledge and strong skill sets critical to student success?

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May 18, 2018
Academic and Student Affairs

RESOLUTION R2018-xx

BE IT RESOLVED: that the Board of Trustees hereby approves the title change from the Division of Student Affairs, to the Division of Student Life, effective July 1, 2018.



Student Counseling Service

**Update to Board of Trustees
May 17, 2018
John Ward, Ph.D., Director**

Overview

1

Brief overview of SCS

2

Update on
developments of past
semester & year

3

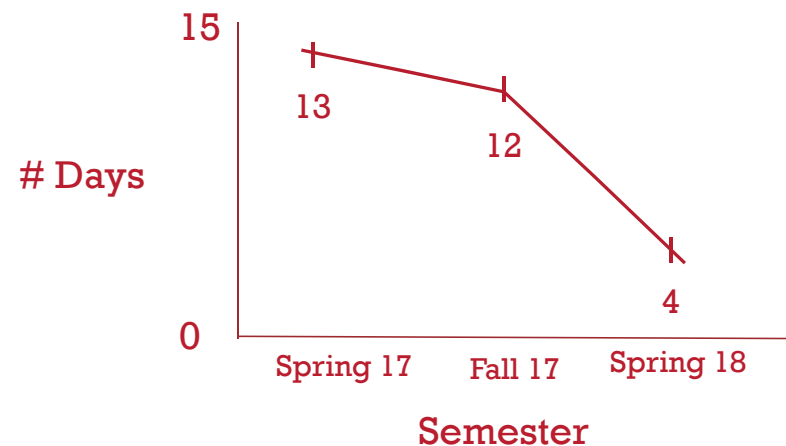
Looking ahead



MIAMI UNIVERSITY
STUDENT LIFE

Clinical Service Highlights

- » 5.7% increase in individual counseling appointments
- » 3.8% increase in number of students served overall
- » Decreased wait for on-going counseling

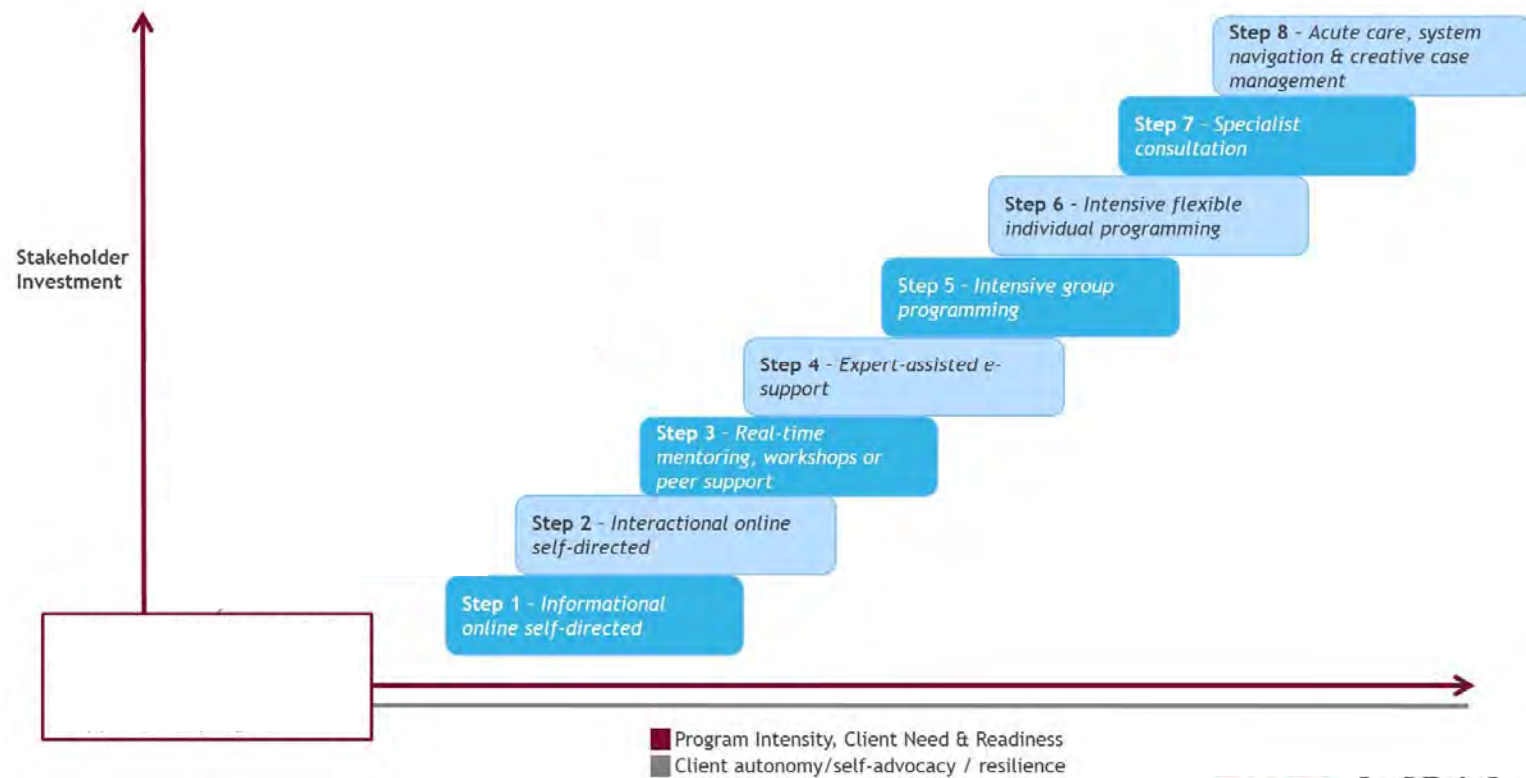


Clinical Service Trends

	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
Total appointments provided	7744	7725	7527	8678	9363
Distinct individuals served	1537	1596	1847	1948	2002
% of student body receiving service	9.32%	9.39%	10.86%	11.13%	11.44%



Stepped Care Initiatives





Mental Health Trends

.....

» As awareness increases, stigma decreases, and mental health decreases, the demand for services will continue to rise.

20-25% of young adults need mental health services each year.





Priority Need: Psychiatric Services

.....

- » MU has .92 FTE psychiatrist for 18,000 students (Medical standard is 1:12,000)
- » No local psychiatrist available
- » Working with Tri-Health to manage load and provide medication management



Priority Need: Space

.....

- » Individual counseling
- » Expanded group and workshop program
- » Renovation plans developed, on hold pending funding source





Questions?

Thank You!

**Student Counseling Service
Presentation to Board of Trustees
May 17, 2018**

**John A. Ward, Ph.D.
Director**

The Student Counseling Service (SCS) is the primary source of mental health services for Oxford campus students, providing clinical services to over 11% of Oxford students last year. The goal of the SCS is to assist students in developing and maintaining healthy personal, emotional, and psychological functioning as they set and attempt to achieve academic goals. Provision of all levels of interventions is achieved through maintaining a rich and current professional environment consisting of expert staff and a vital and thriving training program for mental health practitioners.

In the last report to the Board in February 2017, the director reported on the primary changes that had been implemented in recent years to address the increased service demands. The SCS continues to provide “initial consultations” as a first point of contact with students to triage their concerns and quickly connect them with appropriate treatment and support services. In addition, our “Feel Better Fast” workshop series continues to provide high impact, low time-intensive support for students to develop skills to manage stress/anxiety and build resiliency. The last report also noted that with increased clinical staff there was a slight decrease in clinical service wait times which in the preceding year had reached uncomfortably high proportions. Finally, the Board was informed about the extension of a public health approach to outreach programming.

The SCS continues to refine its service delivery to parallel a stepped care model. A stepped care model of service delivery is one that monitors treatment and evaluate clients’ needs, so that the most effective yet least resource intensive, treatment is delivered to clients first; only ‘stepping up’ to intensive/specialist services as clinically required. Both our initial consultations and workshop series align with the stepped care approach. Our overall clinical services model incorporates brief therapy strategies and attempts to refer students requiring longer term and highly specialized intervention to community providers. However, the Oxford community severely lacks mental health providers to which to refer students in need of services.

In April 2017 an outside review of the university’s health and wellness areas was completed by the Keeling and Associates group. Throughout the fall and summer 2017 several recommendations were quickly implemented. Most notably was the addition of two new staff counselor positions. We intentionally sought out master's level providers in order to increase the number of clinical hours and did not have the new staff carry administrative and programming responsibilities. With additional staffing SCS had a slight net gain of clinical service hours which resulted in a 5.7% increase in individual counseling appointments and a 2.5% increase in total number of all clinical services August through April this academic year over the previous year. There was a 3.8% increase in number of students served overall. While these gains are in large part due to the increase in service hours available, it is also likely that the influence of targeted outreach efforts encouraging greater awareness of mental health issues

and reduced stigma about service utilization influenced this trend. Programs such as the ASG created Student Mental Health Forum and community-wide Out of the Darkness Suicide Prevention Walk highlight these targeted efforts. In all the number of outreach programs decreased by 25% as a result of intentional implementation of a recommendation by the Keeling report.

TABLE 1

	2012- 2013	2013- 2014	2014- 2015	2015- 2016	2016- 2017
<i>Total Number of Appointments</i>	7744	7725	7527	8678	9363
<i>Distinct Individual Clients</i>	1537	1596	1847	1948	2002
<i>Percent of Student Body Seen</i>	9.32%	9.39%	10.86%	11.13%	11.44%

The addition of clinical staff combined with the intentional redirection of programming resources toward clinical resources contributed to a 30% reduction in average wait time for ongoing individual counseling services. This trend of decreased wait times continued well in the current academic semester. Whereas in years past a waiting list would start in early-February and remain until semester end, we did not start a wait list until April. Students waited an average of 4 days between their initial consultation and starting ongoing individual counseling, the average wait last year for the same time period was 13 days. Notably during the spring semester there has been an 8.3% increase in individual appointments over last spring semester.

TABLE 2

TERM	WAITLIST START	AVERAGE WAIT(IN DAYS)
<i>Fall 2014</i>	September 22 nd	22
<i>Spring 2015</i>	February 4 th	12
<i>Fall 2015</i>	October 2 nd	19
<i>Spring 2016</i>	February 5 th	10
<i>Fall 2016</i>	September 1 st	17
<i>Spring 2017</i>	January 27 th	13
<i>Fall 2017</i>	October 30 th	12
<i>Spring 2018</i>	April 9 th	4

SCS has a long history of supporting our academic partners in the College of Arts and Science by providing traineeships to doctoral students in the Department of Psychology. We are excited to extend our academic partnership to the College of Education, Health and Society collaborating to provide clinical training to masters students in the department of Family Studies and Social Work. These collaborations are a win-win for the university by providing much needed practical training opportunities to Miami graduate students while increasing the SCS capacity for clinical service. Also of note, the bulk of the background work required to complete the self-study proportion of the upcoming 7-year reaccreditation review of the APA-accredited psychology intern training program was completed in during Fall 2017. The SCS also continues to partner with Inter-Collegiate Athletics (ICA) to provide

timely counseling services to student-athletes and consultation to staff and coaches. We are currently recruiting a clinician that will serve as Staff Psychologist and Coordinator of Clinical Services to Student Athletes which will assist ICA in maintaining NCAA best practices for supporting student-athlete mental wellness.

Although increased staffing and utilization of the stepped care approach has mitigated our lengthy waitlist for counseling services some key challenges still remain. As mental health awareness increases and stigma decreases the demand for services will continue to rise, and a major challenge continues to be providing sufficient psychiatric services. We have one psychiatrist for 18,000 students where professional standards call for 1 to 12,000. Along with Student Health Service/TriHealth we are exploring ways for our staff psychiatrist and the primary care physicians to coordinate psychiatric care and increase the availability of appointments.

SCS is committed to innovative practices and collaborations which attract more mental health services into the Oxford area. We are currently working with Butler Behavioral Health Service to provide low cost counseling and psychiatric care to students who have private insurance. This collaborative will provide additional service options to Miami students and in time draw more practitioners to the Oxford area. Intensive eating disorder services and intensive alcohol and other drug treatment services continue to be two specialized areas of clinical care that Miami students seek. We remain committed to our collaborations with the Eating Recovery Center and the Haven at Miami. We are eager to support the Haven's efforts to initiate recovery housing for Miami students this fall. Creating a campus and community environment of sobriety will allow students struggling with addictions the opportunity to persist at Miami.

The increase in staffing at SCS (including the desire to expand the training program) has strained the physical office space beyond original its original capacity. Despite minor renovations and reallocation of current space, more space is needed for the expanded group counseling and workshop programs, an adequate waiting room, and individual counseling by trainees and permanent professional staff. A university committee to develop plans for renovation of the Health Services Center remains on hold.

News and Updates

From the Division of Student Affairs

For the Division of Student Affairs, supporting the health and wellbeing of Miami students is a driving force behind many of our initiatives, resources and programming. While health and wellness are clearly at the core of some office missions (e.g. Student Wellness, Student Counseling Service, and Student Health Service), many other departments in the division contribute to the education, intervention, and support of students' overall wellbeing while at Miami.

Anxiety and Stress

The **Rinella Learning Center** offers workshops each semester designed to help students develop strategies to address academic or time related issues before the issue is elevated to the need for counseling. Recent workshops include *Time Management*, *Test-Taking Anxiety*, and *Motivation and Procrastination*. For students who might benefit from more individual attention, the Center also offers Academic Coaching sessions. Coaching involves regular one-to-one meetings between a graduate student volunteer or Rinella staff member and a student. Meetings help students navigate the University system, develop and monitor progress toward appropriate goals, and make conscious and informed decisions about their education. In addition, coaches can help students develop effective organizational skills, learning strategies, and personal management techniques.

Communication to New Students and Families

The Division addresses health and wellness in a number of ways to educate our incoming students and their families about the resources, policies, and relevant strategies. We require all incoming students to complete online, interactive training courses on both sexual and interpersonal violence and the use of alcohol. *AlcoholEdu for College* provides education about the use of alcohol and encourages students to think about their own intentions and alcohol use during college. *HAVEN: Understanding Sexual Assault* educates students about critical issues related to sexual assault and relationship violence, as well as prevention strategies.

The **Dean of Students** and **Ethics and Student Conflict Resolution** (soon to be **Community Standards**) present separate community expectations sessions to all incoming students and approximately 5,000 family members through orientation. Additionally, **Parent and Family Programs**, in partnership with **Student Wellness**, sends newsletter communication and hosts a webinar for first-year family members on topics related to safety, health, and wellness. These messages are designed to equip family members with language, tools, and resources to talk with their students about these issues.

Living Learning Communities

Several Living Learning Communities (LLCs) have been formed through partnerships between **Residence Life** and various faculty and staff members. Some LLCs focus on the health and wellbeing on a larger, community scale (e.g. the *Community Justice and Well-Being LLC*, a partnership with Education, Health and Society and **Community Engagement and Service**), while others focus on individual health and wellbeing (e.g. the *Health and Wellness LLC* and *Outdoor Pursuits LLC*, both partnerships with Recreational Sports). These experiences allow students to integrate the themes of health and wellness into many aspects of their experience—both academically and socially.



**THE MAY 2018 REPORT
FOCUSES ON HEALTH
AND WELLNESS.**

STUDENT AFFAIRS REPORT

Self-Care

Self-care refers to activities and practices that reduce stress and enhance short- and long-term health and wellbeing. *Self-Care Fridays* are held weekly at the **Women*s and LGBTQ* Center**, providing time in the afternoon after a busy week of classes for students to de-stress by watching movies and working on creative projects. Additionally, the **Women*s Center** partnered this spring with University Libraries to host a MakerSpace program, an event where students, faculty, staff, and community members worked collaboratively on projects from book binding to button making and beyond, in an effort to promote self-care.



Instagram: @MiamiOH_StudentLife

Collaborative Initiatives

Inpatient Psychiatric Care

The **Student Counseling Service** (SCS), McCullough-Hyde Memorial Hospital (MHMH), and Good Samaritan Hospital of Cincinnati (GSH) have partnered to streamline psychiatric evaluations for Miami students who may need inpatient psychiatric treatment beyond the scope of SCS. When psychiatric care is indicated at SCS, the student is now transported to MHMH for medical clearance. Once medically cleared, the student is transported to GSH for a psychiatric evaluation. This new collaboration reduces the uncertainty of inpatient psychiatric care availability that once made it difficult and disheartening for students to receive the professional support needed. Although we are in the early stages of the collaboration, several Miami students have already benefited from this streamlined level of care.

The Haven Outpatient Center

As a result of the **Intervention and Treatment workgroup of the Alcohol Coordinating Committee**, *The Haven* was brought to Oxford in September 2017. The Haven is a national organization that provides compassionate and confidential support and recovery services for students with substance abuse issues. The Haven is located adjacent to campus at the Interfaith Center, where students can receive clinical care for addiction and co-occurring disorders while staying in school. They offer individual and group therapies, life and social skills development, case management, relapse education, academic support, and peer mentoring. Since opening their doors in September, nearly 40 students have been referred for substance-related issues.

The Haven also partners with the **Student Counseling Service** to assist in BASICS (Brief Alcohol Screening Intervention for College Students) for student violations through **Ethics and Student Conflict Resolution** (soon to be **Community Standards**), a process that was initiated in December 2017.

Student Health Services & TriHealth

Alcohol and Substance Abuse Screenings

After education and training of clinical staff, **Student Health Services (SHS)** implemented screenings to identify high-risk behaviors related to alcohol and substance abuse, beginning October 2017. They use the nationally recognized, evidence-based *Screening, Brief Intervention, and Referral to Treatment* (SBIRT) methodology to screen target populations through visit type. From October 5, 2017 through March 31, 2018, 2,060 students have completed the screening. Of those screened, 18.6% identified as exhibiting high-risk behaviors related to alcohol and 5.4% met criteria for high risk behaviors for substance abuse. The rate of students actively engaging in a referral recommendation to **Student Counseling** or Haven is 1.2%. Ongoing education, discussion, and followup is provided in lieu of acceptance of a referral. By Fall 2018, 100% of student visits will be SBIRT screened (maximum once per semester).

Patient Satisfaction

Patient satisfaction surveys continue to meet/exceed goals with more than 94% of students reporting "the health center provided resources to better manage my health, safety, and well-being." 96.5% of surveyed students report overall satisfaction with their student health experience and 95.5% would recommend the service to others.

Vaccination Success Rates

The American College of HealthCare Association's Healthy Campus 2020 defined a goal for the 2017-18 seasonal flu vaccination status for college campus populations. With a baseline metric of 33% of students having a current vaccination status, Healthy Campus 2020 set a stretch goal of 36%. SHS exceed this target by reaching an outcome of 39% of students receiving vaccination via SHS or reporting current vaccination.

STUDENT AFFAIRS REPORT

Spotlight

The newly-named J. Scott and Susan MacDonald Miller Center for Student Disability Services is getting a facelift.

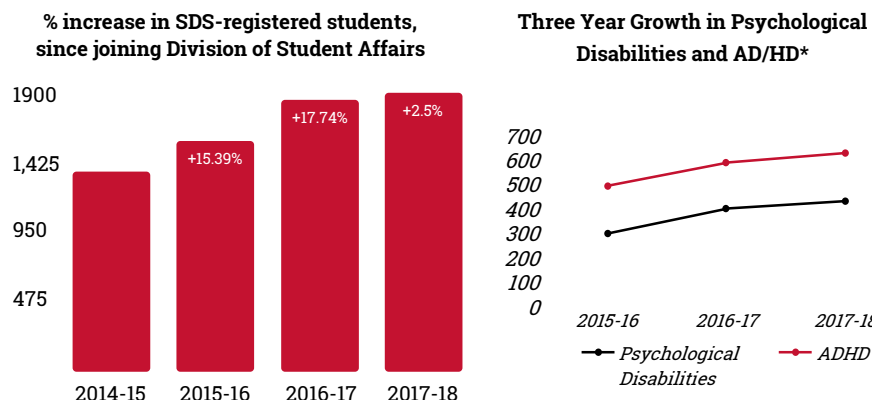
The Miller Center works closely with Miami's Disability Studies Program and Students with Disabilities Advisory Council (SDAC) to foster a cultural component of the Center that includes literature, documentaries, and other opportunities for gathering and fellowship. The Miller Center now offers a hot beverage station, a "technology cube" in the lobby with hardware and software, free printing for students, and artwork from local artists with disabilities through InsideOut Studio. These initiatives are funded through the generous gift of Scott and Susan Miller.

"The generous gift that the Millers are making to Miami University will leave a legacy for generations of current and future RedHawks that supports our institutional mission of inclusive excellence while enhancing our ongoing cultural engagement of students with disabilities at Miami."

-J. Andrew Zeisler ('88, '00), Director



Updated lobby of the Miller Center featuring new furniture and artwork from InsideOut Studio of Butler County



Technology Cube

*ADHD and psychological disabilities are the categories with the greatest service demand for students with disabilities. As mental health among college students continues to be a national focus, the Miller Center is working to ensure appropriate supports and services are available to promote academic success and health and well-being among these populations.

New Staff



Stephen Large, Psy.D., has been named the Assistant Vice President of Health and Wellness for Student Affairs, effective June 2018. Steve will provide innovative leadership to Student Health Service, Student Wellness, Student Counseling Services, and the Healthy Miami Collaborative in Student Affairs. Steve comes from Gannon University, where for nearly nine years he has held leadership roles in Health and Wellness programs, serving as Director of Counseling Services for five years and more recently leading the successful integration of a combined Health and Counseling Services department. Steve, a Cincinnati native and licensed clinical psychologist, received his bachelor of science degree in psychology from John Carroll University, and his doctorate in clinical psychology from Wright State University, where he was given the Diversity Dissertation Award and the Excellence in the General Practice of Psychology Award.



Dr. John Ward was recently named Director of the Student Counseling Service, effective March 2018. John has two bachelor's degrees from Miami University, and a masters degree and Ph.D. in clinical psychology from the University of Rhode Island. He returned to Miami in 2002 and joined the counseling staff full time in 2005. He most recently served as the Associate Director for Clinical Services in the Counseling Center.

John plans to work closely with Student Wellness and Student Health Services on the healthy Miami initiatives to enhance the overall student experience and promote the holistic health of the entire university community.

MAY 2018

STUDENT AFFAIRS REPORT

Student-Led Initiatives



*Active Minds, October
2017 Out of Darkness
Suicide Prevention Walk*



*Associated Student
Government, September
2017 Mental Health Forum*

Student organizations play a role in health and wellness promotion as well. In fact, 83 groups select the "Health and Wellness" category for their organization on the Hub.

Active Minds partners with the **Student Counseling Service** to reduce stigma and change the conversation around mental health and illness on campus. They do this through 5K races, workshops, and partnerships with Suicide Prevention and Stress Less Weeks.

Associated Student Government has focused on mental health, alcohol, and sexual assault issues this past year. One of their largest programs was the mental health forum, hosted in partnership with **Student Counseling Service**. The forum aimed to reduce mental health stigma and highlight campus resources. Student leaders spoke about their own mental health concerns and the event featured Student Counseling's Dr. John Ward and keynote speaker, actor Vinny Guadagnino.



*Faith and Fitness,
December 2017
Bootcamp*



*PAVES, March 2018
Spring Break emergency
cards*

Faith and Fitness was founded in 2012 and embraces the connection between fitness of mind, body and spirit. This Christian organization provides free fitness classes for members four nights each week.

PAVES, or People Against Violence and Sexual Assault, aims to educate and raise awareness on sexual and interpersonal violence, working closely with Miami's **Sexual Assault Response** Coordinator. In addition to awareness-raising events like the "Walk a Mile in her Shoes" walk, they also work toward prevention. In March 2018, they handed out emergency resource cards for popular spring break destinations.

HAWKS: Health Advocates for Wellness, Knowledge, and Skills

HAWKS are 28 peer health educators in **Student Wellness** that offer programming, outreach, and activities for students on health topics including sexual and interpersonal violence, bystander intervention, alcohol and other drugs, nutrition, communicable disease, sexual health, and mental health hygiene. HAWKS take requests for training as well. Their current programs include:

- Alcohol Skills Training Program
- Sex in the Basement
- Sexperts
- Sexual and Interpersonal Violence
- Date Safe
- Step Up! Bystander Awareness
- Friends Helping Friends
- Nutrition in a Nutshell
- Stress and Time Management

Organization of the Year

The HAWKS were recently selected for one of only two "Organization of the Year" awards by the Student Engagement and Leadership recognition ceremony, covering the 2017-18 academic year.

Collaborative Event of the Year

The HAWKS were also recognized, with partners PAVES, MARS, Swoops Stoop, BACCHUS, F-Word, and Intercollegiate Athletics, for hosting high-profile speaker Jackson Katz. The program, "Why Sexual Assault is an Issue for Men," was mandated for all student athletes to fulfill their annual sexual and interpersonal violence training requirement.

Step UP

Over the 2017-18 year, the Hawks delivered Step Up! Bystander Intervention training to 1,264 new Greek members, and 1,873 students in the UNV 101 first year seminar course.

STUDENT AFFAIRS REPORT

Miami Student Health Survey

Between February 28th and March 14th, 2018, almost 4,000 Miami students responded to the Miami Student Health Survey (MSHS) which is designed to provide insights into common challenges to student success so that the university can enhance services and support. All Oxford full-time undergraduates (N = 15,536) received an email invitation with a link to the online survey. Some students completed the survey as part of a class.

Alcohol


44%

of students have attended a Late Night Miami event

CONSUMPTION

30%

of students have had **0** drinks in the past 30 days

16%

of students have never consumed alcohol

Self-reported binge and blackout rates are lower in 2018 than 2017

GOOD SAMARITAN POLICY

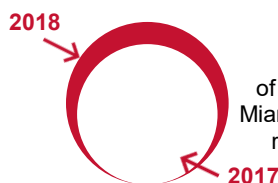

88%

of students are aware of the policy (94% of first year students)


80%

somewhat or completely understand the Good Samaritan Policy

Mental Health


22.1%

of respondents report that they have used Miami's counseling services on campus. This represents an increase from the 19.2% reporting in 2017.

75%

agree, somewhat agree, or strongly agree that they would know where to go on campus for professional help for mental or emotional health.


84%

agree, somewhat agree, or strongly agree that they would willingly accept someone as a close friend who has received mental health treatment

Sexual Misconduct


90%

report being at least a *little knowledgeable* about where to make a report of sexual misconduct

90%

believe that if reported, Miami would be *somewhat* (20.5), *very* (36.7) or *extremely* (31.9) likely to take a report of sexual misconduct seriously


83%

have received training on the prevention of sexual misconduct



Food Insecurity



In the past 12 months

19.5%

have cut the size of or skipped a meal because there wasn't enough money for food

Of those,

27%

reported that it happened almost every month

Student Impact

"My experience as a HAWKS Peer Health Educator, as an undergraduate research assistant, and as a leader on the club triathlon team were active learning experiences for me to gain skills necessary for my future outside of Miami - skills in leadership, communication, teamwork, commitment, and time management that I would not have received in the classroom.



Most importantly, I learned more about myself from these experiences - what I value and who I want to be moving forward - shaping me confidently into the person I am today."

-Laura 'Dannie' Roberts, recipient of a 2018 President's Distinguished Service award

**Miami University Division of Student Affairs
Campus Safety Report
Board of Trustee Overview
May 2018**

This report is intended to provide information from the Division of Student Affairs to the Board of Trustees on issues related to campus safety. Provided are links to various programs and services on campus as well the link to the Department of Education in compliance with the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act. As is required of all institutions that wish to participate in federal financial assistance programs, Miami University provides statistics in the following categories of crimes: criminal offenses, hate crimes, VAWA offenses (Violence Against Women Act) and arrests and referrals for disciplinary actions in specified categories.

[Miami's Annual Campus Security and Fire Safety Report](#) provides crime statistics for the previous three years. The data for 2017 (calendar year) will be posted by October 1, 2018 within the 2017 Annual Security and Fire Safety Report. The statistics are divided by campus and organized under the crime statistics tab.

Miami University is committed to maintaining a healthy and safe learning, living, and working environment and to creating an environment that promotes responsibility, dignity, and respect in matters of sexual and interpersonal conduct. Sexual misconduct, domestic violence, dating violence, stalking and sexual harassment (Title IX violations) are strictly prohibited and will not be tolerated. Any person, regardless of gender, can be a victim/survivor. The [Title IX Protocol](#) applies to both on-campus and off-campus conduct, academic, educational, co-curricular, athletic, study abroad, and other University programs. By providing resources for prevention, education, support, investigation, and a fair disciplinary process, Miami University seeks to eliminate all Title IX violations. The University is dedicated to preventing Title IX violations by providing:

- Education and prevention programming informing the community about the risks that may contribute to sexual misconduct and interpersonal violence. One example of programming is bystander training.
- Assistance and support, including interim support measures and accommodations.
- Processes for reliable and impartial investigation and adjudication that include disciplinary sanctions for those who commit Title IX violations including suspension and dismissal.
- When a Title IX violation does occur, the University will take appropriate steps to end the harassment, prevent its recurrence and remedy the discriminatory effect on the reporter (or victim/survivor if different from the reporter) and others, as appropriate.
- Orientation (June, August, January) for new students and families includes information on sexual violence, alcohol and personal responsibility as well as Information on Title IX requirements and the protocol for addressing and reporting acts of sexual violence.
- During the first few weeks of the school year there are numerous reminders to all students regarding safety and personal responsibility.
- Within the first month of the school year students complete an online alcohol awareness program and a program that addresses sexual conduct (*AlcoholEdu for College* and *Haven: Understanding Sexual Assault*).
- Off-campus students receive information the first week of classes during the annual *walkabouts*. Volunteer employees and town residents visit off campus residences distributing information that includes topics of safety and alcohol.

There are other online resources for students and families. Additional information on prevention and awareness programs is linked [here](#).

The Good Samaritan Policy:

The [Good Samaritan Policy](#) provides the opportunity for students to seek medical assistance in alcohol or drug related emergencies without concern for arrest and disciplinary action.

Student Behavioral Data 2016-2017*:

- The OESCR saw a 15% increase in the number of violations of the Code of Student Conduct over the 2015-16 academic year. Peak periods for reported misconduct were in the months of October and March, with over 200 incidents for each of those months.
- There was a 23% increase in the number of incidents of intoxication; however, underage possession/ consumption saw no change over the previous year.
- Though not an alcohol policy violation, it's important to note there were 83 Good Samaritan reports, an increase of 63% over the previous year.
- There were only 3 reported incidents of hazing in 2016-17, a 90% decrease from the previous spring.
- Overall, there were 2, 597 reported violations of the Code of Student Conduct for 2016-17.

Crisis Management and Response:

Miami's response system is comprised of a team of professionals that includes the Title IX coordinator, deputy Title IX coordinator for sexual misconduct and interpersonal violence, Dean of Students office, office of Ethics and Student Conflict Resolution, Miami University Police, health and mental health providers, office of Residence Life .

Future Trends and Challenges

- Continued expectation for campuses to be safer and to work collaboratively in doing so
- Continue to adopt policies and practices to prevent crimes of violence and to more effectively respond when they happen
- Continue to educate and train administrators, faculty and staff utilizing federal and state standards as it relates to interpersonal violence
- Application of a substantive changes in Federal campus safety and security reporting
- Assessment of policies, programs and response efforts

* The statistics for the current academic year 2017-18 will be available in the fall 2018.

Susan Vaughn, Director
Ethics and Student Conflict Resolution
5/2018



ADMISSION UPDATE

Board of Trustees Meeting

May 17, 2018

Susan K. Schaurer
Assistant Vice President for Enrollment Management
and Director of Admission

Key Enrollment Goals

Fall 2018

First-Year Objectives

- » Increase applications for admission to exceed 31,000
- » Enroll a cohort of 3,750 first-year students
- » Increase non-resident enrollment
 - » Increase domestic non-resident enrollment
 - » Maintain international non-resident enrollment of 300
- » Maintain diversity
 - » Racial/ethnic
 - » Socioeconomic
 - » College-going status
- » Maintain quality
- » Manage divisional enrollment targets, including an enrolling cohort of 40 CLAAS students

Other Enrollment Objectives

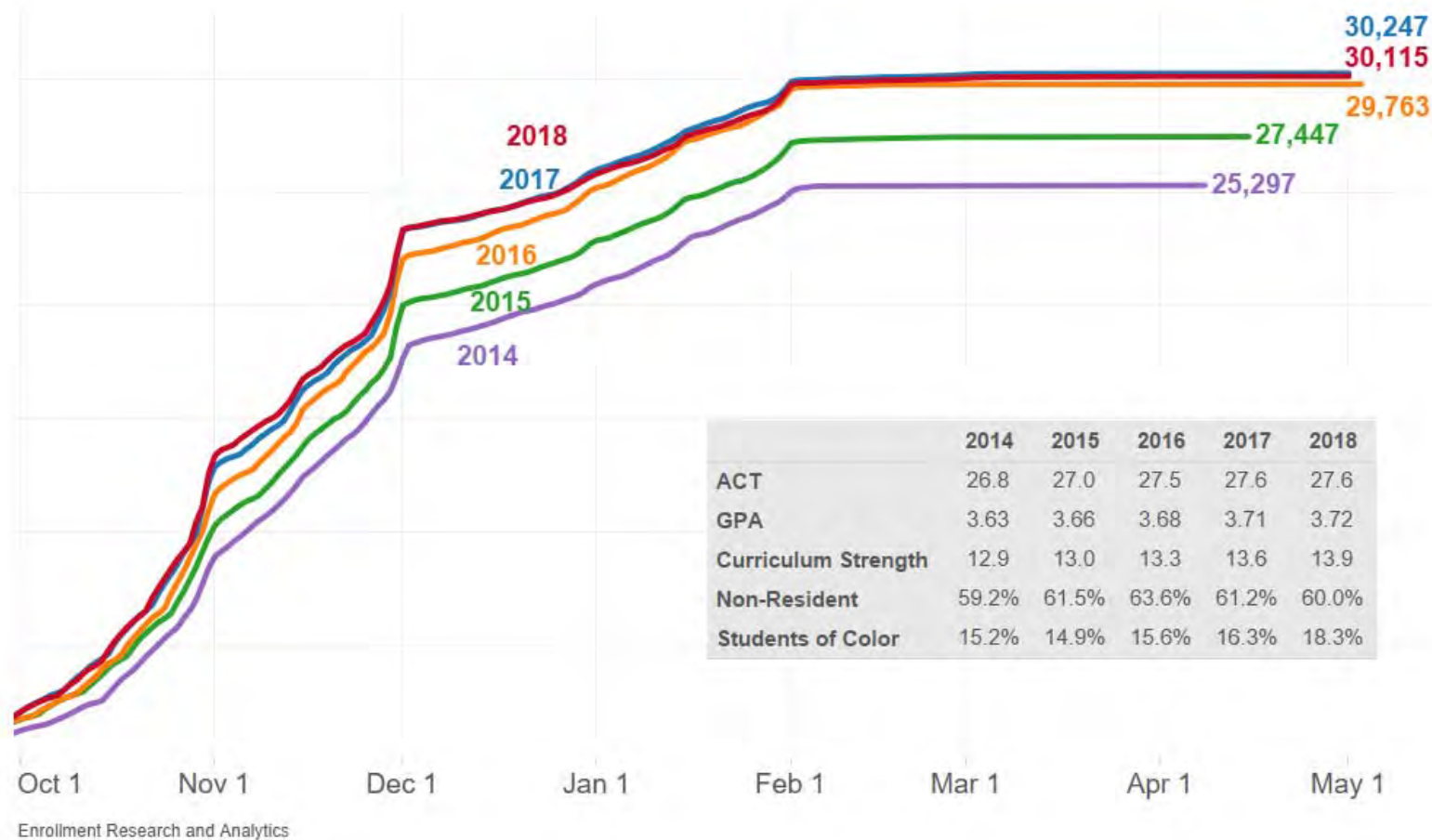
- » Meet ACE Program enrollment target of 200
- » Meet transfer enrollment target of 200
- » Meet Net Tuition Revenue targets



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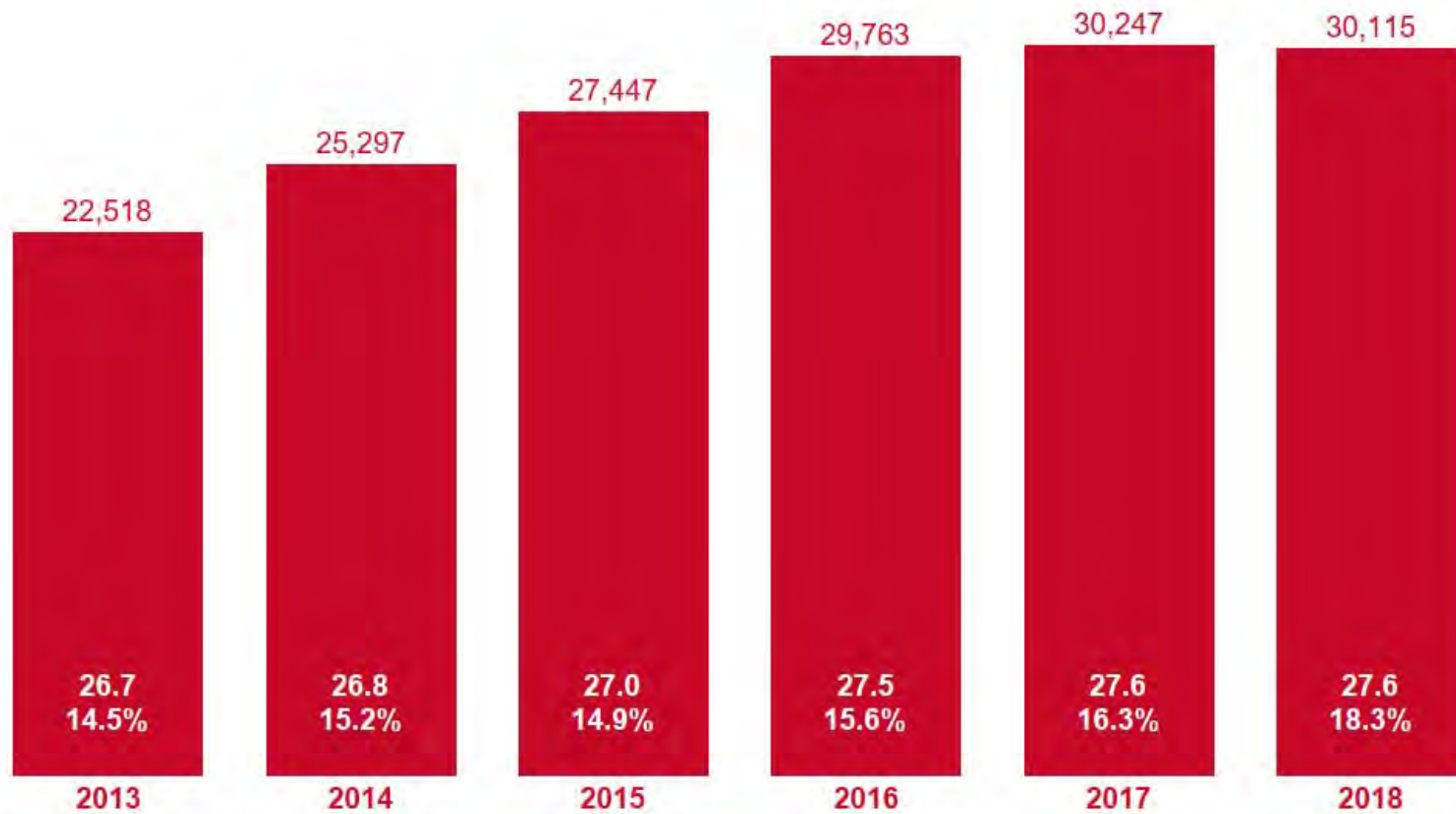
Applications and Key Indicator History

Data as of 5.4.2018



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Application Trends



Avg ACT
% SOC

Enrollment Research and Analytics

Data as of 5.4.2018

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Fall 2018 Applications

Key Indicators

	Applications	ACT Best	GPA	Curriculum Strength	Non-Resident	Students of Color
2014	25,297	26.8	3.63	12.9	59.2%	15.2%
2015	27,447	27.0	3.66	13.0	61.5%	14.9%
2016	29,763	27.5	3.68	13.3	63.6%	15.6%
2017	30,247	27.6	3.71	13.6	61.2%	16.3%
2018	30,115	27.6	3.72	13.9	60.0%	18.3%



Data as of 5.4.2018

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Fall 2018 Applications

by Residency

	2016	2017	2018	Δ 2016 to 2018	Δ 2017 to 2018
Non-Resident	18,923	18,511	18,084	-4.4%	-2.3%
Domestic Non-Resident	14,022	13,816	13,433	-4.2%	-2.8%
International	4,901	4,695	4,651	-5.1%	-0.9%
Ohio Resident	10,840	11,736	12,031	11.0%	2.5%
Grand Total	29,763	30,247	30,115	1.2%	-0.4%



Data as of 5.4.2018

MiamiOH.edu

Fall 2018 Applications

by Division

	2016	2017	2018	Δ 2016 to 2018	Δ 2017 to 2018
CAS	12,368	12,804	12,296	-0.6%	-4.0%
FSB	9,179	8,988	8,443	-8.0%	-6.1%
CEC	4,249	4,277	4,278	0.7%	0.0%
EHS	2,792	2,946	2,737	-2.0%	-7.1%
CCA	1,175	1,232	1,453	23.7%	17.9%
CLAAS	--	--	908	--	--
Grand Total	29,763	30,247	30,115	1.2%	-0.4%

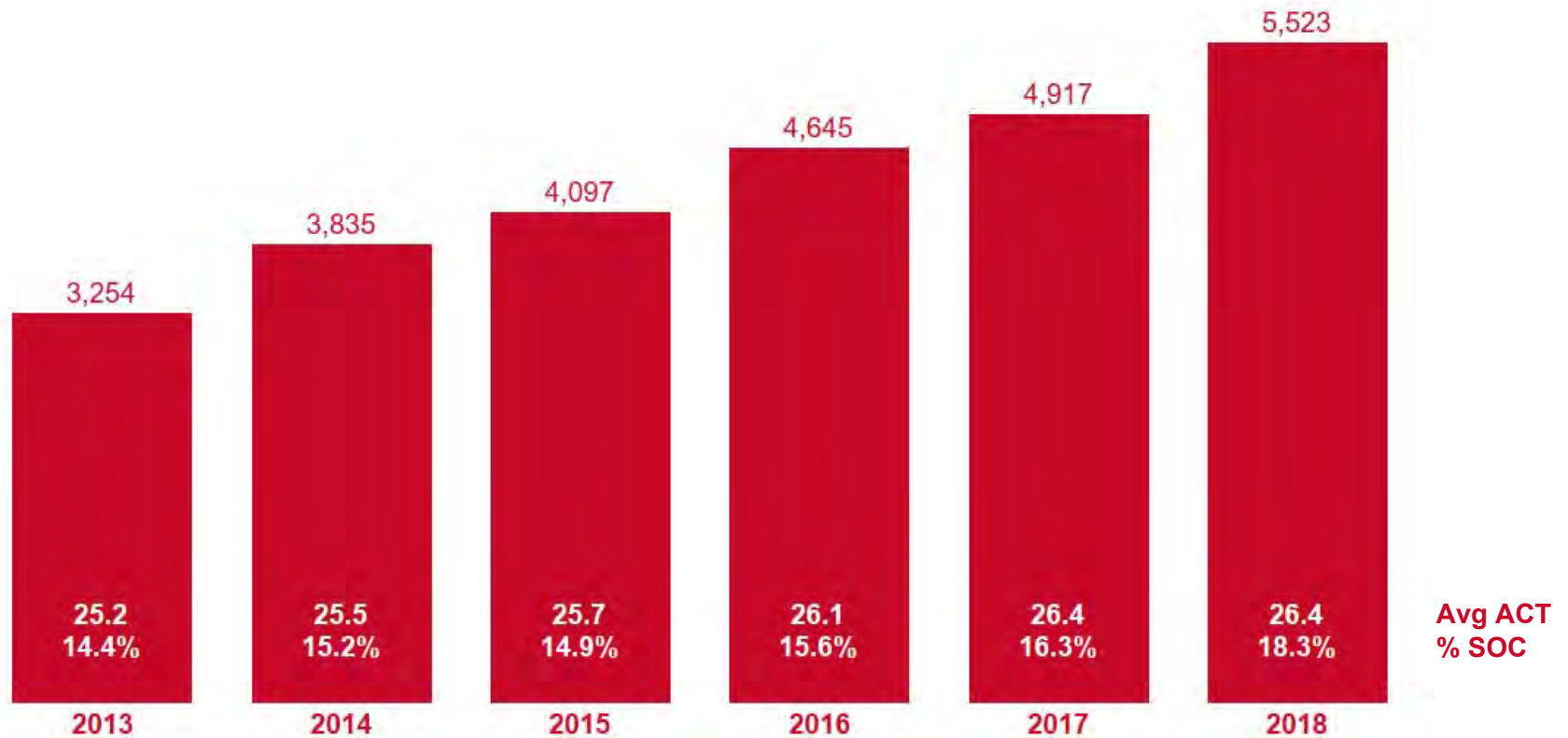


Data as of 5.4.2018

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Application Trends

Students of Color



Enrollment Research and Analytics

Data as of 5.4.2018

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Fall 2018 Applications

Students of Color

	Applications	ACT Best	GPA	Curriculum Strength	Non-Resident
2014	3,835	25.5	3.52	12.7	49.1%
2015	4,097	25.7	3.58	13.0	51.3%
2016	4,645	26.1	3.59	13.6	52.9%
2017	4,917	26.4	3.61	14.1	50.7%
2018	5,523	26.4	3.61	14.2	49.2%

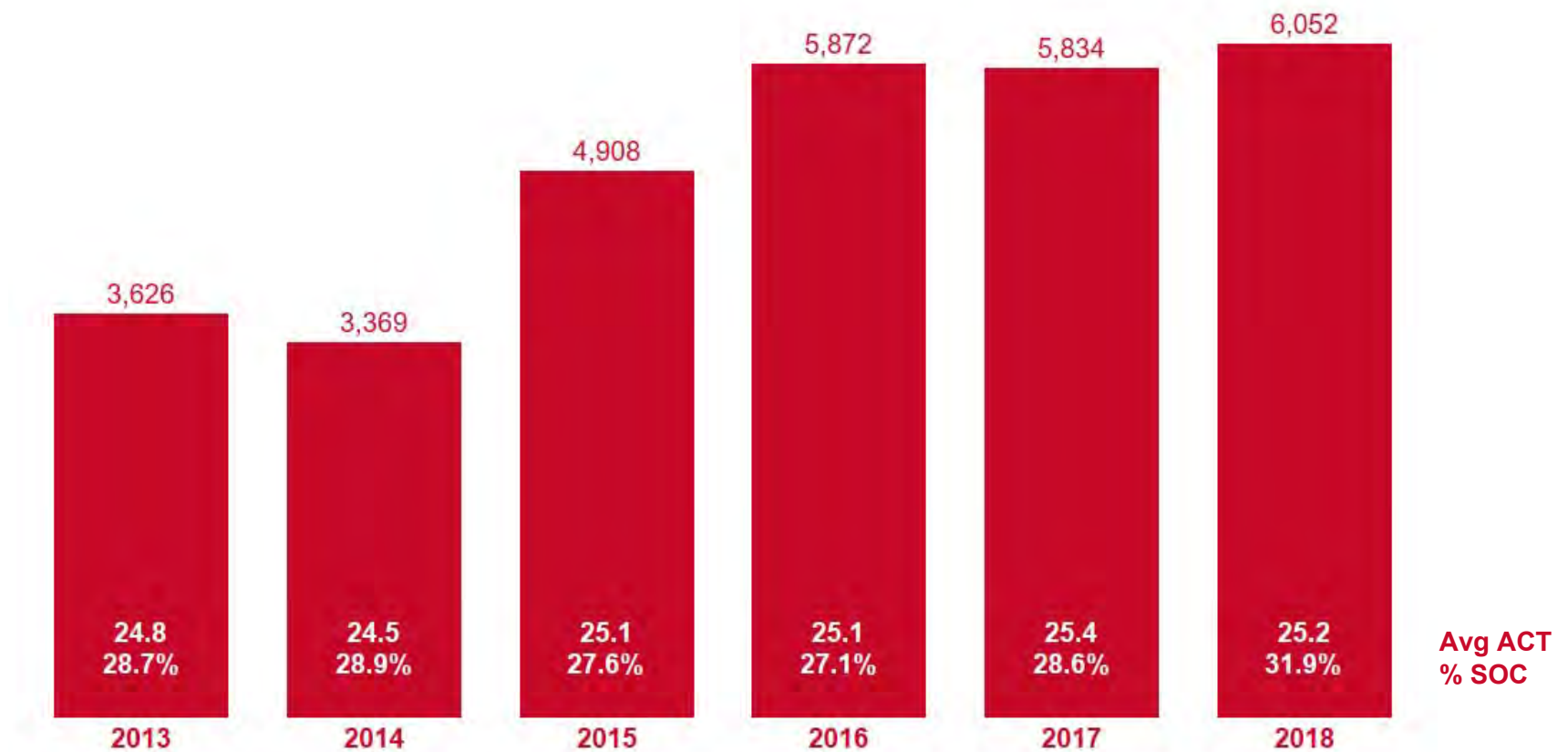


Data as of 5.4.2018

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Application Trends

First Generation



Enrollment Research and Analytics

Data as of 5.4.2018

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Fall 2018 Applications

First Generation

	Applications	ACT Best	GPA	Curriculum Strength	Non-Resident	Students of Color
2014	3,369	24.5	3.48	11.7	57.5%	28.9%
2015	4,908	25.1	3.54	11.8	57.4%	27.6%
2016	5,872	25.1	3.53	11.9	56.9%	27.1%
2017	5,834	25.4	3.53	12.3	52.9%	28.6%
2018	6,052	25.2	3.53	12.5	49.9%	31.9%

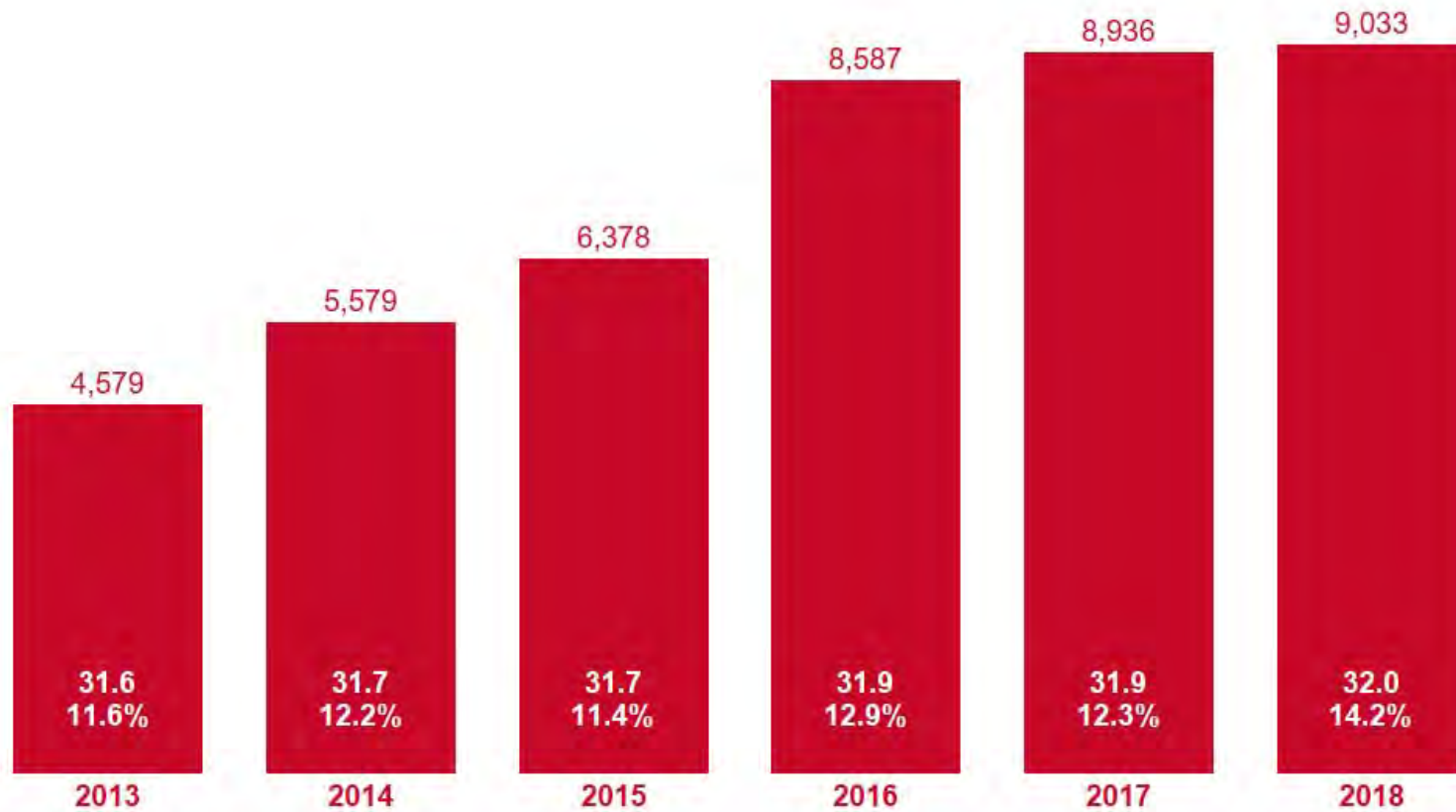


Data as of 5.4.2018

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Application Trends

ACT 30+



Avg ACT
% SOC

Enrollment Research and Analytics

Data as of 5.4.2018

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Fall 2018 Applications

ACT 30+

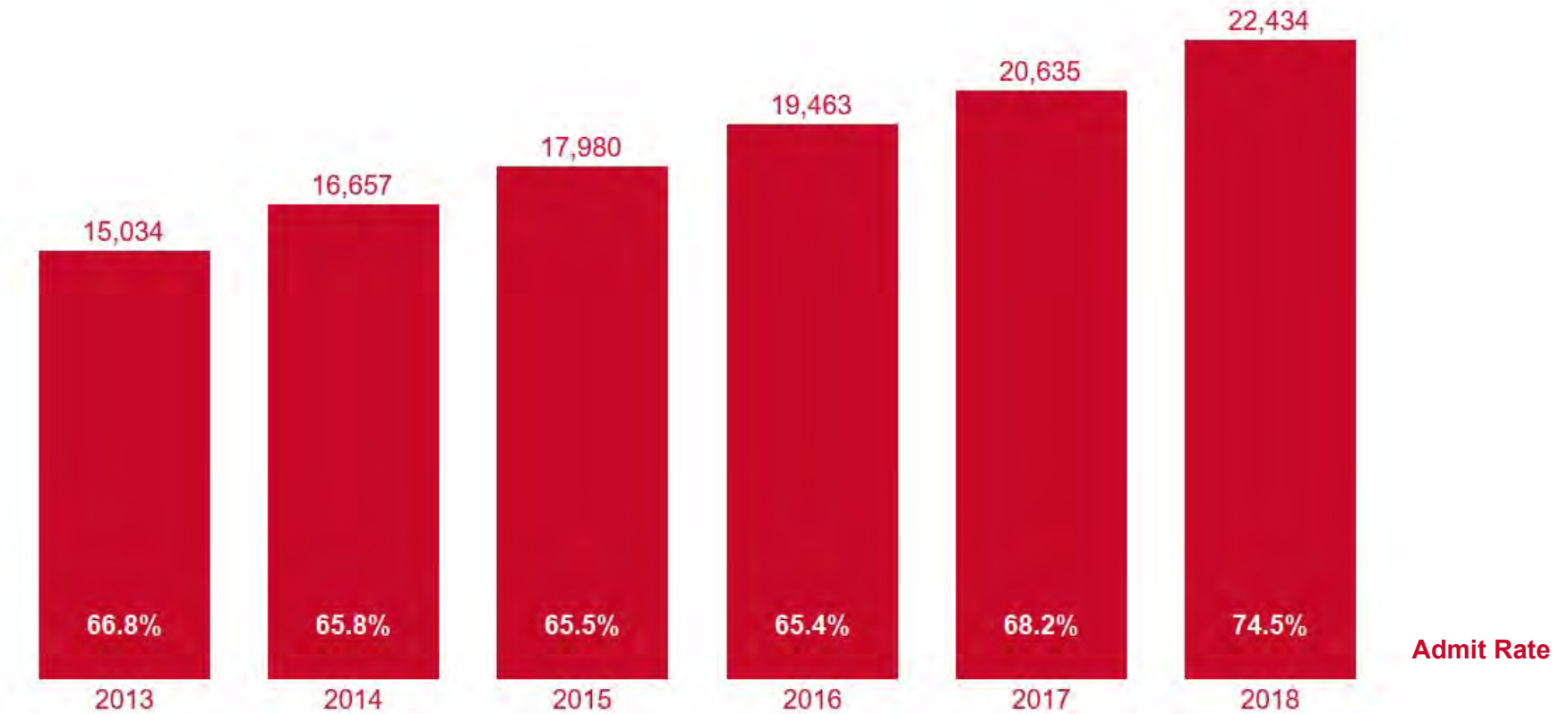
	Applications	ACT	GPA	Curriculum Strength	Non-Resident	Students of Color
2014	5,579	31.7	4.00	16.6	58.4%	12.2%
2015	6,378	31.7	4.00	16.7	60.2%	11.4%
2016	8,587	31.9	4.02	16.8	63.4%	12.9%
2017	8,936	31.9	4.03	16.9	61.6%	12.3%
2018	9,033	32.0	4.04	17.1	61.1%	14.2%



Data as of 5.4.2018

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Admit Trends



Enrollment Research and Analytics

Data for 2018 is current; all other data are final.

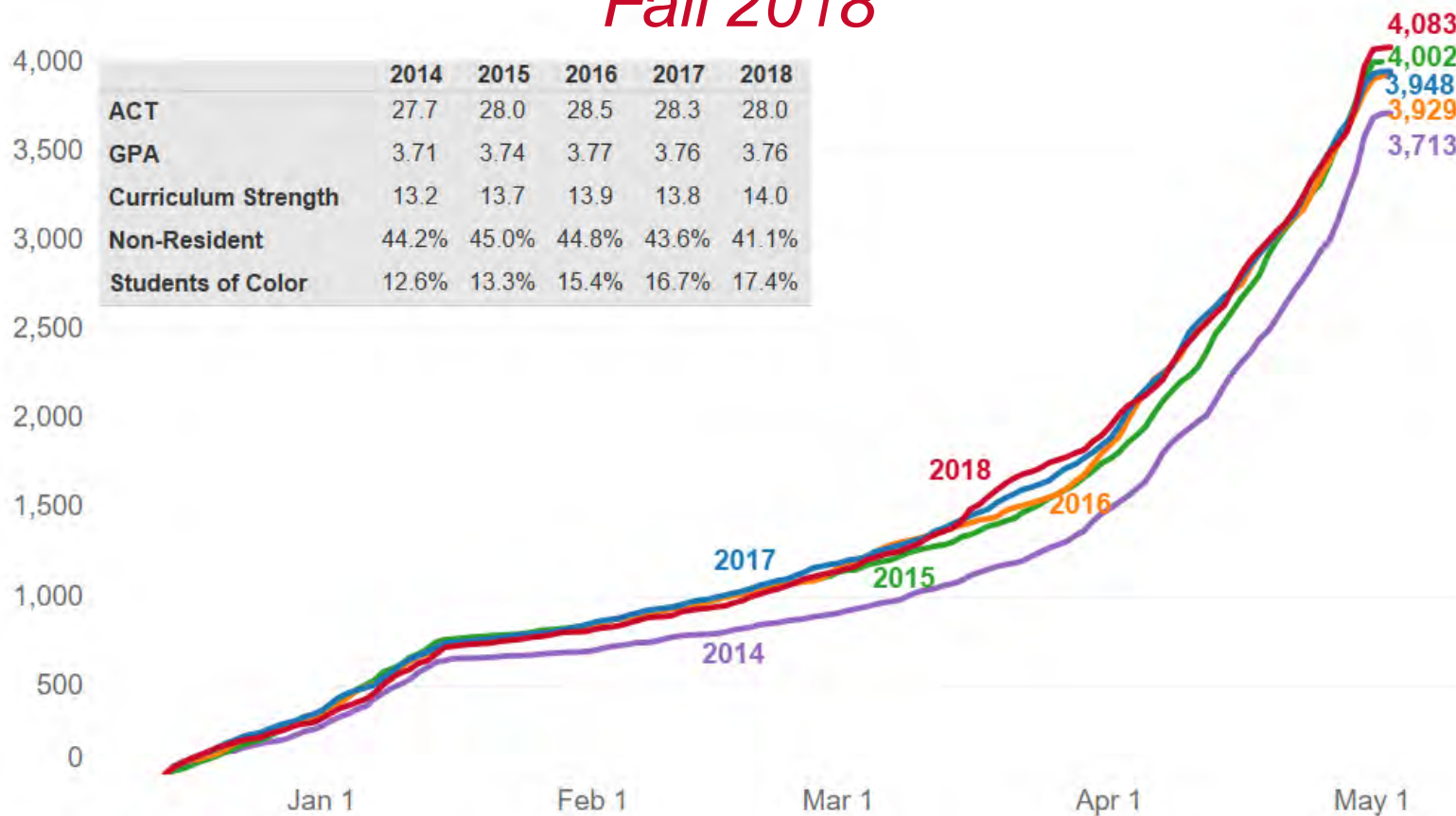
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Confirmations and Key Indicator History

Fall 2018

Data as of 5.4.2018

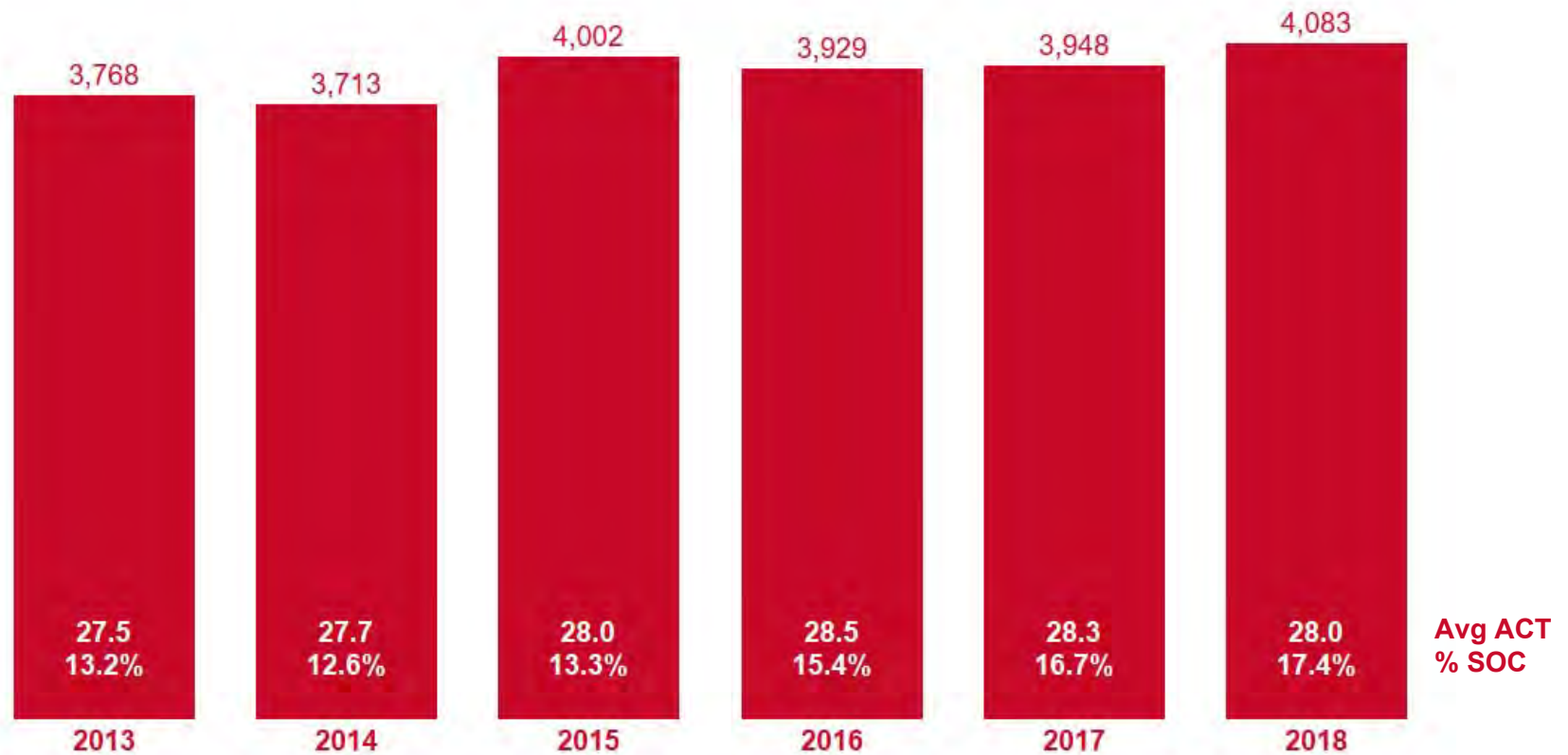


Enrollment Research and Analytics

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Confirmation Trends



Enrollment Research and Analytics

Data as of 5.4.2018

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Fall 2018 Confirmations

Current Confirms

	Confirms	ACT	GPA	Curriculum Strength	Non-Resident	Students of Color
2014	3,713	27.7	3.71	13.2	44.2%	12.6%
2015	4,002	28.0	3.74	13.7	45.0%	13.3%
2016	3,929	28.5	3.77	13.9	44.8%	15.4%
2017	3,948	28.3	3.76	13.8	43.6%	16.7%
2018	4,083	28.0	3.76	14.0	41.1%	17.4%

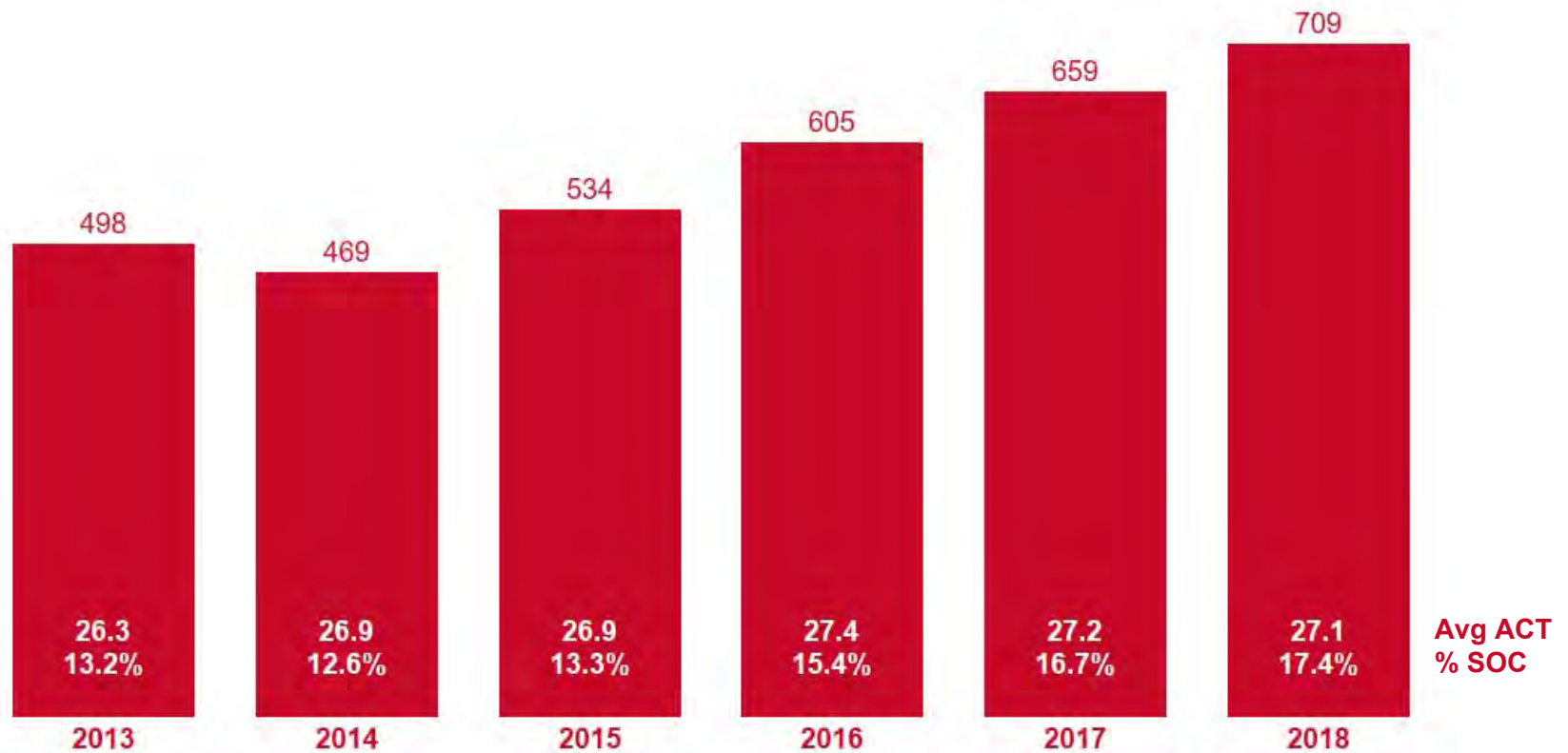


Data as of 5.4.2018

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Confirmation Trends

Students of Color



Enrollment Research and Analytics

Data as of 5.4.2018

MiamiOH.edu



Fall 2018 Confirmations

Students of Color

	Confirms	ACT	GPA	Curriculum Strength	Non-Resident
2014	469	26.9	3.65	13.7	35.8%
2015	534	26.9	3.67	13.3	35.2%
2016	605	27.4	3.71	13.9	33.1%
2017	659	27.2	3.71	14.1	34.7%
2018	709	27.1	3.71	14.4	33.0%

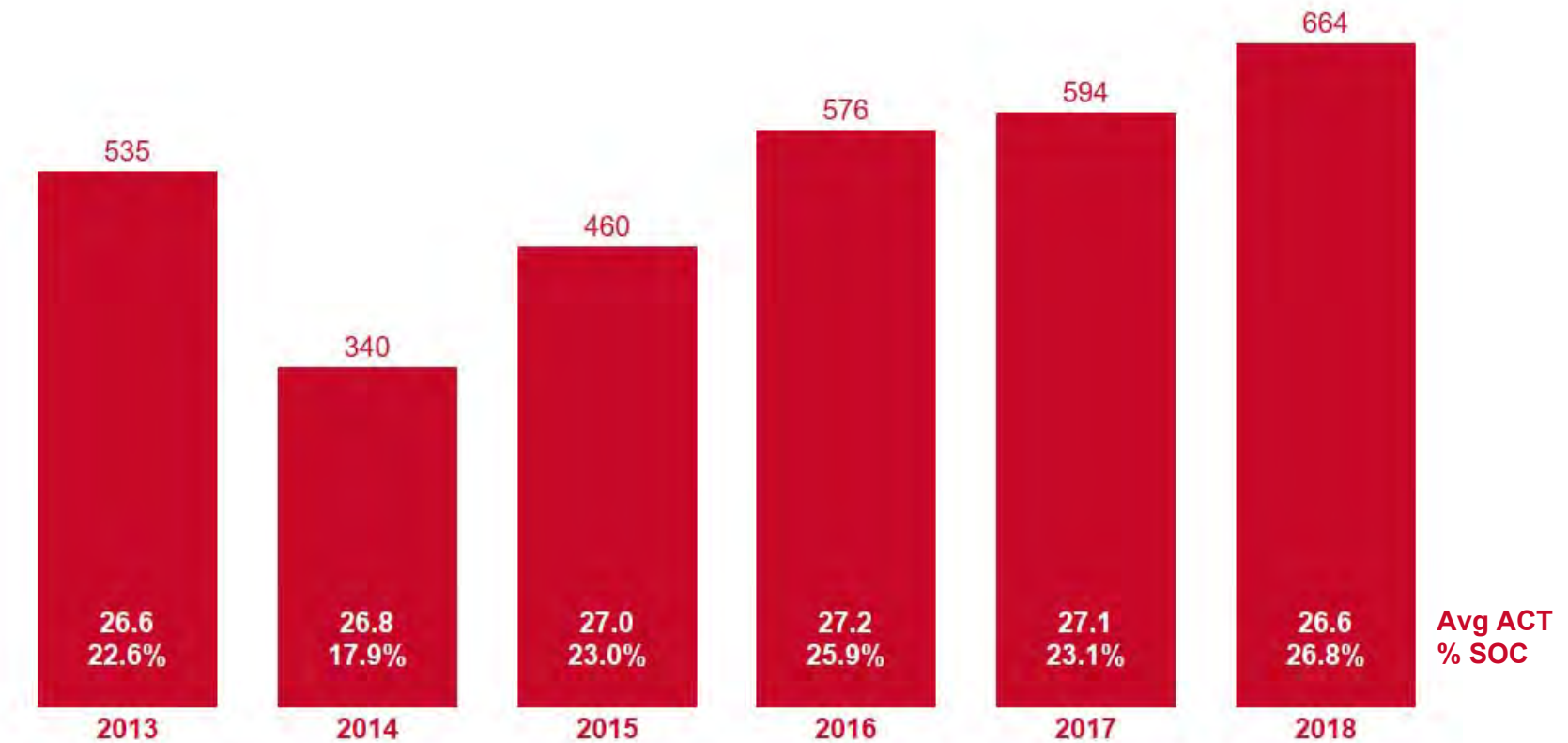


Data as of 5.4.2018

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Confirmation Trends

First Generation



Enrollment Research and Analytics

Data as of 5.4.2018

MiamiOH.edu



Fall 2018 Confirmations

First Generation

	Confirms	ACT	GPA	Curriculum Strength	Non-Resident	Students of Color
2014	340	26.8	3.66	12.6	35.3%	17.9%
2015	460	27.0	3.69	13.2	38.9%	23.0%
2016	576	27.2	3.74	13.2	31.4%	25.9%
2017	594	27.1	3.68	13.2	39.2%	23.1%
2018	664	26.6	3.70	13.4	29.4%	26.8%

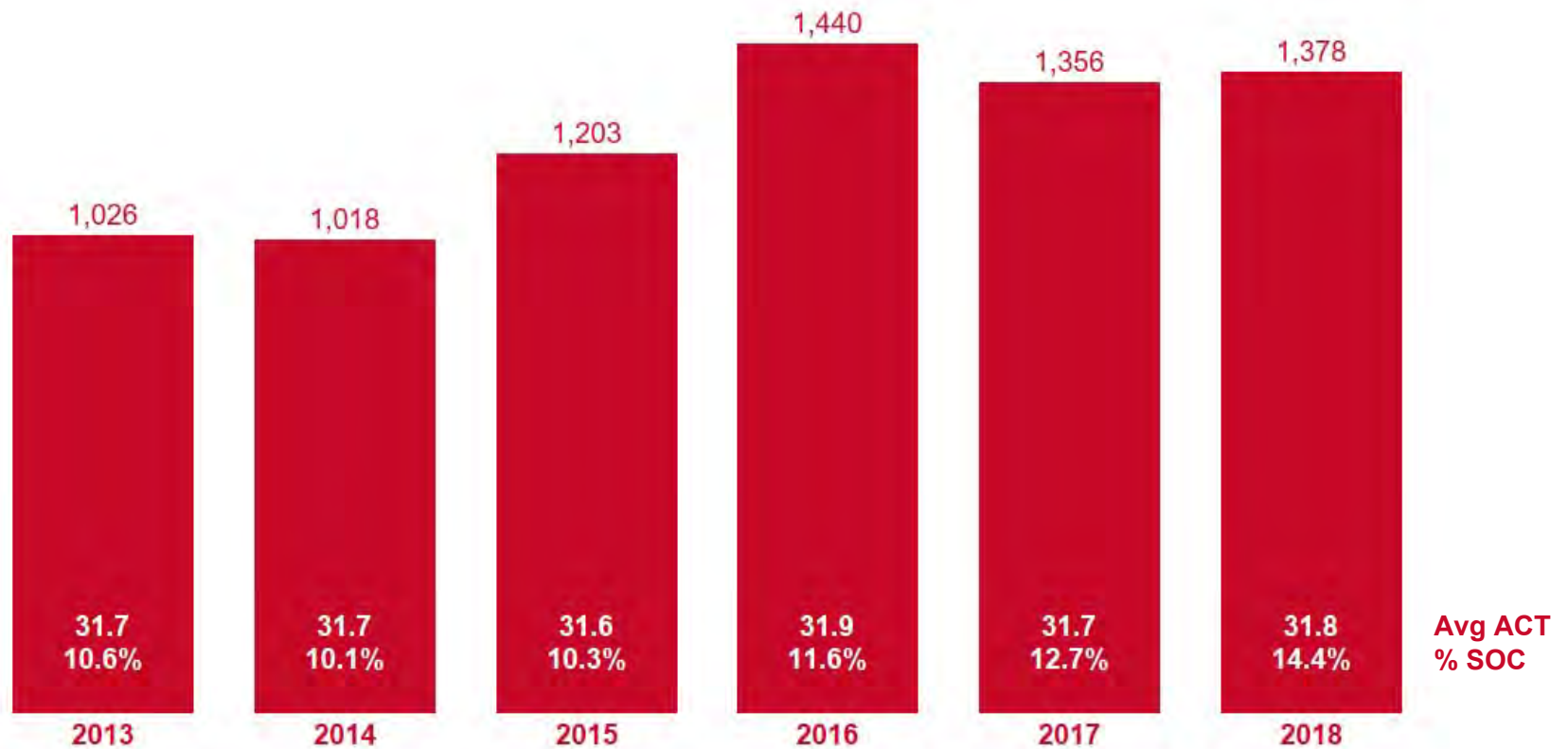


Data as of 5.4.2018

MiamiOH.edu

Confirmation Trends

ACT 30+



Enrollment Research and Analytics

Data as of 5.4.2018

MiamiOH.edu



Fall 2018 Confirmations

ACT 30+

	Confirms	ACT	GPA	Curriculum Strength	Non-Resident	Students of Color
2014	1,018	31.7	3.98	16.2	44.1%	10.1%
2015	1,203	31.6	3.98	16.5	47.5%	10.3%
2016	1,440	31.9	3.98	16.3	47.8%	11.6%
2017	1,356	31.7	3.98	16.3	42.1%	12.7%
2018	1,378	31.8	3.99	16.7	43.7%	14.4%



Data as of 5.4.2018

MiamiOH.edu

Fall 2018 Projected First-Year Enrollment

October 15

Total Pre-Melt Confirmations: 4,148

Current Active Confirmations: 4,083

Resident: 2,405 (vs. 2,225)

Non-Resident: 1,349 (vs. 1,361)

International: 329 (vs. 362)

Expected first-year class range on October 15, 2018:

6.0% melt: 3,899

6.2% melt: 3,890

6.5% melt: 3,878

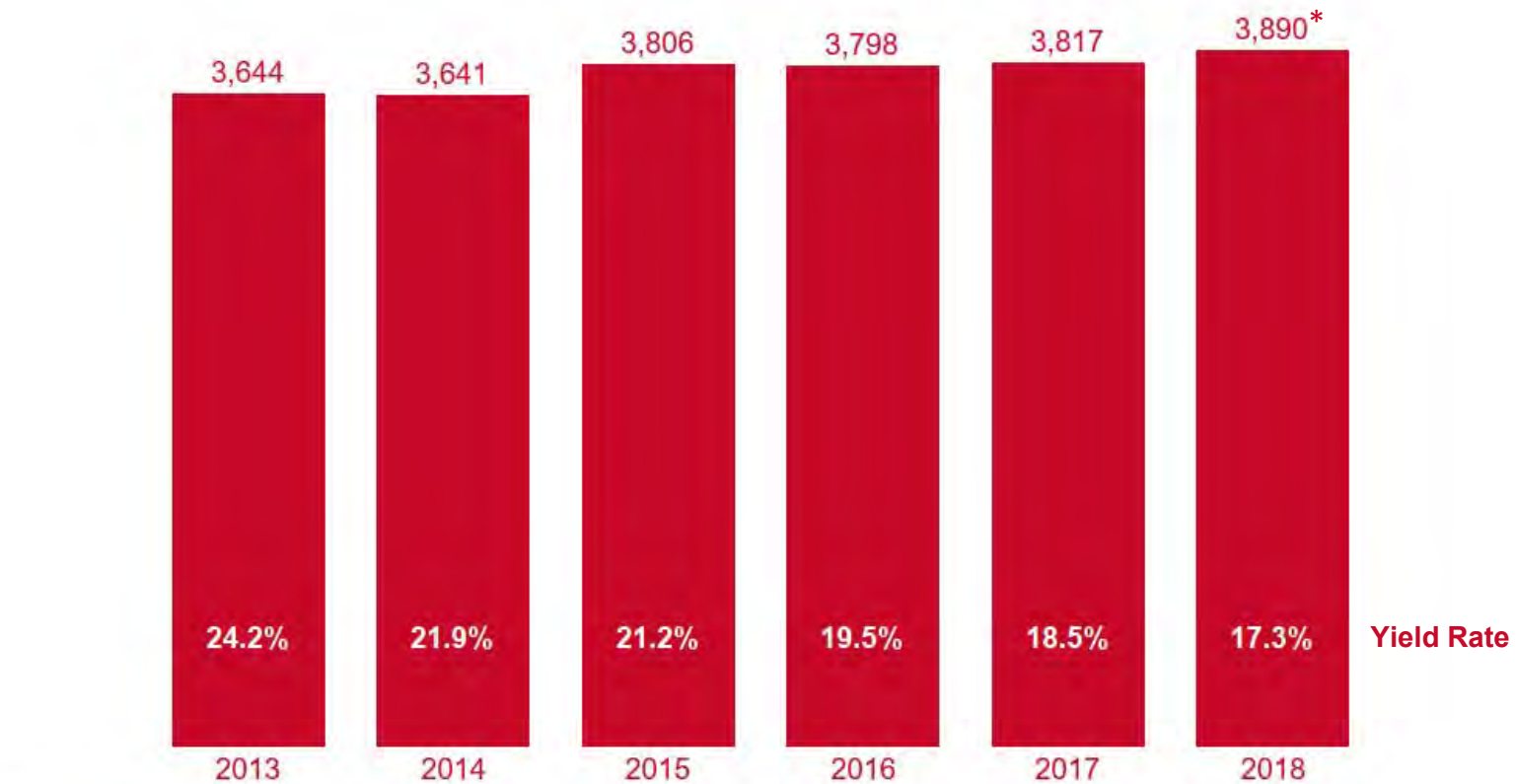
6.8% melt: 3,866



Data as of 5.4.2018

MiamiOH.edu

Yield Trends



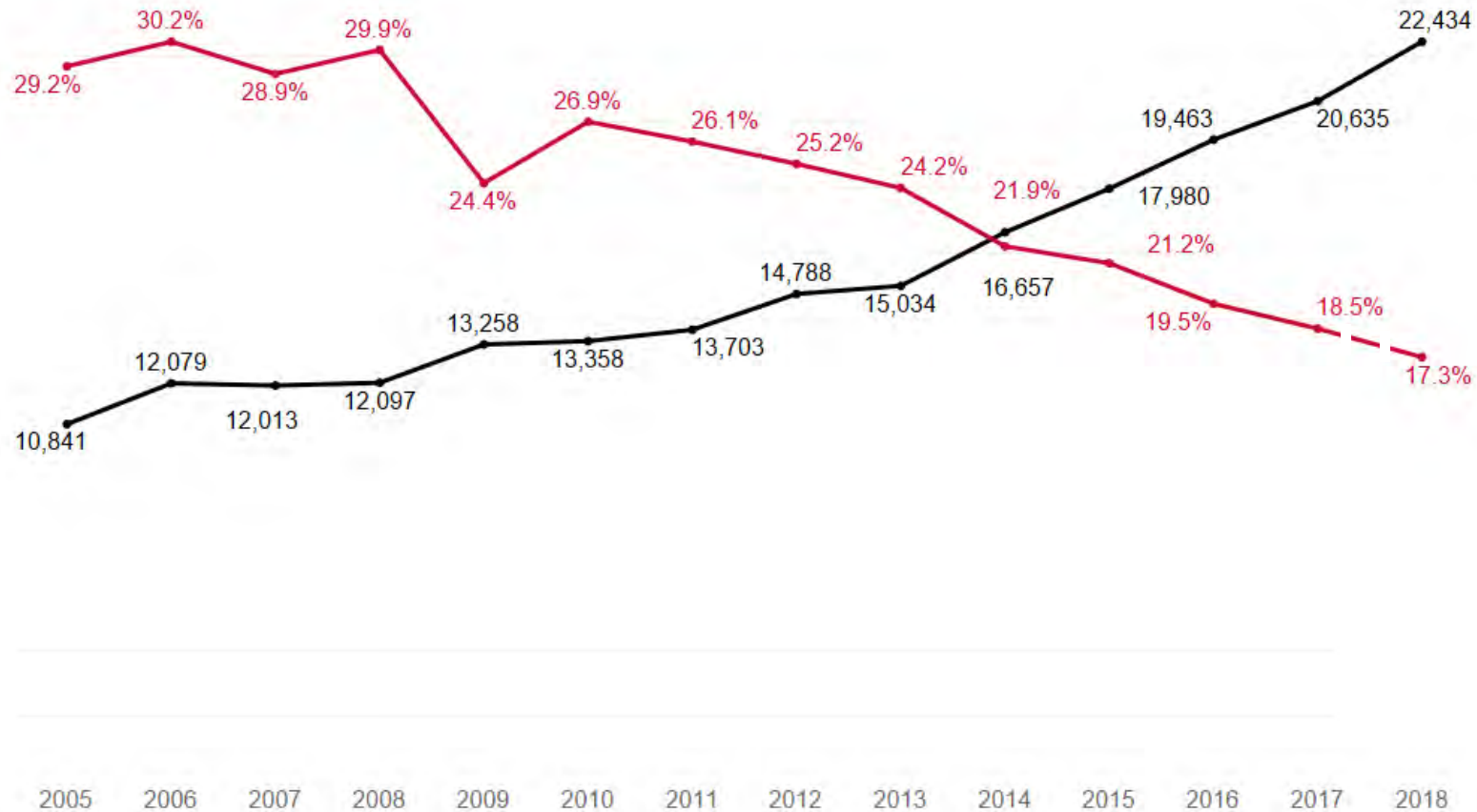
Enrollment Research and Analytics

*Number for Fall 2018 is estimated; all other data are final.

MiamiOH.edu



Yield Rate and Admit Trends



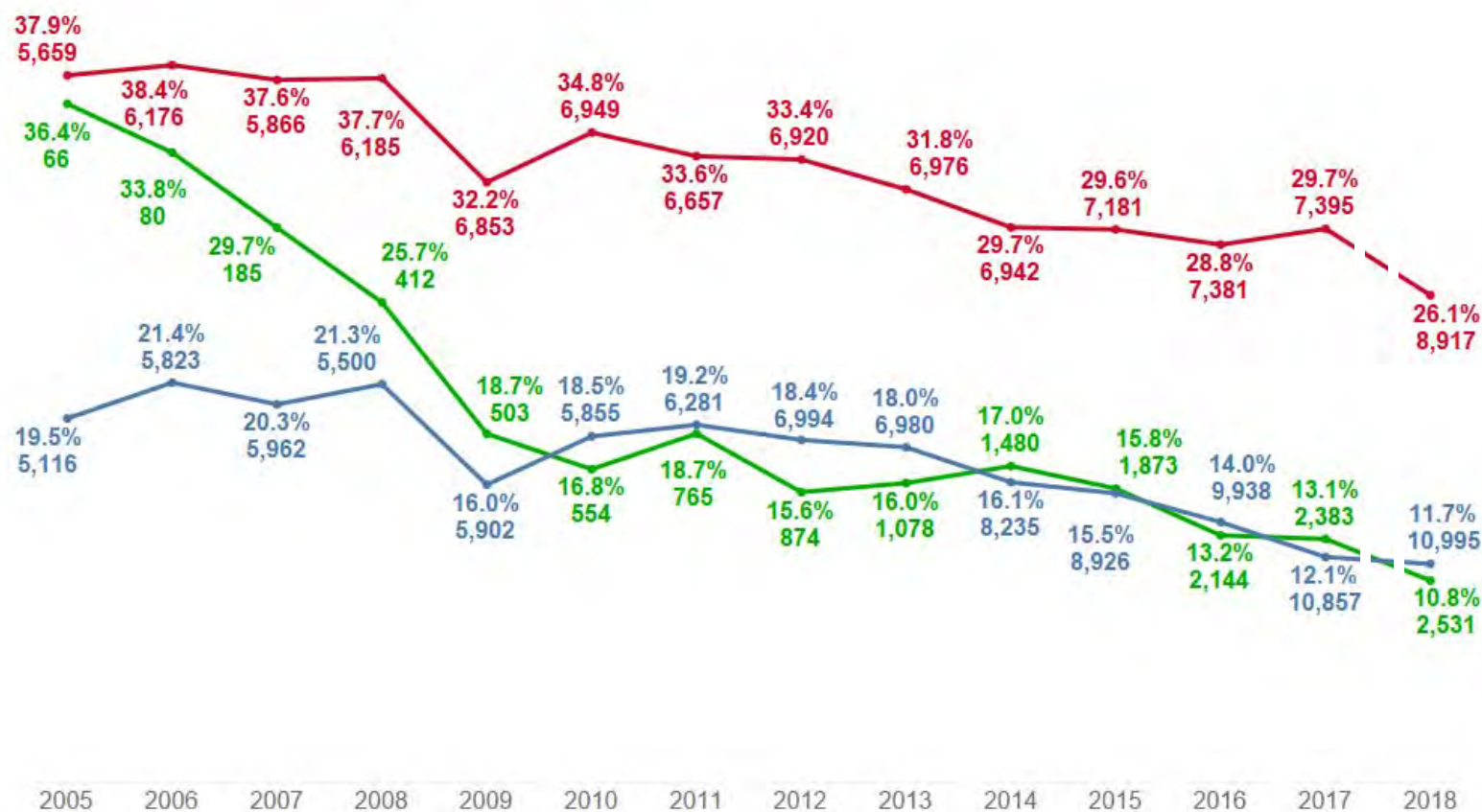
Enrollment Research and Analytics

Numbers for 2018 are current/estimate; all other data are final.

MiamiOH.edu



Yield Rate Trends



Enrollment Research and Analytics

Rates for 2018 are estimated; all other data are final.

MiamiOH.edu



First-Year Key Metrics

2018 vs. 2017

ACT Best: 28.0 vs. 28.3

Honors: 578 vs. 529

GPA: 3.76 vs. 3.76

Academic Scholars: 272 vs. 185

Curriculum Strength: 14.0 vs. 13.8

Bridges: 261 vs. 280

Non-Resident: 41.1% vs. 43.6%

Summer Scholars: 147 vs. 125

International: 8.1% vs. 9.2%

Alumni Connection: 31.3% vs. 30.8%

Domestic Diversity: 17.4% vs. 16.7%

Countries: 38 vs. 36

Pell Eligible: 527 vs. 455

States: 41 vs. 43

First Generation: 664 vs. 594

High Schools: 1,446 vs. 1,467



Data as of 5.4.2018

MiamiOH.edu

Other Enrollment Goals

Fall 2018

Oxford Pathways Program

- Spring 2019 enrollment goal is 40 first-year Oxford students
- 19 confirmed students for fall

American Culture and English (ACE) Program

- Fall 2018 enrollment goal is 200 students
- 218 confirmed students or a 17% YTD decrease versus Fall 2017

Transfers

- Fall 2018 enrollment goal is 200 students
- 80 confirmed students or a 5% YTD decrease versus Fall 2017



Data as of 5.4.2018

MiamiOH.edu

Enrollment Planning

Fall 2018 and Beyond

	2014	2015	2016	2017	2018*	2019	2020	2021
First-Year Total	3,641	3,806	3,798	3,817	4,083			
ACT Average	27.6	28.0	28.5	28.3	28.0			
Domestic Diversity	13.0%	13.7%	15.6%	16.8%	17.4%			
Non-Resident	43.3%	44.1%	44.0%	42.5%	41.1%			
International	251	295	284	311	329			
ACE	219	299	274	227	218			

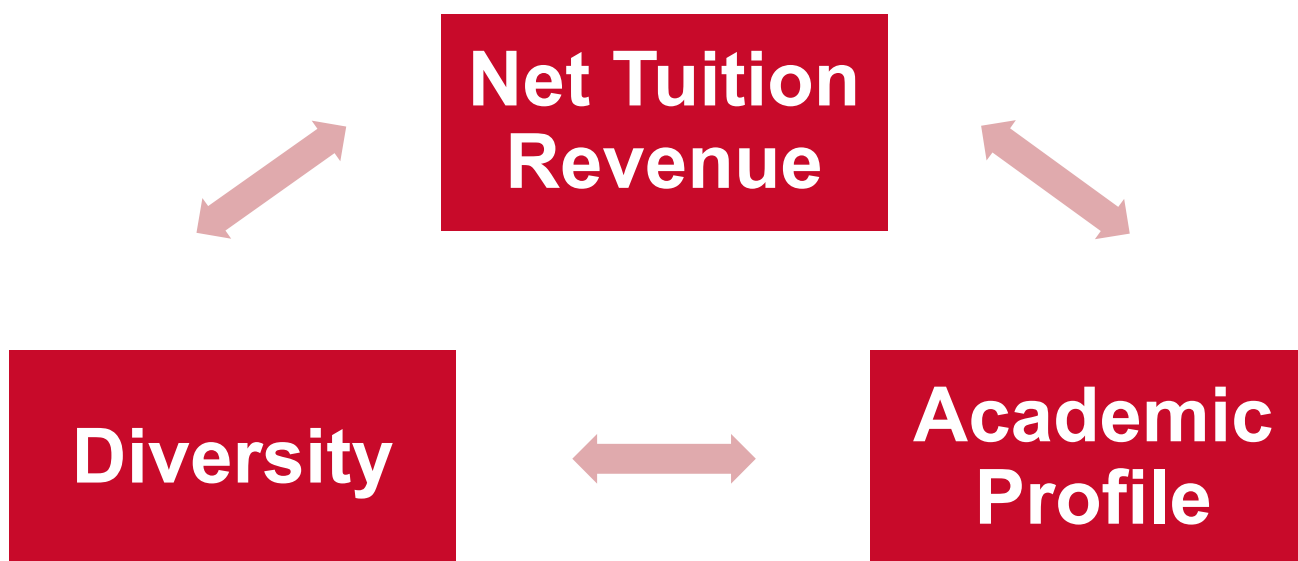


*Fall 2018 data are current; all other data are final.

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Enrollment Planning

Balancing Competing Priorities



Enrollment Planning Discussion

Fall 2019 and Beyond

- What is the size and composition of Miami's Fall 2019 cohort, including divisional enrollments, and how does that translate into the priorities and fiscal realities for Fall 2020 and beyond?
- How do we continue to advance (or even maintain) diversity and academic profile without an increased investment from the E&G budget for scholarship programs?
- What investments are we willing to make to continue to build Miami's national and global brand and advance its market position?



MiamiOH.edu



QUESTIONS?



MAY 2018
EMSS WRITTEN REPORT
Michael S. Kabbaz, Senior Vice President

Admission

On Tuesday May 1, the Office of Admission was excited to take part in College Signing Day for five future Miamians. The Cincinnati Public School students are involved with the MORE (Men, Organized, Respectful, and Educated) program and represent the first Cincinnati Scholars cohort, the **result of a newly formed partnership between Miami and Ohio's** third largest school district. In addition to robust scholarship packages, which total more than \$560,000 for the entering students, Cincinnati Scholars will have access to faculty mentors, research, and academic enrichment programs.

Center for Career Exploration and Success (CCES)

The CCES continues to provide strategic support to underserved student populations and issues related to diversity and inclusion.

The inaugural Elevate: Diversity & Inclusion Career Symposium, supported by the Office of the President, was held on April 2018. Students, faculty, staff, and leaders in diversity and inclusion from national organizations came together to prepare Miami's young professionals for the global **workplace**. **Dr. Tarah Trueblood, Director of Miami's** Center for American and World Cultures, served as the keynote, where she explored culture, unconscious bias, and her commitment to inclusion. The event included a facilitated panel comprised of chief diversity officers from TriHealth, Cintas, and Fifth Third Bank. The panelists shared their career stories, challenges regarding equity, and how diversity impacts the bottom line. Additional companies joined the group for lunch to network with students and to share their company's diversity and inclusion story. Companies included St. Vincent DePaul, The David J. Joseph Company, and The Cincinnati Insurance Companies. Over 100 participants attended and feedback was overwhelmingly positive.

Thanks to the generous support of the Gary and Julie Killian Fund, CCES took 17 students on Career Academy: Chicago. Students participated in an all-expense paid networking trip to Chicago to help expand their network and explore careers. Included in this extended weekend were four employer site visits, a reception with alumni, and cultural experiences. The Career Center views career excursions as highly immersive experiences that help students learn about career paths and workplace skills desired by employers.

The Office of Institutional Research has compiled First Destination data for Miami's 2016-17 graduates. The success rates include all students who are employed (including the military), pursuing further education, or engaged in volunteer/service programs (e.g., Peace Corps, Americorps VISTA).

- Oxford Bachelor's Degree Recipients: 97.3% success rate (up from 96.3%)
- Regional Bachelor's Degree Recipients: 95.8% success rate (up from 94.8%)
- Master's Degree Recipients: 97.4% (down from 98.0%)
- Doctoral Degree Recipients: 100.0% (up from 98.0%)

The division of Enrollment Management & Student Success, with leadership from the Center for Career Exploration & Success, will conduct further analyses of the data to guide continued strategies to support the post-graduate success of students.

One Stop Services

New initiatives for Miami's veteran's and military-affiliated students continue to be designed and implemented. Miami's Veteran Certifying Official, Nathan Hoch, now has scheduled **office hours in the new student veterans' lounge** that has recently opened in Wells Hall.

On May 3, 2018, representatives from the One Stop, along with campus colleagues, met with 8th District Congressman Warren Davidson. As a veteran of the U.S. Army, Congressman Davidson visited campus to learn about the services Miami University provides to its military students and their families.

Student Financial Assistance

In addition to working closely with the Office of Admission during the recruitment and enrollment cycle, the Office of Student Financial Assistance worked on several retention efforts. These efforts included reviewing student balances that were large enough to prohibit registration for Fall 2018. Based on student merit and financial need, the office was able to leverage existing donor funds to resolve balances for nearly 50 students, allowing them to successfully register for courses.

Student Success Center (SSC)

The SSC staff launched *Miami Cares Resources* in April 2018. In working with individual students on the Oxford campus who have unanticipated difficulties during their college journey, the staff has discovered that they may need food, housing, and a functioning laptop. *Miami Cares Resources* provides a mechanism for addressing these needs:

F5 Laptop Program: Named for the F5 function key, which initiates the refresh function, these refreshed laptops have been used by Miami University departments, faculty, and staff and are available to students in need of a working computer.

Emergency Housing: Students with emergency housing needs can meet with a Student Success staff member to use a short-term option on campus and to work on a plan to find a more permanent place to live.

Food Insecurity: Students in need of food and/or personal hygiene products can receive immediate assistance in the Student Success Center and at The Outpost (406 E. Withrow/ask for the Green Room) and may qualify for the Dining Services Scholarship (available based on established criteria).

University Registrar

The Office of the University Registrar currently has 4,055 degree candidates for May 2018 commencement. While some of the increase can be attributed to the awarding of graduate and undergraduate certificates, this is the first time Miami has had more than 4,000 candidates for commencement.

May 18, 2018
Consent Calendar

RESOLUTION R2018-xx

BE IT RESOLVED: that the Board of Trustees hereby affirms the March 1, 2018
appointment of

Professor of Accountancy Marc A. Rubin
as Dean of the Farmer School of Business
and Mitchell P. Rales Chair in Business Leadership



BOARD OF TRUSTEES
ROUDEBUSH HALL ROOM 212
OXFORD, OHIO 45056
(513) 529-6225 MAIN
(513) 529-3911 FAX
WWW.MIAMIOH.EDU

May 18, 2018
Consent Calendar

RESOLUTION R2018-xx

BE IT RESOLVED: that the Board of Trustees hereby approves the award of tenure, effective upon the official date of hire, to:

Dr. Joel Harper
Finance
Professor and Department Chair

May 18, 2018
Consent Calendar

RESOLUTION R2018-xx

BE IT RESOLVED; that the Board of Trustees hereby approves the awarding of an honorary degree of Doctor of Laws (LL.D.) to:

David C. Woltz

Since earning his Bachelor's degree from Miami University, David C. Woltz has obtained multiple graduate degrees and has distinguished himself internationally as a scientist, engineer, business leader, environmental consultant, and educator. Throughout his career Mr. Woltz has valued and recognized the liberal arts education that Miami University offered to him, enabling him to move with considerable skill through a wide variety of professional roles.

Mr. Woltz embraces lifelong learning in the manner that Miami aims to instill in all undergraduates. Throughout his career, he has taken every opportunity to broaden his knowledge with documented credentials in finance, information and computer sciences, and engineering.

Through many years of global endeavors, Mr. Woltz has earned an outstanding reputation and impressive record in renewable energy, natural resources and energy management. The award of this degree celebrates and recognizes David C. Woltz's noble service to the international community. His efforts are held in the highest regard and are in keeping with the history and tradition of Miami University.



COLLEGE OF CREATIVE ARTS
Department of Music

109 Presser Hall
501 S. Patterson Avenue
Oxford, OH 45056-3407
(513) 529-3014 office
MiamiOH.edu/music

April 11, 2018

Dr. Phyllis Callahan, Provost
Office of the Provost
209 Roudebush Hall
Miami University
Oxford, Ohio 45056

Dear Dr. Callahan:

The Committee on Awards and Recognition supports the nomination of Mr. David C. Woltz for an Honorary Degree from Miami University. Since earning his Bachelor's degree from Miami University, Mr. Woltz has obtained multiple graduate degrees and has distinguished himself internationally as a scientist, engineer, business leader, environmental consultant, and educator. Throughout his career Mr. Woltz has valued and recognized the liberal arts education that Miami University offered to him, enabling him to move with considerable skill through a wide variety of professional roles.

Mr. Woltz's resume is impressive in both the breadth and depth of his expertise and accomplishments. He has years of experience in industry as an engineer, environmental geologist, and economist. He also has a strong background and impressive record of achievements in renewable energy, natural resources and energy management. These activities alone would make Mr. Woltz worthy of consideration for an honorary degree. However, what ultimately tips the scale is that he is engaged in all of these professional endeavors globally and, in all areas, he has been involved in both the non-profit and the for-profit sectors.

Notably, Dr. James E. Holl of Exxon Mobil writes:

"David's education, background, skill set and experience make him particularly well-suited and effective in working with Geoscientists, Engineers and Researchers and he has actively and effectively interfaced and worked cross disciplines with other professionals."

Clearly, Mr. Woltz has indelible curiosity and the drive to make a difference in diverse domains.

It is notable that Mr. Woltz is now considering a return to his alma mater to inspire the next generation of students in geology and environmental science. In October 2017, he visited campus for several days to meet with administrators and the Alumni Office. He also contributed to classes discussing his experiences with undergraduate and graduate student groups. Indeed, informal reports suggest that the students appreciated the integrative perspective he brings to

the geoscience profession, as well as his genuine interest in helping them meet their goals and aspirations.

In his nomination letter, Dr. Chris Makaroff commented:

"We rarely have alumni who are able to be so generous with their time. His real-world perspective was invaluable to students focusing on environmental science and geology."

By all reports, Mr. Woltz embraces lifelong learning in a manner that we at Miami aim to instill in our undergraduates. Throughout his career, he has taken every opportunity to broaden his knowledge with documented credentials in finance, information and computer sciences, and engineering, in addition to his Miami geology major. During his recent visit, his excitement about Miami University and its educational environment emerged as he expressed interest in a more official teaching position at Miami, as well of the possibility of pursuing a Ph.D.

Dr. James Oris, Dean of the Graduate School, stated:

"Miami is where his academic career began and it is where he plans to end his academic career."

Dean Makaroff was particularly enthusiastic about Mr. Woltz's desire to "repay a debt he feels he owes to the University and to benefit the next generation of Miami students with the objective of providing them with the opportunity and the experiences to acquire the skills needed for a successful life." Miami is in a unique position to honor Mr. Woltz's accomplishments and commitment to the University by awarding him with an honorary degree in 2018.

In summary, Mr. Woltz stands as a tribute to Miami's commitment to liberal education. Based on a strong foundation in the liberal arts coupled with a solid background in the sciences, Mr. Woltz succeeded in graduate programs in diverse areas and has taken on a wide variety of roles in business and industry. Clearly, an enthusiasm for learning and sharing knowledge was instilled in him during his undergraduate studies, and he still embraces the academy today. He is an ideal role model for our students and richly deserves to be recognized by Miami University.

Sincerely,

A handwritten signature in black ink, reading "Andrea Ridilla". The signature is fluid and cursive, with the first name "Andrea" and last name "Ridilla" clearly distinguishable.

Andrea Ridilla
Professor of Music
Chair, Awards and Recognition Committee



Christopher Makaroff, Dean
COLLEGE OF ARTS AND SCIENCE

143 Upham Hall
100 Bishop Circle
Oxford, OH 45056
(513) 529-1234
makaroca@MiamiOH.edu

February 8, 2018

To: Andrea Ridilla, Chair
University Awards and Recognition Committee

RE: Honorary Degree Nomination of David C. Woltz

I am writing to nominate David C. Woltz (BS 1970) to receive an honorary doctorate degree from Miami University. While I've only recently met Mr. Woltz, I have come to appreciate his incredible commitment to his profession and to Miami University.

Mr. Woltz has had an extraordinary professional career that has involved a wide range of experiences, having worked in both the corporate environment as well as a consultant. He has expertise in economics and finance, environmental science applications, geologic and geophysical assessments, and the oil and gas industry. He is a certified and professionally licensed geologist and has worked directly for ExxonMobil as well as a consultant performing a number of activities both domestically and abroad. He has also worked in a number of managerial positions at Environmental Science and Engineering Inc., Morrison Knudsen Corporation, and Atlantic Richfield Company. In addition, he has provided consulting services to a large number of organizations including U.S.A.I.D., the University of Colorado, the Trade and Development Agency, and a number of governmental and non-governmental organizations.

Mr. Woltz returned to Miami University in October of 2017 to share his professional expertise and experiences with faculty and students. He spent three days on campus participating in several classes, field experiences, and small student group discussions with both undergraduate and graduate students. We were honored that he generously shared so much of his time and insights with students and colleagues in the College of Arts and Science. We rarely have alumni who are able to be so generous with their time. His real-world perspective was invaluable to students focusing on environmental science and geology.

In addition, he had several meetings with faculty, department chairs, and myself about how he might continue to share his professional experience as a geologist in the corporate world and as a consultant in a more deliberate and long-term engagement at Miami. We discussed the possibility of him team teaching a class, acting as a career advisor or partnering with faculty on the development of research proposals to corporations. He is even considering returning to Miami as a graduate student in a PhD program. His overarching goal seems to use his experience and expertise to help facilitate greater interaction between Miami faculty and industry and help develop ideas for revenue generation for the university. In an environment where revenue is stretched, this assistance would be incredibly welcome.

Mr. Woltz has had deep a commitment to Miami University since his graduation in 1970. He noted Miami provided the first step in his transition from childhood to adulthood, it was where he acquired his skills in life-long learning and developed the structure he needed to move forward to being a functioning and contributing adult. Because of the impact Miami has had on his life, Mr. Woltz has made a commitment of his entire estate to Miami – to repay a debt he feels he owes to the university and to benefit the next generation of Miami students with the objective of providing them with the opportunity and experiences to acquire the skills needed for a successful life. He is also focused on providing a family legacy that will endure forever. His gifts will be used to establish an endowment that will support undergraduate students with financial need in Geology and Environmental Science. He plans to begin funding the scholarship in the next year.

Please find attached a biography and resume noting Mr. Woltz's educational background, areas of expertise, experience, and accomplishments, as well as letters of recommendation supporting this nomination. Based on the information provided, I believe that Mr. Woltz clearly merits consideration for this prestigious award.

Sincerely,

A handwritten signature in cursive script that reads "Chris Makaroff". The signature is written in dark ink and is positioned above the printed name and title.

Christopher Makaroff
Dean, College of Arts and Science
Professor, Chemistry and Biochemistry



THE GRADUATE SCHOOL AND
OFFICE FOR THE ADVANCEMENT OF
RESEARCH AND SCHOLARSHIP (OARS)
Office of the Associate Provost and Dean
102 Roudebush Hall
Oxford, OH 45056
513-529-3600
513-529-3762 / FAX

February 20, 2018

To: Andrea Ridilla, Chair
University Awards and Recognition Committee

From: James Oris, Associate Provost for Research & Dean of the Graduate School

Re: Honorary Doctorate for David C. Woltz

It is a pleasure to nominate David C. Woltz (BS 1970) as a 2018 recipient of an honorary doctorate from his alma mater – Miami University. Miami is where his academic career began and it is where he plans to end his academic career, perhaps adjunct or clinical faculty member. His commitment to lifelong learning, to his professional success, and to Miami philanthropically all make him a worthy candidate for the honorary doctorate degree.

I would especially like to comment on Mr. Woltz's commitment as both teacher and student. Following Mr. Woltz's Miami tenure (receiving a BS with departmental honors in geology and an undergraduate fellowship) he has spent his life in higher education. In addition to receiving a Master's degree in Finance and Information Systems at the University of Colorado, Boulder, and an MS in Geology/Geophysics at the University of New Mexico, he has done coursework at Metropolitan State College in Denver, University of Southwest Louisiana, Cleveland State University, Lansing Community College, and Michigan State University. He has done both undergraduate and graduate study in business topics such as finance, economics, and information systems as well as additional coursework in math, chemistry, petroleum, and civil and mechanical engineering. He has taught courses at many of these institutions as well – including a return to Miami last fall and discussion of a full-time return to campus to contribute to the educational mission of the university.

His professional success contains a long list of both corporate assignments and individual project management. He has significant expertise in economics, environmental engineering, energy production, and natural resource management. His attached resume lists these many positions and projects.

Mr. Woltz has also demonstrated his commitment to Miami by directing his entire estate to support student scholarships. He plans to begin funding in the next calendar year but has noted his estate will be devoted to the creation of a family legacy through scholarships aiding students in geology and environmental science.

For these reasons, it is my honor to nominate David C. Woltz for an honorary doctorate.

James E. Holl, Ph.D.
ExxonMobil Upstream Research Co.
P.O. Box 2189
Houston, TX. 77252
Telephone: (713) 431-4330
Email: jim.e.holl@exxonmobil.com

7/9/2013

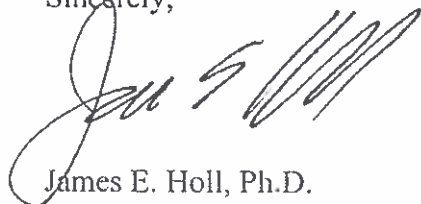
To Whom It May Concern:

I am writing to recommend David Woltz for employment in your organization. David Woltz was initially retained as a Contractor by the Asia Pacific Middle East New Opportunity Identification Group in October 2008 to work on a project accessing the Enhanced Oil Recovery (EOR) potential of Fields in the Middle East using the full range of methods and technologies. After completing the EOR project he was assigned to work on evaluating the potential of the unconventional source rocks in the Middle East.

He has functioned as a shared resource for multiple groups within the Exploration Company where he has worked on a wide variety of projects ranging from conventional and unconventional play evaluation to database initiatives where reviewed and cataloged heritage and legacy data. David's education, background, skill set and experience make him particularly well suited and effective in working with Geoscientists, Engineers and Researchers and he has actively and effectively interfaced and worked cross disciplines with other professionals at ExxonMobil.

In my interactions with David over the past several years I have found him to be extremely hard-working and dedicated, very detailed in his technical work, and very willing to take on any role or project asked of him. David has proven himself to be trustworthy, honest and ethical in all of his dealings and it is without reservation that I would recommend him for employment in your organization. Please feel free to contact me if you have any additional questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jim E. Holl', written over the printed name.

James E. Holl, Ph.D.

Mobil

NEW EXPLORATION & PRODUCING VENTURE:
RUSSIA

Re: Professional and Technical Reference for: David Woltz, W.E.S. Corporation

To Whom It May Concern:

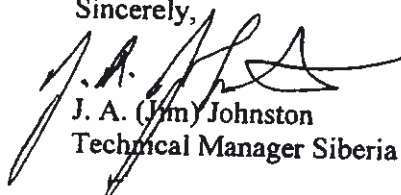
During 1998 Mr. Woltz provided technical consulting services for Mobil's E&P unit, New Exploration & Producing Ventures – Russia. He performed economic and project analyses, evaluations, and modeling for ventures Mobil was considering in the Former Soviet Union (FSU), Commonwealth of Independent States (CIS), and Asia.

He effectively interacted with a broad spectrum of our professional and technical staff, used economic models developed by Mobil in the analyses, and developed models and applied these to the analyses. He participated in numerous meetings and presentations in which the ventures were discussed with Mobil management, and prepared summaries and compilations of the results. He completed all tasks assigned to him in a thorough, well-documented manner.

I found the professional and technical quality of his work to be well suited to the requirements of our evaluations. Mr. Woltz employed a strongly analytical, methodical approach in his analyses and provided valuable documentation of each step. He made useful suggestions based on his work that improved the overall quality of our recommendations. His broad geoscience, petroleum engineering, and economic experience brought depth and an integrated perspective to the project assessments. He displayed a strong work ethic.

I am available if needed to provide further details concerning Mr. Woltz and the work he performed for Mobil.

Sincerely,



J. A. (Jim) Johnston
Technical Manager Siberia

ExxonMobil Canada Properties

100 New Gower Street
St. John's, NL A1C 6K3
Tel: (709) 778-7000



July 9, 2013

To Whom It May Concern:

Mr. David Woltz was hired as a contractor in October, 2008 to work on a project assessing the Enhanced Oil Recovery (EOR) potential of oil fields in the Middle East using a range of methods and technologies. As a result of his educational background, work experience and skill set he was particularly well suited to, and effective in, working across geoscience, engineering and research disciplines.

Following completion of the EOR project Mr. Woltz evaluated the potential of fractured source rocks in the Middle East. Again, he interfaced and worked across disciplines with other professionals at ExxonMobil. Simultaneously Mr. Woltz worked with the North America New Opportunity Identification group where he actively participated in the evaluation and analysis of conventional and unconventional plays. In addition he worked on a data initiative reviewing the company's heritage and legacy data.

Since the time I supervised him, Mr. Woltz has continued to work Asia-Pacific/Middle East and has also worked for ExxonMobil on Russia and Europe/Caspian efforts.

We found Mr. Woltz to be:

- Hard-working and dedicated
- Expansive yet detailed in technical work
- Possessing the necessary skill sets to act as a technical bridge between engineering and geoscience disciplines
- Genuinely interested in seeing projects progress
- Willing to take on any role to see project(s) succeed
- Honest and credible in all dealings.

I have subsequently taken an assignment as Geoscience Operations Technical Manager ExxonMobil Production Company – Canada East and am currently at the following address. I will be moving back to Houston as the Geoscience Operations Technical Manager, US Production in September, 2013.

A handwritten signature in black ink, appearing to read "Paul L. Templet", written in a cursive style.

Paul L. Templet
Geoscience Operations Technical Manager
ExxonMobil Production Company – Canada East
Hibernia Management and Development Company Ltd.
Suite 1000, 100 New Gower Street
St. John's, NL, Canada A1C 6K3



2418 Graystone Drive. Okemos, Michigan 48864 Ph/Voicemail: (517) 347-3668

SUMMARY OF WES CORPORATION

Incorporated in Michigan. Federal EIN number: 38-3145663. W.E.S. Corporation has strengths, experience, expertise, worked in, with and consulted for Companies, Corporations, N.G.O.s, and Agencies in both the Public and Private sectors. It has provided services to a broad range of Industries. It is a technology and application based company which can support, provide and implement solutions to problems in the areas of Economics, Engineering, Energy, Natural Resources, Manufacturing, Litigation, Services and the Environment. WES Corporation has the practical, pragmatic knowledge, expertise and experience to complete analyses, evaluations, formulate and present options in areas including Operations, Facilities, Environmental regulation and compliance, Litigation support, and Economics. WES Corporation has U.S. and international experience with projects in the private, public and government sectors.

MISSION STATEMENT

To perform research, analyses, evaluations and provide efficient, cost effective, sustainable, environmentally compliant solutions, that fit the clients' specific needs, conditions and requirements.

SERVICES

ECONOMICS: Forecasting. Investment Analyses and Decisions. Grant and Funding Analyses and Decisions. Return on Investment Analyses and Profitability. Planning and Analysis of Capital expenditures. Capital usage analyses. Cost of funds analyses. Cash flow analyses. Cost/Benefit analyses. Risk Analysis, Management and mitigation. Contingency and Business Continuity Plans. Business and Commercialization Plan development and implementation. Damages and Loss Analyses. Competitive Analyses. Life Cycle Assessment and Costing. Evaluation of externalities. Sustainable development and growth. Eco-efficiency. Development and Redevelopment Evaluations and Analyses. Strategic Planning. Infrastructure evaluation, planning and upgrading. Retail wheeling, electricity. Utility, Energy and Natural Resources industry restructuring and deregulation. Trade and International commerce evaluations and analyses. Import and Export operational evaluations and analyses

INDUSTRY: Multisector experience including - Automotive, Chemical, Electronics, Energy, High Tech., Manufacturing, Natural Resources, Paper and Pulp, Petroleum, Pharmaceutical, Printing, and Service. Operational and Functional Audits. Facility planning. Equipment acquisition. Analysis and development of Enterprise Resource Planning (ERPs), Manufacturing Execution (MES), Materials Resource Planning (MRP) Systems interfaces. Agile manufacturing. Next generation manufacturing. Project planning and management.

NATURAL RESOURCES AND ENERGY: Exploration, development, use and conservation of Electric, Natural gas, Petroleum, Geothermal, Coal and Mineral resources. Evaluation, development and use of sustainable, renewable, and alternative energy resources. Energy management (energy audits, load and interruptibility analysis, strategic purchasing).

ENGINEERING, QUALITY ASSURANCE/QUALITY CONTROL AND ENVIRONMENTAL MANAGEMENT: Quality Assurance/Quality Control and Environmental Management Systems, U.S. and International standards (QS9000, ISO9000, ISO 14000 series, European Union, British Standards, etc.). Process evaluation and analysis. Evaluation, remediation and control of Industrial pollution (air, water and soil). Multimedia permitting and compliance (air, water and soil). Land and resource planning, use and conservation. Waste minimization and efficiency assessments. Pollution Prevention. Hydrology (groundwater and surface water supply - modeling; impact assessments; source, availability and use evaluations; treatment systems and quality). Handling, disposal and remediation of Hazardous, Solid and Radioactive wastes. Environmental impact studies. Risk/Benefit analyses. Strategic environmental planning. Brownfields, Renaissance zone and Infrastructure redevelopment. Renewable Energy and "Green Power Certification".

DAVID WOLTZ.

PAGE 1 of 11

W.E.S. CORPORATION. 2418 GRAYSTONE DRIVE. OKEMOS, MICHIGAN. 48864
PH/Voicemail: (517) 347-3668. woltz@acd.net

AREAS OF EXPERTISE

ECONOMICS AND FINANCE

Damages and loss evaluations. Present worth calculations. Impairment and usage valuations. Forecasting and quantification of potential or actual damages and losses. Cash flow analyses. Capital investment and usage reviews and analyses. Depreciation analyses. Merger and Acquisition analyses and valuations. Tax assessment analyses and appeals. Property valuation. International commerce.

ENVIRONMENTAL

Evaluation and quantification of exposure under Federal, (CERCLA/RCRA, CWA, NRC, DOT, OSHA, etc.), State and Local programs. Technical support for Regulatory Compliance and Permitting issues. Technical support for negotiations, responses, appeals and challenges to actions, penalties, fines, and Notices of Violation(s). Evaluation and quantification of impacts to media (air, soil and water), populations (flora and fauna) and externalities (aesthetic). Environmental and Health and Safety Exposure Assessments. Risk Assessments. Feasibility Studies. Evaluation and analyses of actual and/or potential exposure to an Environmental Justice issue or challenge. Evaluation of Remediation technologies. Evaluation of the treatment and cost effectiveness and efficiency of remediation. Technical evaluation, review and oversight of Remediation systems and Remediation. Handling, treatment and disposal of hazardous, non-hazardous and radioactive wastes. Hydrology (Surface, Groundwater, and Wetlands). Pollution Prevention and Waste Minimization. Environmental Management Systems (ISO14000).

GEOLOGY AND NATURAL RESOURCES

Geologic and Geophysical assessments, studies and evaluations. Assessment and valuation and of Natural Resources. Geologic and Geophysical activities and operations - surveys, data acquisition, structural and stratigraphic analyses, evaluation, mapping and modeling. Evaluation, Exploration, Development, Production, Transport and Treatment/Processing of: Oil and Gas; Minerals; Geothermal; and other Natural Resources. Conservation. Endangered Species. Wetlands.

OIL AND GAS INDUSTRY

Specific expertise in Oil and Natural gas. Involved in all phases of the business including financial evaluation, strategic planning, exploration, development and production. Responsibilities as a Reservoir/Production Geologist/Engineer. Exploration, Development and Production Manager for onshore and offshore operations. Experience in a broad range of geologic provinces. Experience with primary, secondary and tertiary recovery. Qualified as an Expert in Petroleum Geology, Unitization. Extensive project experience (onshore and offshore, upstream to downstream, domestic and overseas). Independent Geologist. Participation in Industry Workgroups. (Example: Member of the U.S.EPA/DOE GAZPROM Workgroup). Professional and Licensed Geologist. Certified Geologist.

I also have an extensive range of experience in the following areas:

ENGINEERING: Process analyses. Production and Operating systems. Quality Assurance and Quality Control. Life Cycle Analyses. Failure analyses. Logistics. Demand forecasting. Equipment acquisition. Automation. Inventory analyses. Loss control. Emergency Response Plans. Contingency and Disaster Recovery Planning.

QUALITY ASSURANCE AND QUALITY CONTROL: ISO, QS, TS, Six Sigma, etc. standards and

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systems.

RENEWABLE ENERGY AND UTILITY INDUSTRY: Energy Audits and Usage analyses. Cost analyses. Analyses and Evaluation of alternatives. Renewable energy sources. Deregulation. Aggregation.

INTERNATIONAL COMMERCE: Investment evaluations and analyses. Evaluations and analyses under terms ranging from direct ownership to Production and Profit Sharing Agreements and taxation scenarios ranging from Value Added Taxes (VATs) to Percent of Profits. USAID (United States Agency for International Development) experience. TDA (U.S. Trade and Development Agency) experience. Knowledge of Export-Import Bank and Overseas Private Investment Corporation (OPIC) protocols and procedures. Knowledge of European Union (EU).

In addition:

I can perform services in a broad range of areas including: Identifying resources you may need; Conducting research; Locating data and information; Assembling and coordinating the efforts of Experts; Completing evaluations and analyses; Assembling effective reports and presentations; and Delivering testimony.

I can also provide a broad range of litigation support services in the above including: Investigation; Research; Data collection; Impact and Feasibility Studies; Quantification of potential and/or actual loss/damage; Risk Assessments; Risk Management; Contingency and Disaster Recovery Planning; Situational analysis; Analysis of scenarios; Evaluation of options and alternatives; Presentations; Responses to requests for information; Interrogatories; Depositions; and Testimony.

I have performed financial, property, acquisition, siting, facility, operations, hazard, risk, loss, damage, usage, impairment, mitigation, and resource evaluations. I have completed background research, prepared detailed reports, presented recommendations, implemented and supervised comprehensive programs for Economic development; Investment; Energy and Resource exploration and usage; Sustainable development; and Renewable resource development. I have experience in Economics, Engineering and Environmental Management.

I have used computer hardware ranging from PCs to Mainframes and have experience with operating systems that include VM/AOS, VMS, UNIX, DOS, and others. I have knowledge of programming and languages and have used relational, sequential, and flat file databases. I have experience with spreadsheets including Lotus 1-2-3, Excel, and Quattro Pro.

I have worked in the Public and Private sectors for Companies, Institutions and Organizations through-out the United States and Overseas. I have capabilities and experience evaluating proposals following U.S. agency formats and international Standards, Practices, Procedures and Guidelines.

I can respond quickly and cost effectively. I would appreciate the opportunity to demonstrate these capabilities to you. A Resume and List of Licenses, Certifications, and Registrations are attached.

RESUME

AREAS OF EXPERIENCE AND EXPERTISE IN:

FINANCE AND ECONOMICS:

Damages and loss evaluations. Present worth calculations. Impairment and usage valuations. Forecasting. Investment analyses and decisions. Return on Investment analyses and profitability. Planning and Analysis of

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Capital expenditures. Capital usage analyses. Cost of funds analyses. Cost/Benefit analyses. Competitive analyses. Acquisition and Merger analyses. Grant and Funding analyses and decisions. Identification, analyses and evaluation of funding sources. Analyses of grant, loan and payback strategies and options including revenue, profit and production sharing, graduated loans, guaranteed loans, co-financing, repayment keyed to present worth calculations. Life Cycle Assessment and Costing. Total Cost of Ownership analyses. Evaluation of externalities. Sustainable development and growth. Eco-efficiency. Siting and location evaluations and analyses. Development and Redevelopment evaluations and analyses. Development of Business Plans. Risk assessment and management. Strategic, Business Contingency and Continuity Planning. Disaster Recovery.

Commercial and Non-Governmental Organizations (NGO's) financing, grant, and lending institutions and entities. Public and Quasi-Governmental financing, grant, and lending institutions and entities including: Export-Import Bank of the United States; International Monetary Fund; Overseas Private Investment Corporation; and World Bank.

ENVIRONMENTAL:

Evaluation and quantification of exposure under Federal, (CERCLA/RCRA, CWA, NRC, DOT, OSHA, etc.), State and Local programs. Environmental and Regulatory Compliance Audits. Response, negotiation, appeal and challenge of actions, penalties, fines, and Notices of Violation(s) from Regulatory Agencies. Mitigation and negotiation of Supplemental Environmental Programs (SEP's). Regulatory Compliance. Multimedia permitting. Evaluation and quantification of impacts to media (air, soil and water), populations (flora and fauna) and externalities (aesthetic). Hydrology (groundwater and surface water supply - modeling; impact assessments; source, availability and use evaluations; treatment systems and quality). Risk/Benefit assessments and analyses. Environmental Impact Studies. Evaluation and mitigation of impacts to Threatened and Endangered Species. Environmental and Health and Safety Exposure Assessments. Feasibility Studies. Technical evaluation, review and oversight of Remediation systems and Remediation. Evaluation of the cost, effectiveness and efficiency of Remediation technologies and systems. Handling, treatment and disposal of hazardous, non-hazardous and radioactive wastes. Hydrology (Surface, Groundwater, and Wetlands). Environmental Management Systems (U.S. and International standards and systems - ISO 14000 series, European Union, British Standards, etc.). Identification and implementation of Waste minimization and Pollution prevention alternatives. Strategic environmental planning. Brownfields, Renaissance zone and Infrastructure redevelopment. Evaluation and analyses of actual and/or potential exposure to Environmental Justice issues or challenges.

ENGINEERING:

Multisector experience including - Automotive, Chemical, Electronics, Energy, High Tech., Manufacturing, Natural Resources, Paper and Pulp, Petroleum, Pharmaceutical, Printing, and Service. Operational and Functional Audits. Facility planning. Equipment acquisition. Analysis and development of Enterprise Resource Planning (ERPs), Manufacturing Execution (MES), Materials Resource Planning (MRP) Systems interfaces. Agile manufacturing. Next generation manufacturing. Project planning and management. Process evaluation and analysis. Efficiency, Energy usage cost analyses and reduction. Infrastructure evaluation, planning and upgrading. Retail wheeling, electric and gas deregulation. Utility, Energy and Natural Resources industry infrastructure development, restructuring, and privatization.

OIL AND GAS INDUSTRY:

Geologist/Reservoir Geologist/Engineer and Economist. Involvement in the full spectrum of functions and operations ranging from upstream (exploration, development, and production) to downstream (transport and delivery), onshore and offshore, in conventional and unconventional reservoirs and with modeling,

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characterization and simulation throughout the U.S. and overseas. Examples of work experience: Employed by a Major. Independent Geologist. Worked under Contract to ExxonMobil and evaluated projects in the FSU (Former Soviet Union), C.I.S. (Commonwealth of Independent States), Middle East, North and South America, Europe and Asia-Pacific. Conventional and continuous resource/source rock plays.

RENEWABLE ENERGY, NATURAL RESOURCES AND ENERGY INDUSTRY:

Exploration, development, use and conservation of Electric, Natural gas, Petroleum, Geothermal, Coal and Mineral resources. Evaluation, development and use of sustainable and renewable resources. Land and resource planning, use and conservation. Energy management (energy audits, load and interruptibility analysis, strategic purchasing).

QUALITY ASSURANCE/QUALITY CONTROL:

Quality Assurance/Quality Control. U.S. and International standards and systems (QS9000, ISO9000, ISO 14000 series, European Union, British Standards, etc.).

USAID (United States Agency for International Development) experience. TDA (U.S. Trade and Development Agency) experience. Knowledge of Export-Import Bank and Overseas Private Investment Corporation (OPIC) protocols and procedures. Knowledge of European Union (EU) environmental guidance: EU Regulations which are directly binding on each member country and EU guidelines that must be adopted into the legal framework of each member country.

DOD (Department of Defense) and DOE (Department of Energy) project experience.

Direct implementation and applications experience with Geographic Information Systems (GIS).

EDUCATION

University of Colorado, Boulder, Colorado. Masters degree. Emphasis in Finance and Information Systems.

University of New Mexico, Albuquerque, New Mexico. Masters degree. Emphasis on mineral, hydrocarbon, and geothermal resources. Strength in Geophysics.

Miami University, Oxford, Ohio. Bachelors degree. Graduated with Departmental honors, Geology. Specific course work in Economics and honors class work in Chemistry. Undergraduate fellowship.

Metropolitan State College, Denver, Colorado. Computer Systems, Implementation of Business Systems in UNIX using C.

University of S.W. Louisiana, University of New Mexico, University of Colorado and Cleveland State University. Undergraduate and Graduate level courses in Petroleum, Civil and Mechanical Engineering,

College Spanish. High School German. Work exposure to Russian and Japanese.

Lansing Community College: College Algebra. Chemistry.

CURRENT EMPLOYER

WES CORPORATION

1993 TO THE PRESENT: W.E.S. CORPORATION.

Principal, Senior Consultant. W.E.S. Corporation. 2418 Graystone Drive. Okemos, Michigan 48864

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Telephone: 517-347-3668. Energy, Economics, Engineering, and Environmental Management.

Provides services in the areas of Finance, Economics, Environmental Management, Quality Control, Energy and Natural Resources, Engineering, and Computer Systems. Contracted to Energy/Business/Law/Engineering/Environmental firms in the Private sector (Anderson Economic Group, BBK; ATEC/ATC; BIOPLASTICS; DETREX Corporation; ExxonMobil Corporation; ESE/QST - CILCORP.; MOBIL Oil Corporation; Mundell & Associates; The Traverse Group; USTTECH; USEC); Associations and Government (USAID; TDA).

Contracted to private Industry, Associations and Government. Subcontracted and teamed with Economic, Environmental, Engineering and Law firms. International projects involving Industrial pollution, Economic analyses, Impact and Risk Assessment.

SELECTED ACTIVITIES AND PROJECTS

ExxonMobil

Under Contract: 10 – 2008 through 12 - 2015. Worked in multiple Groups and Teams and applied skill set, education and experience I have in multiple disciplines. Assigned to Exploration, Development and Operations Projects and initiatives worldwide - North and South America, the Middle East, Europe, FSU/CIS – Russia, and Asia in conventional and unconventional (continuous resource) plays. Tasks in Reservoir Engineering, Geoscience, and Operations including: Trend and prospect evaluation and quantification. Reservoir analysis and characterization. Simulation and modeling. EOR screening and applications. Involvement with Geoscience, Engineering, and Information technology. Examples of projects: Adriatic regional assessment and identification of exploration targets. Middle East exploration and Kurdistan focus project, Reservoir Engineering, Geoscience and Operations. Screening and evaluation of Fields through-out the Middle East for EOR potential and feasibility. Far East (China, Malaysia, PNG, Australia), reservoir quantification and analysis. Russia, (in Country) focus effort on early identification and evaluation of joint exploration targets and joint activity. Europe – North America – Middle East – South America: Evaluation, characterization, quantification of potential and highgrading of Unconventional plays including Fractured source rocks, Shale, and Tight carbonates. Interaction with numerous groups and across disciplines.

Industry and Regulatory Workgroups

Active member of numerous Industry and Regulatory Workgroups including Air Fees, Grant and Loan Program Workgroups, Deregulation, and others. Active member of numerous Trade and Industry Associations. Active member of professional organizations.

Regulatory Compliance

Conducted regulatory compliance reviews and audits, pollution prevention analyses, and waste minimization studies in a broad range of industries including Automotive; Chemical; Electronics; Primary and Secondary metals; Utilities; Nuclear Facilities; Natural Resources exploration and production. Designed and implemented Environmental Management Systems programs using DIS/ISO 14000 series standards and other systems. Conducted economic evaluations, cost/benefit studies and analyses of externalities. Conducted Risk Assessments following U.S. EPA, RBCA and use based evaluation protocols. CAAA: emissions inventories potential to emit estimates, Title V permit applications. RCRA: Part B permit applications. Design and implementation of remediation systems. Brownfields redevelopment. CWA permitting.

International projects

International projects involving Industrial pollution, Economic analyses, Environmental Impact and Risk

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Assessment - U.S. Agency for International Development (USAID), Trade and Development Agency (TDA).

Financial, Regulatory and Logistics

Projects involving identification, definition, quantification, and evaluation of Financial, Regulatory and Logistical issues and policy. Implementation of targeted, pragmatic, cost effective solutions.

Public Policy and issues

Participant in National Town Hall Meeting, Sustainable Development. Received a scholarship to attend from the President's Council on Sustainable Development.

Environmental Management System, Waste Minimization and Pollution Prevention Audits.

Extensive experience and specific expertise in the development and implementation of Environmental Management Systems, Waste Minimization and Pollution Prevention Programs. Industrial and Service industry audits. Strategic Environmental Planning. Development and application of a Waste Assessment Process (WAP). The process is proprietary to W.E.S. Corporation and the company retains the sole rights to it use. All areas are considered in the Waste Assessment Process (WAP) including: Energy, Raw material handling and usage, Production, Operations, Labor, Waste streams (generation points, handling, and disposal), Workflow, and Finished goods (handling and distribution). It is the initial step in an iterative analysis and Cost/Benefit evaluation of the Life Cycle of wastes at a Facility/Site. It is the first step in the development of a sustainable, Waste Minimization Program. The Program developed from the WAP is designed to be implemented and self directed by the Facility/Site Owner(s), Operator(s), and Personnel. It has been used at both Manufacturing and Service Facilities/Sites and has proven to be a practical, effective process for identification and assessment of the origination and flow of waste streams at and through a Facility/Site. We have found that implementation of the process and program can result in significant reductions in operating cost and increases in Operating Efficiencies. These can directly translate into increased Profits and higher Returns on Investments.

Exxon

ExxonMobil Corporation. Domestic and International Integrated Energy. Performed analyses and evaluations for projects located in the Commonwealth of Independent States, Russia (Former Soviet Union, FSU) and Asia.

ISO Auditor , Consultant and Analyst

Specific experience and expertise in the closely related areas of development and implementation of Environmental Management Systems (ISO 14000 and European Union) and Quality Systems (ISO 9000 and QS 9000). Completed the ISO 14000 - 36 Hour Lead Auditor Training Course including the Written Examination and Continuous Evaluation accredited by ANSI-RAB NAP accreditation for Training of EMS Auditors during 1998 and was issued Certificate number E 1273. Certified as a Lead Auditor, ISO 14000 Environmental Management Systems through Registrar Accreditation Board (RAB).

Consultant: Auditor. MoldMasters Company. Manufacture of thermoplastic injection molded parts. Includes in-house decorating, assembly and fiber coating. SIC 3089.

Consultant: Lead Auditor. Environmental Quality Company/Wayne Disposal Inc./Wayne Energy Recovery, Inc. Permitted Treatment, Storage and Disposal Facility (TSDF) that provides hazardous and solid treatment and disposal and Landfill services. Energy recovery - Extraction of methane gas generated by decomposing wastes in closed nonhazardous landfill units and conversion into electricity.

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Consultant: Lead Auditor. Eaton Corporation, Kalamazoo, Michigan. Heavy transportation industry. Remanufacture of truck and heavy equipment transmissions. Audit witnessed by Mr. Luis Fernando Reis de Araujo, Lead auditor, Accreditation Division, INMETRO Certification Body - RAT. Mr. Araujo included the following in his Witness-Audit Report: "Lead Auditor showed through knowledge of reference standard and good balance of judgement on decisions taken."

Consultant: Lead Auditor. Mitsubishi Motor Manufacturing of America, Inc.(MMMA), Normal, Illinois. Parent Company: Mitsubishi Motors Corporation (MMC), Japan. Automotive industry. Technologically advanced automotive manufacturing facility. Plant size: 2.3 million square feet. 3,100 employees. Production capacity: 240,000 vehicles annually. All major body panels and bumper fascias are manufactured in-house. Several models are produced. ISO system, complete management system audits.

Consultant: Auditor. Newman Technology, Inc., Mansfield, Ohio. Parent Company: Sankei Giken Industry Co., LTD. Automotive industry. Plant size: 220,000 square feet. Products: Exhaust Systems; Door Sashes; and Window Moldings. Customers: Honda of America, Mfg., Inc.; Honda Canada, Inc.; CAMI Automotive, Inc. ISO system, complete management system audit.

Consultant: Lead Auditor. Taiho Corporation of America, Tiffin, Ohio. Automotive industry, manufacturing parts supplier. ISO system, complete management system and surveillance audits.

Consultant: Lead Auditor. Wanbishi Archives Co., Ltd., Ogawa, Japan. Secured Records Storage Facility. Inclusive ISO system audit.

Consultant: Charmilles Technologies Manufacturing Corporation, Owosso, Michigan (AGIE Charmilles Group, Georg Fisher + GF + Manufacturing Technology. Development, review, and implementation assistance ISO system.

Consultant: Industrial development. Evaluation and implementation of Enterprise Resource Planning (ERP) and Manufacturing Resource Planning (MRP) systems. Development of Economic analysis and Environmental Management Systems interfaces with ERPs.

Lifecycle Assessment

Consultant: Life Cycle Assessment and Life Cycle Costing. Agricultural and Petrochemical Feedstocks for production of biodegradables.

Consultant: Life Cycle Assessment and Life Cycle Costing. Composting using aerated windrows.

Analyst and Consultant Electric deregulation Policy, Legislation and Programs

Consultant: Economic evaluation and analysis. Electric Utility industry.

Adjunct Faculty

Community College. Instructed Physical Geology course. 2002.

U.S. E.P.A. Brownfields

U.S. EPA, Brownfields 97. Participation as a Community Stakeholder through the International City/County Management Association.

Trade and Development Agency

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Consultant: Economic and Environmental Analyst. Trade and Development Agency. Desk Study. Completed assessments of the economic prospects, financial feasibility, funding, sources of investment and environmental impacts.

U.S. A.I.D.

Consultant: Environmental Analysts and Economist. USAID, Environmental Policy and Technology Project. Onsite work in the CIS (Common Wealth of Independent States, Soviet Union). U.S. analyst for Industrial sector. Formulation of a sustainable environmental and economic Redevelopment Plan for the city and region. Identification and evaluation of sources of financing and investment. Analysis of technological status of existing industries.

Economic analyst

Consultant: Performed economic analyses including present value vs. rate of return and capitalization/investment analyses. Completed technical evaluations and analyses of environmental issues. Evaluated, designed and implemented cost effective systems for environmental remediation and pollution control. Formulated cost benefit based approach to selection of pollution prevention and waste minimization programs. Performed hydrology studies. Completed projects involving the evaluation and control of air emissions. Interfaced with nongovernment (NGOs) and government organizations.

Consultant Industrial Audits

Consultant: Industrial audits, process evaluation, cost benefit analyses, management of capital expenditures, project management. Projects and practical experience with a broad range of industries including Communications, Automotive, Chemical, Transportation State and local governments. Participated in state and industry Work Groups involved in the Regulation Negotiation process (REGNEG). Member of a Panel at a Regional Conference and was responsible for discussing Options for Redevelopment.

Environmental Management, Regulatory Compliance Manager

Acting Group Manager, Site Investigation and Remediation. Completed the design, installation and operation of remediation systems. Initiated and managed permitting, monitoring, reporting and regulatory compliance projects in the areas of CAAA and CWA. Conducted comprehensive Compliance, Facility and Operational Audits at major industrial facilities. Negotiated settlements with Regulatory Agencies. Prepared Risk Assessments under RBCA and use based protocols.

Director of Environmental Affairs, regional environmental contracting and construction firm.

Responsible for all environmental issues encountered by the company. Completed Feasibility Studies, prepared Corrective Action Plans and Closure Reports for sites impacted by a broad range of hazardous substances. Coordinated all work performed for a Fortune 500 (Automotive Supplier and Service Company) in a four state area. Participated in state and industry Work Groups involved in the Regulation Negotiation process (REGNEG). Member of a Panel at a Regional Conference and was responsible for discussing Options for Redevelopment in Urban Areas. Primary contact for clients with environmental concerns and developed business in this area with a broad range of clients including the Communications industry, Automotive industry, Transportation industry, State and local governments.

Senior Geologist, Hydrogeologist

Senior Scientist for a regional environmental consulting firm. Completed Feasibility Studies and prepared Corrective Action Plans for sites impacted by a range of hazardous substances. Performed and prepared Risk Assessments for sites impacted by hazardous substances. Performed and prepared Risk Assessments. Coordinated and directed permitting and compliance programs for clients at the local, state, and federal

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May 18, 2018
Academic and Student Affairs

RESOLUTION R2018-xx

BE IT RESOLVED: that the Board of Trustees hereby accepts the attached revisions to the Promotion and Tenure Policy, the Completion Plan Update Report, and the revision to the Textbook Policy, and directs the Provost and Executive Vice President to submit the documents to the Ohio Department of Higher Education.

Revision Textbook Policy (MUPIM 10.4)

Rationale

As part of its Affordability and Efficiency Initiative, the Ohio Department of Higher Education has required Ohio public institutions of higher education to adopt “a textbook selection policy to include faculty responsibilities and actions faculty may take in selecting and assigning textbooks and other instructional materials.”

The aim of this initiative is to respond to the soaring costs of textbooks by encouraging the selection of affordable course materials while still maintaining high academic quality.

This policy revision was approved by University Senate in spring 2018.

Policy Revision

Note: Deleted text is signified by strike-through markings, and new text is indicated in red.

Textbook Policy

(MUPIM 10.4/OAC 3339-10-04)

Policy (MUPIM 10.4.A)

The selection and adoption of textbooks and/or course materials are an academic departmental responsibility. Academic departments are encouraged to adopt the most appropriate and highest quality textbook for presenting course content and accomplishing course objectives. However, to maintain our goal of higher education access and affordability for our students and to comply with the Ohio Department of Higher Education statutory requirements, academic departments are also encouraged to take into consideration the cost and expense of the textbook and other materials for the student taking the course when making adoption decisions.

Academic departments should strive to make selections for required textbooks and supplemental materials in a timely manner. ~~The dissemination of timely, accurate, and complete information about required textbooks and supplemental materials is important~~ to ensure that sufficient quantities of textbooks and supplemental materials are available to meet the needs of students and to assist students in being responsible consumers. To ensure the timely dissemination of textbook information, the following steps will be taken:

- a. Before each upcoming academic term, the Office of the Provost shall partner with the University Bookstore to make publicly accessible the following information for each upcoming academic term: (1) the International Standard Book Number (ISBN) and retail price information of required and recommended textbooks and supplemental materials for each course listed in the course schedule; and (2) the expected number of students enrolled in each course and the maximum student enrollment for the course.
- b. The Office of the Provost, in consultation with the University Bookstore, shall communicate to the deans, department chairs, **and** program directors, ~~and regional campus coordinators~~ the date by which their textbook information is to be provided to the University Bookstore.
- c. The textbook information provided to the University Bookstore shall be published on the University Bookstore website and shall be made readily accessible through a link from the University's on-line course registration system.
- d. If the ISBN is not available, then the author, title, publisher, and copyright date for such college textbook or supplemental material will be published. If the University Bookstore determines that the disclosure of the information required by this policy is not practicable for a college textbook or supplemental material, then it will place the designation 'To Be Determined' in lieu of the information required.

Use of Self-Authored Material (MUPIM 10.4.B)

In the event that an instructor wishes to utilize a **commercial** textbook(s) or other material which is authored by the instructor and the sale of which results in a royalty being paid to the instructor, then such textbook/material may only be required by the instructor if: (1) the instructor's chair or program director and dean have consented to the use of the textbook/material; or (2) the majority of faculty within the instructor's department has voted to permit the instructor's use of the **commercial** textbook/material in the instructor's class. Sales of such items cannot be conducted directly between a faculty member and a student.

Departmental Responsibilities (MUPIM 10.4.C)

1. The information referenced above will be made available by academic departments and programs each academic term to the University Bookstore on or before a date specified by the Office of the Provost. The academic departments and programs will endeavor to ensure that the information provided to the University Bookstore is in an acceptable format so as to avoid unnecessary orders and returns by the University Bookstore.
2. Unless the academic department has made other arrangements, it is the responsibility of each individual instructor to secure his or her own desk copies of textbooks.

3. Each academic department or program ~~and regional campus coordinator~~ should designate a person to act as its representative with the University Bookstore and should inform the Bookstore of the name of the designated person.
4. To the extent possible, the University Bookstore should be notified of increased enrollments of scheduled course sections and/or of additional course sections to be offered.
5. Following the submission to the University Bookstore of textbook lists for the upcoming academic term, instructors are expected to use the textbooks specified for that term.

Additional Bookstore Responsibilities (MUPIM 10.4.D)

The University Bookstore is responsible for disseminating information to students regarding:

1. available institutional programs for renting textbooks or for purchasing used textbooks;
2. available institutional guaranteed textbook buy-back programs, if any;
3. available institutional alternative content delivery programs; **and/or**
4. other available institutional cost-saving strategies.

Proposal to Revise P&T Criteria

Rationale

Am. Sub. H.B. 49 requires the state institutions of higher education conduct “a review of an institution’s faculty tenure policy and that the policy be updated to promote excellence in instruction, research, service, and commercialization or any combination thereof.”

This proposal offers revised language to the definitions used for tenure and promotion criteria for faculty that is consistent with the mission of Miami University as well as the H.B.49 provision and the resulting amendments to the Ohio Revised Code, Section 3345.45.

Proposed Revisions

Note: New language is marked in red.

Definitions

(MUPIM 7.4/OAC 3339-7-04/ORC 3345.45)

Definition of Terms (MUPIM 7.4.A)

1. **“High-quality teaching and academic advising”** is defined as meaning that the person has demonstrated the following:
 - A. proficiency in classroom instruction
 - i. through the discharge of such responsibilities as meeting scheduled classes on time; being prepared for each class; being able to present material clearly; integrating new developments in the field and new methods of instruction;
 - ii. And through continuing evidence of favorable teaching evaluation
 - B. maintenance of regularly scheduled office hours and an interest in students indicated by availability for conferences, or one-to-one contact, etc.
 - C. commitment to good teaching and maintenance of a continuing effort to improve teaching ability.
 - D. participation in scholarly discussion on teaching problems.
 - E. initiative and skill in the development and administration of teaching programs.
 - F. satisfactory fulfillment of academic advising responsibilities.

2. **“Research, scholarly and/or creative achievement of high quality and its prospective continuation”** is defined as meaning that a person has developed and formally presented through publication, performance, or other appropriate means a sustainable body of research, scholarship and/or creative work that is judged to be substantive and of high quality by others in the discipline. **The university values an inclusive view of scholarship in the recognition that knowledge is acquired and advanced through discovery, integration, and application. Given this**

perspective, promotion and tenure reviews, as detailed in the criteria of individual departments and divisions, will recognize original research and creative/artistic contributions in peer-reviewed outlets as well as high quality integrative and applied forms of scholarship that involve collaborations with business and community partners, including translational research, commercialization of discoveries, technology transfer activities, and patents.

3. **“Productive Professional Service”** is defined as the effective engagement in structured activities which contribute to the operation and advancement of a person’s department, division, campus, the University, scholarly and professional associations, and/or the educational enterprise. Professional service includes the use of one’s professional expertise in community, state, national or international service.
4. **“Professional collegiality”** is not personal congeniality, but rather a quality manifested, for example, by behaviors such as willingness to serve on committees and perform work necessary to departmental operation, willingness to provide guidance and help to colleagues in their professional duties, adherence to professional ethics, respect for the ideas of others, and the conduct of one’s professional life without prejudice toward others.

While departments, divisions, or campuses may define these terms or elaborate these definitions in their Statements of Procedures and Policies, all elaborations must be consistent in spirit and content with the above and must be published. The department, the department chair, the program director (when appropriate), the divisional dean, the University Promotion and Tenure Committee, the Provost, and the President will consider these elaborative definitions when making tenure and promotion decisions.

Criteria for Tenure

(MUPIM 7.7/OAC 3339-7-07)

In order to secure and retain an exemplary faculty, the following all-University criteria **as defined by MUPIM 7.4.A and** as demonstrated by suitable evidence, shall be used to make tenure recommendations:

1. high-quality teaching and academic advising;
2. research, scholarly and/or creative achievement of high quality and its prospective continuation;
3. productive professional service; and,
4. professional collegiality within the department, division, campuses, and University community.

The usual emphasis, in descending order of significance, for the above criteria shall be:

(1) high-quality teaching and academic advising, (2) a record of research, scholarly and/or creative achievement of high quality and its prospective continuation, (3) productive professional service, and (4) professional collegiality. The University places importance on both teaching and research, scholarly and/or creative achievement. Neither aspect of a candidate's career should be neglected if tenure is to be achieved.

For regional campus faculty, the usual emphasis, in descending order of significance, shall be:

(1) high-quality teaching and academic advising, (2) productive professional service, (3) a record of research, scholarly and/or creative achievement of high quality and its prospective continuation, and (4) professional collegiality.

If the emphasis is to differ from the above, at the beginning of a candidate's probationary period, or when there is a significant change in the candidate's assigned responsibilities, the department, the department chair, the program director (when appropriate), the dean, the Dean of the Regional Campuses (when appropriate), the Provost and the candidate shall agree in writing upon the relative importance to be attached to each of the above criteria.

The criteria applied to tenure recommendations are normally the criteria in force at the time the application is considered. In cases where new specifically-stated criteria have been adopted since a candidate was first appointed to a tenure-eligible position at Miami, the candidate has the option of being judged by the criteria in force at the time of appointment.

MIAMI UNIVERSITY COMPLETION PLAN UPDATE

Submitted to Chancellor of the University System of Ohio Department of Higher Education

June 2018

UNIVERSITY MISSION

Miami University's mission underscores that we are "a student-centered public university" with "an unwavering commitment to liberal arts undergraduate education and the active engagement of its students in both curricular and co-curricular life" as well as a deep commitment to "student success." In addition, Miami "supports students in a highly involving residential experience on the Oxford campus and provides access to students, including those who are time and place bound, on its regional campuses."

As of fall 2017, 17,147 undergraduates and 2,305 graduate students were studying on the Oxford campus. Regional campuses in Hamilton, Middletown, and the Voice of America Learning Center in West Chester enrolled a combined total of 4,710 undergraduate students and 262 graduate students. 52.68% of Miami students are female, and 62% are residents of Ohio. Of the Oxford first-year class, 50% are female, 58% are residents of Ohio and 98% were born in 1998 or 1999.

Domestic students of color make up 16.8 percent of the first-year class and 13.4 percent of the undergraduate student body (based on fall 2017 Oxford campus enrollment). The breakdown of this population is as follows:

The breakdown of the Oxford undergraduate population is as follows:

- 3.2% Black or African-American
- 4.5% Hispanic/Latino
- 2.2% Asian, Native Hawaiian, or other Pacific Islander
- 3.3% identify themselves as multi-racial
- 0.2% American Indian or Alaska Native and Other

An additional 8.4% of first year cohort are international students with 89.4% of the international students identifying themselves as Asian.

Eleven percent of Oxford first-year undergraduates are Pell Grant recipients; 43% have financial need, and 100% of first-year students with need received offers of financial aid.

Of the fall 2017 first-year Oxford campus students, 33 percent of the freshmen graduated in the top 10% of their high school class. Sixty percent entered Miami with college credit from Advanced Placement, College Credit Plus, and other programs, with the average credit received being 17.5 hours. The average ACT score of the 2017 entering freshman class was 28.5 (85% of the incoming freshmen were admitted with the ACT).

The first-year student retention for full time students (2016 cohort) is 90.9%. The six-year graduation rate (2011 cohort) is 79.1%.

Miami University ranks 15th out of 37 "big" colleges (15,000 or more students) with the best four-year graduation rates by StartClass, an education research site. The list includes public and private universities and colleges. Miami's four-year graduation rate ranks 20th among U.S. public colleges and universities (excluding military academies) and first among publics in Ohio. Our overall six-year rate is 35th highest among public universities nationwide.

Miami has also received acclaim for having made great gains in decreasing the gap between graduation rates of white and African-American students in a report released March 2016. The Education Trust report, [“Rising Tide II: Do Black Students Benefit as Grad Rates Increase?”](#), ranks Miami in the top ten of its list of the “top-gaining four-year public institutions for black students” for closing the gap between black and white students by 10.7 percentage points. Graduation rates improved by 10.5 percentage points for African-American students at Miami from 2003-2013, while overall graduation improved by 0.4 percentage point. Miami’s graduation rates in 2013 were 81 percent for all students and 71 percent for black students. The Education Trust in its report used three-year averages to assess graduation rate change and lists Miami’s rates as 80.7 percent for all students and 68.6 percent for African-American students.

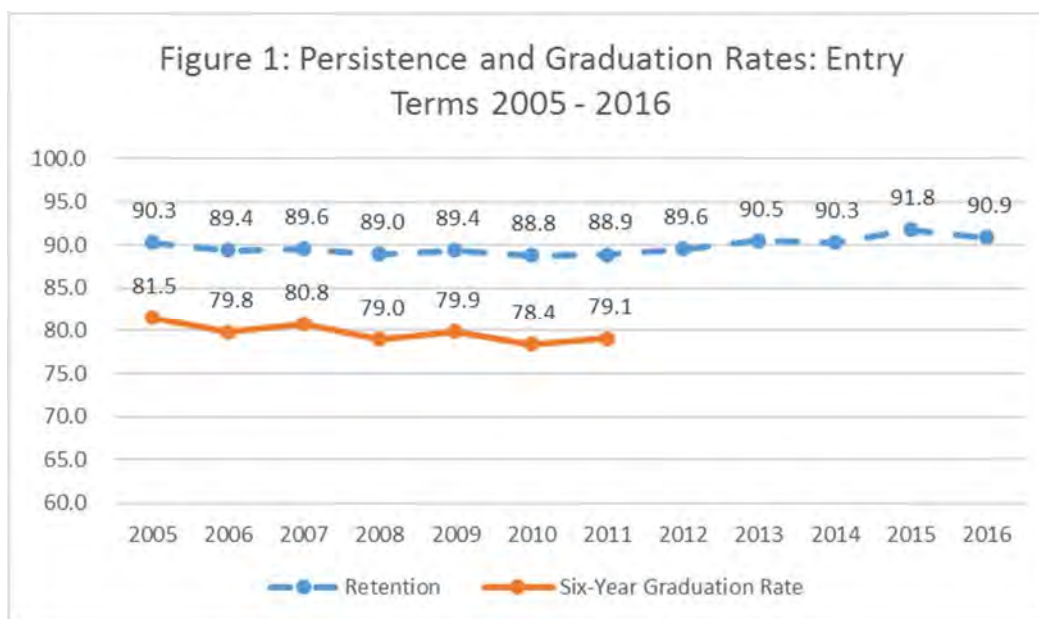
While also focused on a liberal arts education, Miami’s regional campuses serve a different student population. Thirty-six percent of the undergraduate students are part time, and 64% are full time. Twenty-one percent of the students on the regional campuses are non-traditional students (25 years or older); 53% are female, and 47% are male. Nearly 12% of the students on the regional campuses are CCP students. The majority of students on the regional campuses are place-bound, and none lives on campus. The top feeder schools are area high schools as well as local community colleges. The regional campuses house its own academic division, named the College of Liberal Arts & Applied Science (CLAAS), which offers several baccalaureate degrees, including applied social research, commerce, communication studies, community arts, computer and information technology, criminal justice, engineering technology, English studies, forensic investigation, forensic science, integrative studies, liberal studies (degree completion program), nonprofit and community studies, nursing, and psychological sciences. A new degree in biological sciences is currently undergoing the approval process.

The students on the Hamilton campus (2016 cohort) have a first-year student retention rate of 63.6%, and students on the Middletown campus have a first-year student retention rate of 68.5% (for the 2016 cohort). Those pursuing bachelor’s degrees (2011 cohort) have a six-year graduation rate of 26.4% for the Hamilton campus and 25.4% for the Middletown campus.

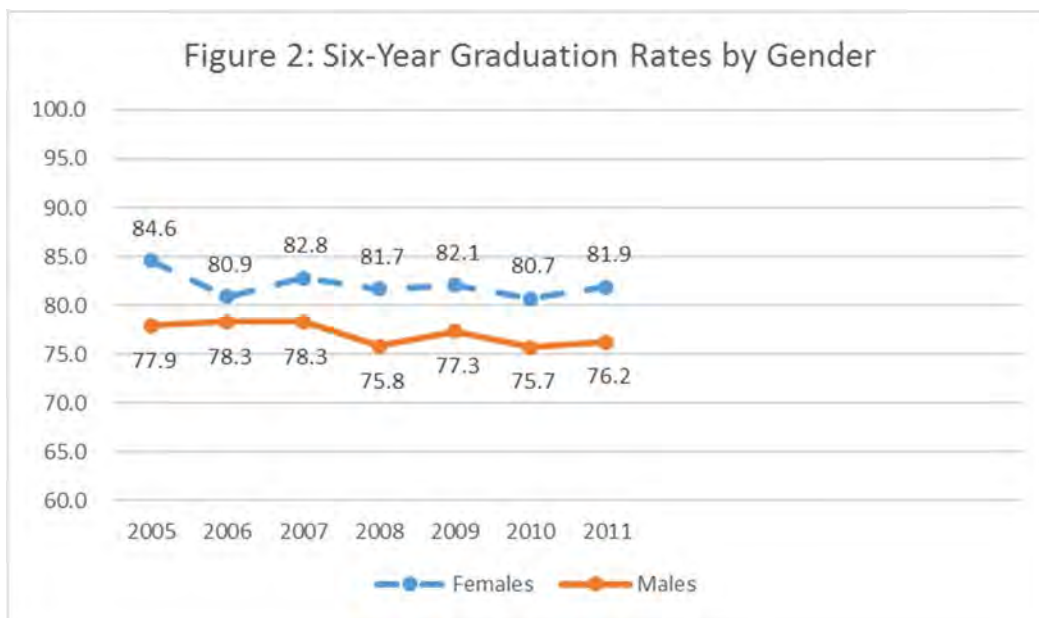
BARRIERS TO PERSISTENCE AND COMPLETION

Although the academic profile and completion rate of Miami’s Oxford campus students remain very strong overall, our data show that there has been improvement in persistence and completion on the two regional campuses, while the Oxford campus rates have remained relatively steady. NB: In all figures, retention rates and graduation rates are presented as reported to the Integrated Postsecondary Education Data System (IPEDS), the core postsecondary education data collection program for the National Center for Education Statistics (NCES). Retention rate is defined as the percent of first time, full time, degree-seeking students who enter in the fall semester and return to Miami in the fall semester of the next (i.e., their second) year. Graduation rate is defined as the percent of first time, full time, degree-seeking students who enter in the fall semester and graduate within six years. Students are assigned to a cohort based on the year they entered the University.

Retention and six-year graduation rates have fluctuated in narrow bands for several years (Figure 1).

Figure 1: Persistence and Graduation Rates: Entry Terms 2005 – 2016

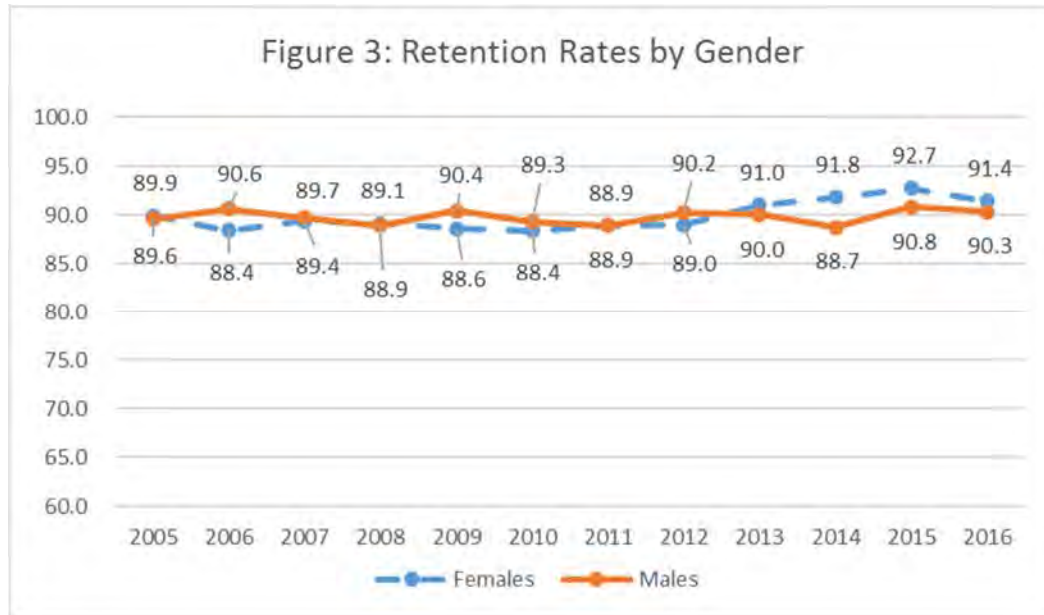
In the previous report, several attributes were identified as correlated to a higher risk for attrition for new, full time Oxford students: gender, first generation, and high financial need. For gender, the gap between male six-year graduation rates and female rates persists, with females graduating at a higher rate than males (Figure 2). However the completion rates of both males and females modestly improved since the last report was submitted in 2016, although the retention rates remained relatively flat.

Figure 2: Six-Year Graduation Rates by Gender

Because the correlation between six-year graduation rates and retention rates is fairly strong for the period being considered and our retention rates have been increasing since 2012 (Figure 1), we anticipate graduation rates increasing modestly over

the next few years. While males have historically tended to have higher retention rates than females (Figure 3), for the past several years, retention rates for females has exceeded male rates (Figure 3). Interestingly, even when female students have lower retention rates, the graduation rate among females is consistently higher (Figure 2).

Figure 3: Retention Rates by Gender



First generation students continue to have lower graduation rates compared to other groups of students (Figure 4). The gap in graduation rates for first generation students (Figure 4) is due, at least in part, to lower retention rates in that group (Figure 5). Further, we expect to see a decrease in graduation rate for first generation students due to the dip in retention rates in this group between 2010 to 2012. Miami has recently implemented specific, targeted initiatives to improve graduation rates for this group, including more proactive academic advising, new learning communities focused on assisting with transition to college programming, financial literacy initiatives, and early career development programming across a number of majors.

Figure 4: Six-Year Graduation Rates for First Generation Students

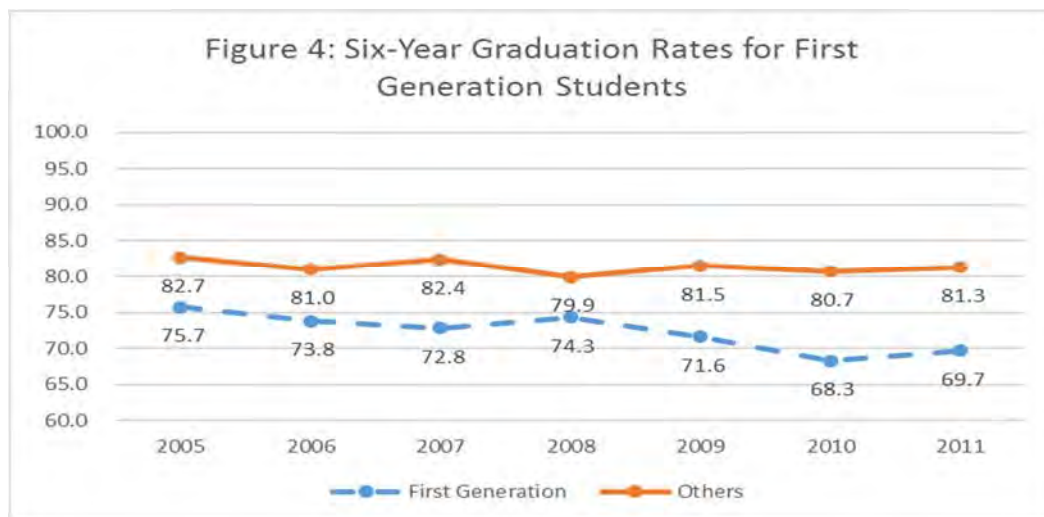
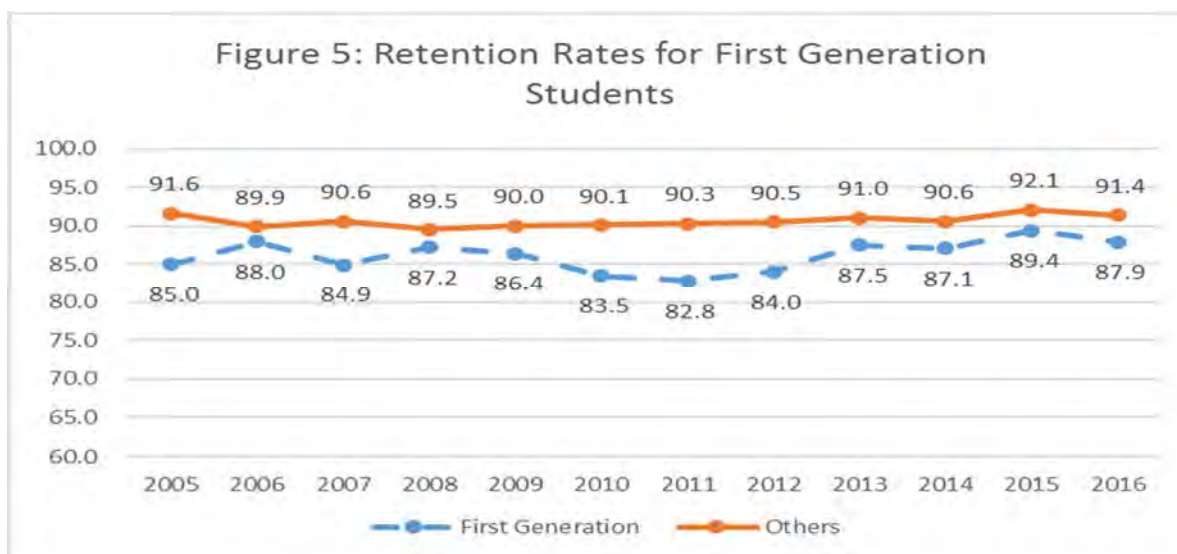


Figure 5: Retention Rates for First Generation Students

Finally, financial need (EFC) is a factor in graduation rates. Students with high need (defined as students with an Expected Family Contribution (EFC) < \$5,000) have the lowest graduation rates (Figure 6). Encouragingly, retention rates for high financial need students have been improving in recent years (Figure 7).

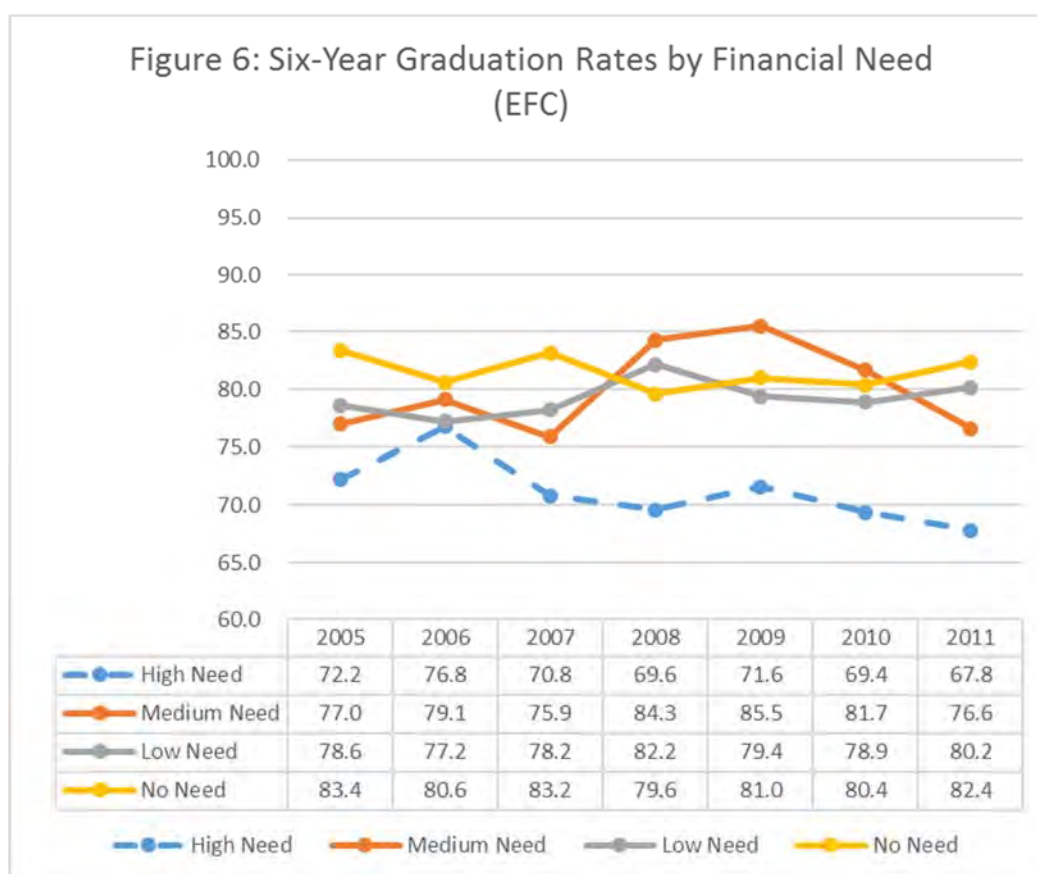
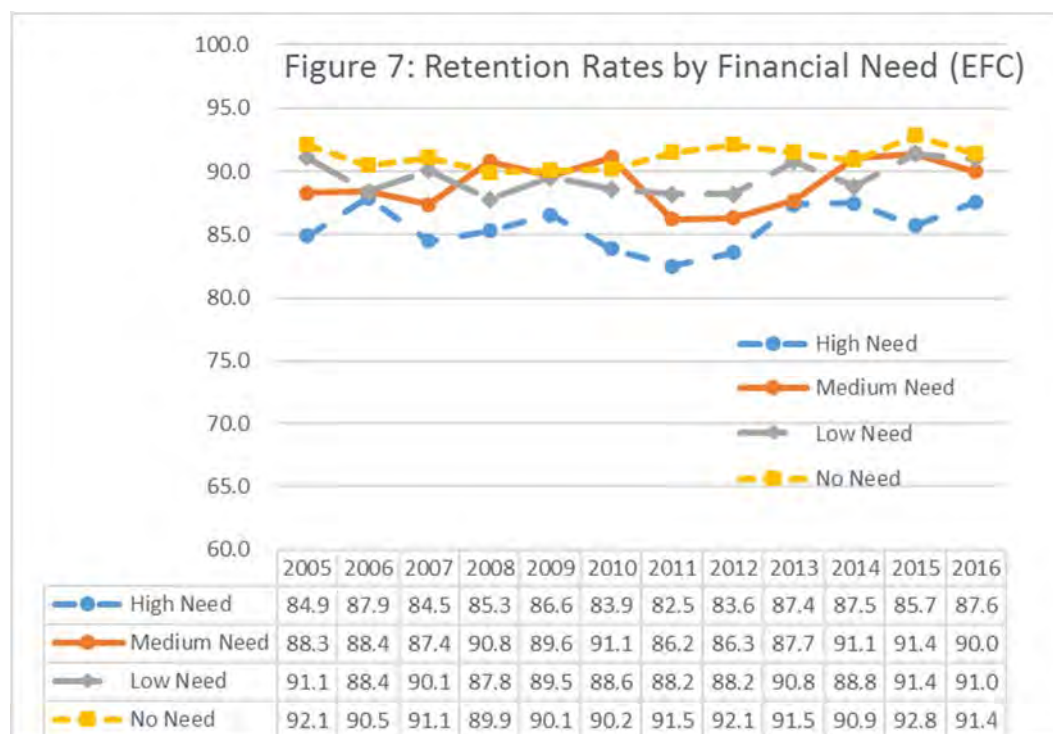
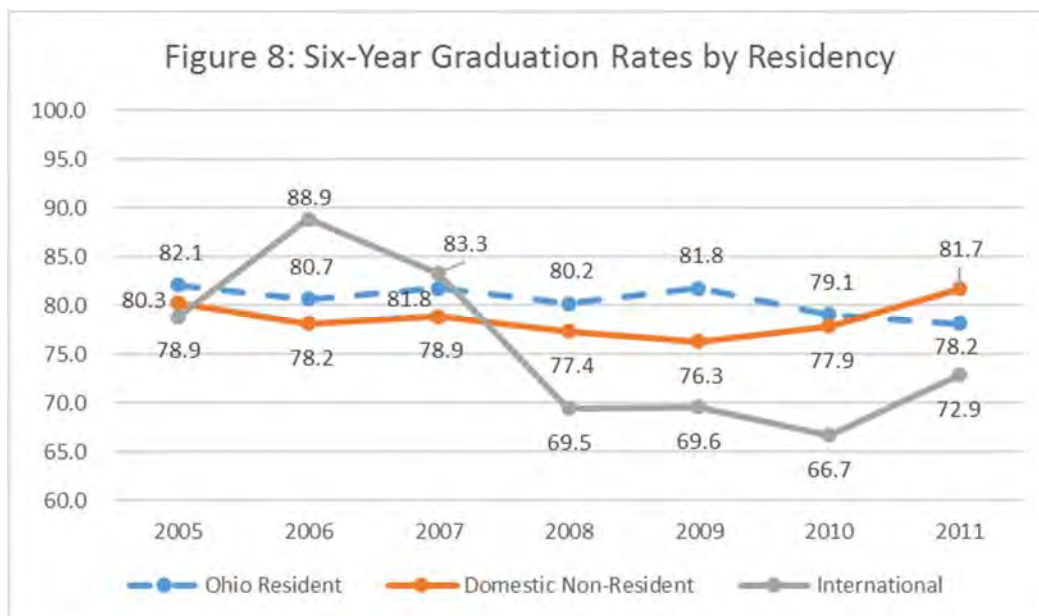
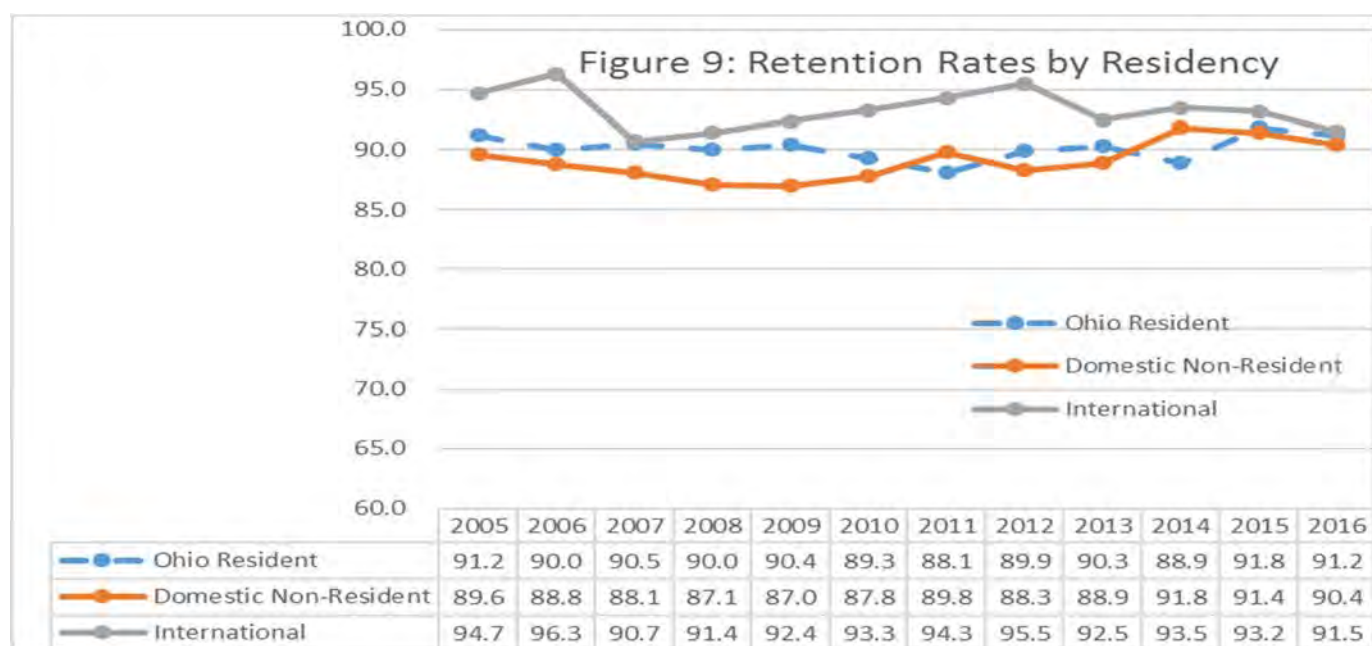
Figure 6: Six-Year Graduation Rates by Financial Need (EFC)

Figure 7: Retention Rates by Financial Need (EFC)

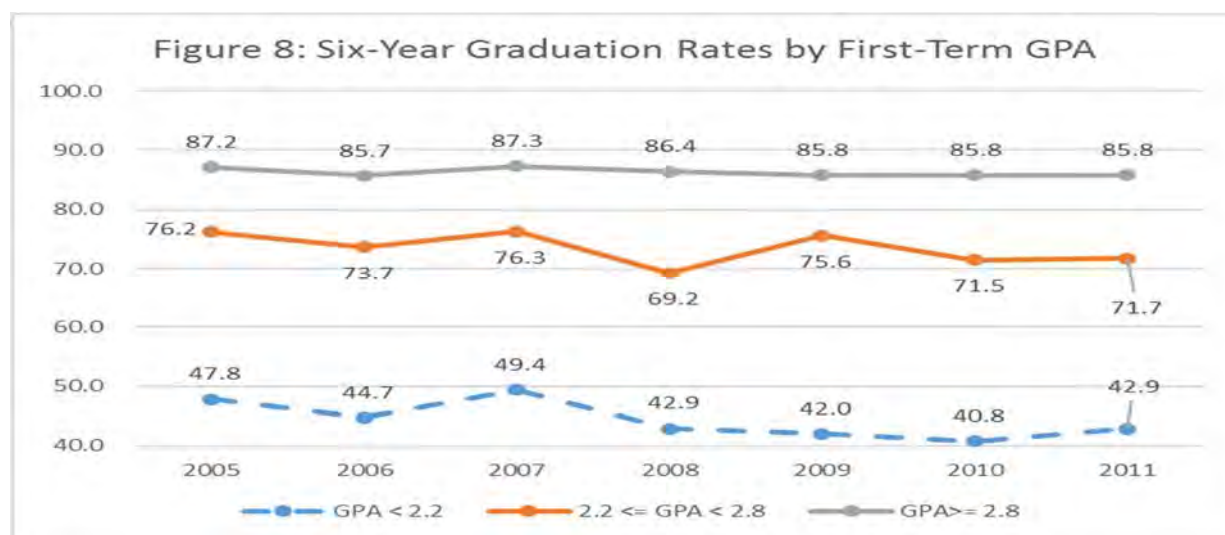
International student graduation rates were also noted in the 2016 report as a possible future concern. Although the number of international students in comparison to domestic students is small, their collective graduation rate is lower.

Figure 8: Six-Year Graduation Rates by Residency

Retention rates of international students have not been a good predictor of the six-year graduation rate. In fact, retention for international students continues to exceed domestic students.

Figure 9: Retention Rates by Residency

Since the completion of the 2016 report, Miami has conducted further research on persistence and graduation factors, via Education Advisory Board's Student Success Collaborative as well as analytics provided by Civitas Learning. One factor that has emerged as a significant variable for retention is first term Grade Point Average (GPA, Figure 10). In fact, first term GPA is the most powerful predictor of retention for incoming cohorts. Miami has identified two important cut-points affecting student retention. Students with a first-term GPA below 2.2 have six-year graduation rates below 50% (Figure 10), and students with GPAs of at least 2.2 but less than 2.8 have a statistically significantly lower six-year graduation rates than those whose first term GPA is at least 2.8 (Figure 10). Miami has had intervention practices for students with first term GPAs below 2.0 for a long time, and now, with these more recent data, Miami has initiated new, proactive intervention practices to outreach to students whose first term GPA was between 2.00 and 2.20, in addition to other 'at risk' student populations.

Figure 10: Six-Year Graduation Rates by First Term GPA

GOALS

College completion and student success are integral to Miami's seven-year strategic plan, the "Miami 2020 Plan," which was developed in 2013-2014. The unifying goal of the plan is to "promote a vibrant learning and discovery environment that produces extraordinary student and scholarly outcomes." The plan includes a set of metrics by which our progress will be measured.

Below are the metrics embedded in the plan that relate to the goal of increasing college completion and an update on how well we are achieving them:

Metric	Progress
Miami will achieve a six-year graduation rate of 85% and a four-year graduation rate of 75%." The regional campuses will increase the graduation rate by 10%, is equally ambitious.	For the 2011 cohort, Miami's four-year graduation rate is 68.3% and the six-year graduation rate is 79.1%. The six-year graduation rate for Hamilton campus is 26.4% and 25.4% for Middletown campus, with a goal of 30.0% for both campuses.
Within one year after graduation, 100% of graduates (excluding those enrolled in graduate or professional school) will be employed.	91.0% of Oxford bachelor's graduates and 93.4% of College of Liberal Arts and Applied Science bachelor's graduates were employed after graduation.
Upon graduation, 80% of Oxford students who apply to graduate or professional school will receive at least one offer of admission.	Among 2015-16 graduates, 68% of Oxford graduates who intended to enroll in graduate/professional school were enrolled in school by fall 2015.
Upon graduation, all Miami students will have participated in a research (40%) or a similar experiential learning activity (100%), e.g., fieldwork, field or clinical placement, service-learning, public or private sector engagement, performances, and other applied learning activities.	Among 2015-16 graduates, 89% of Oxford graduates and 77% of regional graduates had either participated in research or participated in a similar experiential learning activity.
70 of Miami students will complete an internship before they graduate.	70.2% of Oxford undergraduates completed an internship, practicum, or student teaching before graduating.
60% of degree programs can be completed in three years or less through curriculum revision and by using different pedagogical approaches and modes of delivery.	As of fall 2017, 66% of degree programs can be completed in three years or less.
75% of Miami students will report that they feel welcome and have had significant and meaningful interactions with diverse groups.	On the Oxford campus, 77% report an average or high sense of belonging on campus and 97% had discussions with people of a different background. On the regional campuses, 55% reported an average or high sense of belonging and 98% had discussions with people of a different background.
All Miami students will have a curricular or co-curricular cultural learning experience (e.g., intensive community engagement, service-learning experience, intercultural or global learning requirement) by the time of graduation.	As the result of the Global Miami Plan's global learning requirement, all undergraduate students have had a curricular or co-curricular cultural learning experience by the time of graduation.

Metric	Progress
Miami Oxford will double the number of transfer students to 500 students, and Miami regionals will increase by 15% the number of transfer students to 500 students.	In fall 2017, there were 203 transfer students on the Oxford campus and 346 on the regional campuses (an increase of 10% since 2016).

COMPLETION STRATEGIES

UPDATE ON 2016-2018 STRATEGIES

Theme	Strategy	Description	Progress Made Since 2016
Advising	Enhanced advisor development and recognition	Increase the percentage of advisors who have completed the required and optional portions of the advisor professional development program (six modules).	Over 70% of faculty and staff advisors have completed the first four required modules of the program.
	Data-driven academic advising	Institute the use of Education Advisory Board's Student Success Collaborative (a predictive analytics tool to aid retention) by advisors across all academic divisions and campuses.	The Student Success Collaborative was launched in 2017. All academic advisors and academic support staff are provided training and have access to the system.
Student Support	Enhanced student financial assistance	Institute a four-year guaranteed tuition, Miami Tuition Promise; increase need-based scholarships for undergraduate Ohio students.	The Miami Tuition Promise was implemented in 2016-2017.
	Assessment of existing programs designed to promote student success	Purchase and launch Civitas, a strategic analytics framework, to assess existing retention initiatives. Conduct in-house student satisfaction survey. Make improvements based upon findings.	Civitas was implemented in 2017; early studies have focused on students who are most academically at risk. A transition Survey for first semester students was launched in 2016 and held each year thereafter. Findings are reviewed by the Student Success Committee, and new strategies for improvement are developed annually based upon data. At the conclusion of the survey, students are given the option to provide their name. Those that do so and also exhibit risk factors are contacted by a

			Student Affairs staff member and referred to appropriate sources of support.
	First-generation college student support	Design and launch an optional learning community for incoming, first generation students, which includes peer mentoring, success course, and faculty mentoring.	"Miami Firsts" program--which provides students with a community of peers, peer and faculty mentoring and programming--was begun in 2016-2017.
	International student support	Develop and begin implementing a comprehensive strategic plan for supporting international students.	Working group was constituted and created a report of recommendations in 2016-2017.
	Military student support	Enhance proactive student support services; review and revise policies for military students as needed; create course matches for relevant Military Transfer Assurance Guides, and explore portfolio credit for experiential learning.	Active military duty policy was reviewed and revised to provide more support for students who are called on active duty; all possible Military Transfer Assurance Guide matches have been submitted and approved. A portfolio opportunity for prior learning assessment is being developed.
	Diverse domestic student support	Enhance and extend the "Bridges" program (for high ability high school students who are underrepresented and/or committed to diversity) to include social events, success coaching, and intentional engagement with the Miami community once they matriculate to Miami.	Bridges Scholars are now invited to participate in a Pre-Semester program in August to enhance their transition to college and workshops and activities throughout their time at Miami to build community and equip them for success during college and for life following college.
Policies & Procedures	Scholastic regulation review	Conduct a holistic review of all scholastic regulation policies and procedures (warning, probation, suspension and dismissal), revise as needed, and create improvements in support for students in academic peril as needed.	The following policies were revised to promote student success: Reenrollment (Fresh Start), Transfer Credit, Terminal Residency Requirement, Grade Forgiveness (Course Repeat), Textbook Selection, Preferred Name, and Academic Integrity.

	Priority registration	Review and revise priority registration policy to create greater course availability for students who need it.	Priority registration was revised in 2-16-2017 so that students with disabilities and military students have priority over other groups.
	Degree requirements	Reduce the credit hour requirement for graduation with a bachelor's and associate degree.	The credit hour requirement for graduation with a bachelor's degree was reduced from 128 to 124 credits, and the requirement for associate degree was reduced from 64 to 62 credits in 2016-2017.
Curriculum & Instruction	Transition courses	Continue to enhance assessment of UNV 101 and other key introductory courses, and use data to improve course design, instruction and student success.	Annual assessment reports focusing on UNV 101 and other transition courses have been developed for past three years; multiple assessment measures (course evaluations, GPA/retention rates, surveys) are deployed, data collected, and improvement strategies developed and implemented each year.

2018-2020 Strategies

Theme	Strategy	Description
Academic Interventions & Early Alert	Support for at-risk populations of students	Pilot a student outreach plan for students who are predicted by the Civitas Learning System to be most at risk for attrition. Assess the impact of the Miami Firsts program and revise for improvement.
Advising	Advisor support and training	Continue to review training modules annually.
Affordability	No or Low Cost Textbooks	Design and implement a multi-pronged approach (e.g., grants, programming, recognition, communication strategies) to lowering the cost of textbooks in high enrollment courses.
Articulation & Transfer	One-Year Option	Revise the Associates of Technical Study degree program to align with the One-Year Option areas of concentration.
	Partnerships	Increase academic partnership agreements with two- and four-year institutions in Ohio and beyond, and strengthen our collaborations within the southwest Ohio region.
	Transfer Assurance Guides, Career Technical Assurance Guides, Military Assurance Guides, Ohio Transfer Module	Achieve a 95% compliance rate at all times on all TAG, CTAG, MTAG and OTM requirements.

Career Development	Customized career services	Enhance and expand career advising, internships, job shadowing, and company mentorships; continue to increase the number and quality of Ohio internships, through expanded industry partnerships and networks.
Curriculum & Course Scheduling	Meta-Majors	Design and implement a plan for meta-majors (academic interest & career pathways) on the Oxford and Regional campuses that include degree plan mapping, customized transition (UNV 101) course, targeted advisement and career development for students who have not declared a major.
	Increased Course Availability	Launch an online waitlisting system for courses. Implement the PAVER scheduling system to ensure course offerings are evenly distributed across all weekdays.
	High Quality General Education	Implement a comprehensive assessment plan (with direct and indirect measures) for the Global Miami Plan with the goal of improving quality and students' lifelong professional and personal success.
	e-Learning	Strategically develop online programs that are aligned with workforce needs and enrollment trends.
Diversity & Inclusion	Welcoming Climate	Analyze results from a climate survey of faculty, staff and students, and develop a strategic approach to addressing concerns.
	Academic Support for International Students	Launch a new language and writing center for English Language Learners. Enhance and focus the pre-orientation and orientation experiences to better support timely registration and advising, provide pre-transition resources electronically, and connections to the campus community. Coordinate and re-develop transition courses to more effectively extend the orientation experience, meet the student needs, and utilize expertise found in academic divisions. Embed mentoring programs strategically throughout the university organizational structure. Launch a City of Oxford task force to bring together Miami and Oxford in an effort to be a more globally focused welcoming community. Increase professional development opportunities for faculty and staff on inclusive classrooms and offices.

WORKFORCE DEVELOPMENT PRIORITIES

Miami University has a longstanding national reputation for producing outstanding graduates who because successful personally and professionally. In the 2017 edition of *Colleges That Pay You Back: The 200 Schools That Give You the Most Bang for Your Tuition Buck*, published by *The Princeton Review*, Miami was recognized for academics, affordability/financial

aid, and getting "graduates out the door to satisfying and rewarding careers." Not only does Miami rank among top tier publics nationally for graduate salary potential, according to Payscale.com and Forbes magazine (2017), but it also ranks 33rd in the world for the number of millionaire alumni it produces according to EliteTraveler.com (2016).

In 2016, Miami made Money magazine's Top 10 list for CEOs of Fortune 500 companies. Miami is the only school in the top 10 with two female Fortune 500 CEOs to its credit.

One reason for our students' success is a dedicated and talented faculty. Miami students routinely get accepted into **graduate and professional schools**:

- 57.8% of Miami undergraduate applicants were **accepted into medical school** from 2013-16, compared to 43.3% nationally.
- 96% of senior Miami applicants were **accepted to law school** from 2014-16, compared to an 86% national average for the same period.

One reason for our students' success is our exemplary Center for Career Exploration and Student Success which provides state-of-the-art programming and support, including career fairs, internship expos, career development courses, mock interviews, resume and cover letter support, consultations and drop-in hours, to name a few.

Data show that the career development programming leads not only to interest in our students among top employers in the region and nation but also to graduates who land successful jobs. In 2016-2017, more than 1,700 employers recruited Miami students and placed 6,479 internship and job postings on the university's electronic job board. Over 250 employers conducted more than 4,550 on-campus interviews with more than 1,900 students.

A 2017 study conducted by Miami's Office of Institutional Research, which tracked 2015-16 alumni career and educational placement, found the following:

Among 2015-16 alumni:

- 96.3% of Oxford bachelor's graduates were employed or enrolled in school as of fall 2016.
- 94.8% of regional campus bachelor's graduates were employed or enrolled.
- 98.0% of master's degree recipients and 98.0% of doctoral degree recipients were employed or enrolled.

The study relied on a variety of methods to identify alumni placement rates, including online surveys, phone calls, and National Student Clearinghouse records, resulting in a 79.5% graduate knowledge rate for Oxford and a 66.5% rate for the regional campuses.

Among Oxford bachelor's graduates, significant results from this study include:

- Among alumni who were not enrolled in graduate or professional school, 91.0% were currently employed, including 1.5% who were self-employed or running their own business. Among the 9.0% of alumni who were not employed, 3.9% were looking for a job, 3.4% were not currently looking for a job, and 1.6% had an unknown job-seeking status.
- 63.6% of alumni were working full-time, 5.6% were working part-time, and 22.3% had an unknown full time/part time status.
- 31.8% of employed alumni worked for their current employer previously, most commonly as an intern or co-op student (21.0%).
- 88.9% of employed alumni were working in a position that required a bachelor's degree or higher.
- The majority of employed alumni reported an annual (vs. hourly) salary, with a median annual salary range of \$50,000 - \$59,999. Among all employed alumni, 16.1% earn from \$40,000 - \$49,999 per year, 23.9% earn from \$50,000 - \$59,999 per year, and 13.6% earn from \$60,000 - \$69,999 per year.

Finally, Miami offers and has developed academic programs that prepare students for some of the most highly demanded jobs in the region and nation. Among Ohio public universities, Miami graduates the highest percentage and the second highest number of undergraduate students in biological sciences, physical sciences, and mathematics. The public health major was recently revamped to serve students interested in a broad array of career paths, and the Farmer School of Business enjoys a national reputation for its academic programs, including finance, accountancy, marketing, management and information systems & analytics. The College of Engineering & Computing which offers a range of engineering and computer-related majors (including a new major in bioengineering) has been experiencing record enrollments in the past few years, and the Miami University Regionals has launched a range of applied and professional degree programs in the past five years, including commerce, computer and information technology, engineering technology, forensic science, and nursing.

CONCLUSION

Student success is integral to the mission and operation of Miami University. The 2018 *U.S. News & World Report* ranks Miami University the top public university in the nation for an "unusually strong commitment to undergraduate teaching." Miami occupies the No. 5 spot overall—in good company with Princeton, Dartmouth, Brown, and Rice universities. Miami has ranked in the top five on this short, elite list of universities for the past eight years.

Kiplinger's *Personal Finance* magazine listed Miami as one the "100 Best Values in Public Colleges" for 2018, ranking Miami 50th among in-state best values nationwide for public universities and 36th for public university best values for out-of-state students. Miami has appeared on the list since it was first published in 1998.

Although Miami has attained national prominence for its ability to graduate students on time and prepare them for life beyond college, the university continues to push forward a data-driven and forward-thinking approach to student success and achievement to ensure that we continue to produce graduates well prepared to lead in a challenging, global society.

May 18, 2018
Academic and Student Affairs

RESOLUTION R2018-xx

WHEREAS, University Senate on March 12, 2018 passed SR 18-06, endorsing a degree, Bachelor of Science, with a major in Applied Biology, College of Liberal Arts and Applied Science.

NOW THEREFORE BE IT RESOLVED, that the Board of Trustees hereby approves the establishment of a Bachelor of Science, with a major in Applied Biology, within the College of Liberal Arts and Applied Science.



EXECUTIVE COMMITTEE of UNIVERSITY SENATE

Shelly Jarrett Bromberg, Chair

Terri Barr, Chair-elect

University Senate Website: miamioh.edu/academic-affairs/university-senate/

May 18, 2018

To: Gregory P. Crawford, President
 From: Jeffery Wanko, Secretary of the University Senate
 Re: Degree Program Approval
 SR 18-06, Applied Biology – Bachelor of Science, with a major in Applied Biology, College of Liberal Arts and Applied Science;

The Miami University Policy and Information Manual, Section 11.1.E, Adding a New Degree, states that a proposal for any curriculum or program leading to a new undergraduate or graduate degree shall be submitted to the President, the Board of Trustees, and the Ohio Board of Regents/Ohio Regents' Advisory Committee on Graduate Study for approval following approval by the department or program, the academic division, the Council for Undergraduate Curriculum/Graduate Council, the Council of Academic Deans, and University Senate.

On March 12, 2018, University Senate adopted SR 18-06:

BE IT HEREBY RESOLVED that University Senate endorse the proposed degree, Bachelor of Science, with a major in Applied Biology, College of Liberal Arts and Applied Science;

AND FURTHERMORE, that the endorsement by University Senate of the proposed degree will become effective immediately and will be forwarded to the Miami University Board of Trustees for consideration.

Approval of the President

I, Gregory P. Crawford, President of Miami University, approve/do not approve Bachelor of Science, with a major in Applied Biology, College of Liberal Arts and Applied Science.

✓	Approve Forward to the Board of Trustees for action (copy to Secretary of University Senate)
	Do Not Approve

Gregory P. Crawford, President

Date

cc: Shelly Jarrett Bromberg, Chair, Executive Committee of University Senate
 Phyllis Callahan, Provost, Chair University Senate
 Ted Pickerill, Secretary to the Board of Trustees and Executive Assistant to the President



Board of Regents

John R. Kasich, Governor
Jim Petro, Chancellor

University System of Ohio

REQUEST FOR APPROVAL

**SUBMITTED BY
MIAMI UNIVERSITY**

**ESTABLISHMENT OF A
[Bachelor of Science] DEGREE IN
[Applied Biology]**

(December 13, 2017)



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REQUEST

Date of submission: [December 13, 2017]

Name of institution: Miami University

Degree/degree program title: [Bachelor of Science] degree in [Applied Biology]

Primary institutional contact for the request

Name: Paul Harding

Title:

Phone number:

E-mail: hardinpa@miamioh.edu

Department chair/program director

Name:

E-mail:

Delivery sites: campus(es)

Date that the request was approved by the institution's governing board:

Approved by the Miami University Senate on [date], and
the Board of Trustees on [date]

Proposed start date: [term] [year]

Date Institution established: 1809

Institution's programs: associate, bachelor's, master's, educational specialist,
doctoral degrees (total ____ degree majors as of ____)

Educator Preparation Programs:

Indicate the program request leads to educator preparation licenses or endorsements.

Licensure ☐ Yes ☒ No

Endorsement ☐ Yes ☒ No

SECTION 1: INTRODUCTION

1.1 Brief summary of the request

The proposed degree advances the mission of the Miami Regionals by providing open and affordable access to higher education for the residents of Southwest Ohio that the Oxford Campus does not offer. The BS in Applied Biology does this by providing two concentrations for students: Environmental Biology and Human Biology & Health Sciences, as compared to the BS on the Oxford campus that offers majors in botany, biology, and zoology. The two concentrations are designed to meet the job demands of the region. In other words, there are regional jobs that require application of ecological and biological principles to solve environmental problems at organizations such as the U.S. Environmental Protection Agency (USEPA), the Cincinnati Zoo, and environmental consulting firms. The second concentration, Human Biology & Health Sciences, is designed to prepare students to apply their knowledge

in lab or clinical settings, at biomedical research institutions and companies involved in healthcare and biotechnology. Each concentration trains students in critical thinking, scientific inquiry, and the application of science to societal issues. The course of study for either concentration within Applied Biology will prepare students to formulate questions, make meaningful observations, analyze and interpret data, and arrive at conclusions. Although the life science BS degrees share some courses, the BS in Applied Biology degree will indicate which concentration the student followed. The Biology Department voted unanimously to approve the offering of a BS degree in Applied Biology on the Regionals. Most importantly, the ability to offer a BS in Applied Biology will allow underrepresented, low-income, and non-traditional students the opportunity to obtain a STEM degree that will allow them to be qualified to obtain jobs in science that they otherwise would not have the opportunity to obtain because of difficulties relocating to the Oxford Campus. These difficulties can include financial limitations, family obligations, transportation issues, and discomfort with the socio-cultural atmosphere at a highly selective, residential campus serving mostly traditional-aged students. All courses required for this degree, across all departments, are offered on the Miami regional campuses.

SECTION 2: ACCREDITATION

2.1 Regional accreditation

Original date of accreditation:	1913
Date of last review:	2005
Date of next review:	2015

2.2 Results of the last accreditation review

Miami University is accredited by the [Higher Learning Commission](#) (HLC) of the North Central Association of Colleges and Schools. HLC accredits degree-granting post-secondary educational institutions in the North Central region of the United States. Miami's most recent accreditation review was in 2005 (see [2005_Review.pdf](#), 4.3MB), while the next reaccreditation review will occur in 2015.

2.3 Notification of appropriate agencies

Provide a statement indicating that the appropriate agencies (e.g., regional accreditors, specialized accreditors, state agencies, etc.) have been notified of the institution's request for authorization of the new program. **Provide documentation of the notification as an appendix item.**

SECTION 3: LEADERSHIP—INSTITUTION

3.1 Mission statement

Miami University, a student-centered public university founded in 1809, has built its success through an unwavering commitment to liberal arts undergraduate education and the active

engagement of its students in both curricular and co-curricular life. It is deeply committed to student success, builds great student and alumni loyalty, and empowers its students, faculty, and staff to become engaged citizens who use their knowledge and skills with integrity and compassion to improve the future of our global society.

Miami provides the opportunities of a major university while offering the personalized attention found in the best small colleges. It values teaching and intense engagement of faculty with students through its teacher-scholar model, by inviting students into the excitement of research and discovery. Miami's faculty are nationally prominent scholars and artists who contribute to Miami, their own disciplines and to society by the creation of new knowledge and art. The University supports students in a highly involving residential experience on the Oxford campus and provides access to students, including those who are time and place bound, on its regional campuses. Miami provides a strong foundation in the traditional liberal arts for all students, and it offers nationally recognized majors in arts and sciences, business, education, engineering, and fine arts, as well as select graduate programs of excellence. As an inclusive community, Miami strives to cultivate an environment where diversity and difference are appreciated and respected.

Miami instills in its students intellectual depth and curiosity, the importance of personal values as a measure of character, and a commitment to life-long learning. Miami emphasizes critical thinking and independent thought, an appreciation of diverse views, and a sense of responsibility to our global future.

-- June 20, 2008

(<http://MiamiOH.edu/about-miami/leadership/president/mission-goals/>)

3.2 Organizational structure

Miami University is governed by a Board of Trustees which has 11 members appointed by the Governor with the consent of the Ohio Senate. The Board of Trustees delegates responsibility for administration of the university to the President. The President is advised by an Executive Committee that includes the Provost and Executive Vice President for Academic Affairs, Vice President for Finance and Business Services, Vice President for Student Affairs, Vice President for University Advancement, Vice President for Information Technology, General Counsel, Secretary to the Board of Trustees, Senior Director of University Communications, and Director of Intercollegiate Athletics.

The Division of Academic Affairs includes six academic divisions (College of Arts & Science, College of Creative Arts; College of Education, Health and Society; College of Engineering and Computing, Farmer School of Business; College of Professional Studies & Applied Sciences), the Graduate School, University Libraries, and the Miami University Dolibois European Center (MUDEC).

The administrative leadership of Miami University can be found at: <http://MiamiOH.edu/about-miami/leadership/admin-officers/index.html>.

SECTION 4: ACADEMIC LEADERSHIP—PROGRAM

4.1 Organizational structure

Describe the organizational structure of the proposed program. In your response, indicate the unit that the program will be housed within and how that unit fits within the context of the

overall institutional structure. Further, describe the reporting hierarchy of the administration, faculty, and staff for the proposed program.

The BS in Applied Biology will be offered by the Department of Biological Sciences, located on the Miami University regional campuses. The department, an academic unit with its own chair, reports to the Dean of the College of Liberal Arts & Applied Science (CLAAS). The department's budget, workload assignments, annual evaluations, salary increments, and tenure and promotion review of faculty all occur through recommendation/ negotiation of the chair and faculty and the college dean. Tenure and promotion occurs through a process that involves evaluation by the Department of Biological Sciences, the department chair, the CLAAS promotion and tenure committee, the CLAAS Dean, the University promotion and tenure committee, provost, president, and Miami University Board of Trustees.

Provide the title of the lead administrator for the proposed program and a brief description of the individual's duties and responsibilities. Include this individual's CV/resume as an appendix item.

The Department of Biological Sciences is led by the chair, Dr. Paul A. Harding, who is responsible for faculty evaluation and recruitment, curriculum, budget, student affairs, scheduling, representing the program both internally and externally, and all other departmental administrative responsibilities. The chair reports to the Dean of the College of Liberal Arts & Applied Science.

Describe any councils, committees, or other organizations that support the development and maintenance of the proposed program. In your response, describe the individuals (by position) that comprise these entities, the terms of their appointment, and the frequency of their meetings.

Department of Biological Sciences Faculty - The entire faculty meets regularly to address curricular and other issues as a committee of the whole.

Department of Biological Sciences Curriculum Committee – This committee, chaired by a faculty member, reviews and approves curriculum in all degrees housed in the department. Departmental representatives are chosen and serve according to departmental governance and include appropriate representation of faculty from all parts of the discipline. This committee also works with faculty members to assess learning outcomes and other programmatic elements, using these data to improve or change curricular elements such as assignments and other course components. This committee collects, analyzes, reports, implements, and archives assessment materials.

Department of Biological Sciences Promotion & Tenure Committee – This committee, chaired by a faculty member, annually reviews probationary faculty and reviews and approves dossiers submitted by faculty for promotion and tenure. This Committee assures the depth and quality of instruction by maintaining a high-quality faculty through a rigorous peer-review system emphasizing teaching, research, and service.

College of Liberal Arts and Applied Science Curriculum Committee – This committee, which includes faculty from all departments within the college, reviews and approves curricular changes within the college. Departmental representatives are chosen and serve according to departmental policy. The committee is chaired by an associate dean or other designee of the dean.

College of Liberal Arts and Applied Science Promotion and Tenure Advisory Committee – This committee, which includes faculty from all departments within the college, serves in an advisory capacity to the dean on promotion and tenure issues. Departmental representatives are chosen according to departmental policy and serve staggered three-year terms. The committee is chaired by an associate dean or other designee of the dean.

Miami University Council for Undergraduate Curriculum - This committee is selected by the Executive Council of University Senate, Miami University. It is composed of six faculty members, one from each of the six academic divisions. At least one of these faculty members shall be a member of University Senate and at least one shall represent the graduate faculty. Additionally, there are two undergraduate students and one graduate student, and eight ex-officio, nonvoting members also serve – one representative of the Office of Academic Affairs, one representative of the Office of the University Registrar, six divisional representatives – one from each of the divisional academic deans' office (typically, an associate dean). Meetings are held several times a semester depending on the quantity of curricular items to be reviewed. Terms of appointments are two years (except for ex-officio members who may serve longer).

Miami University Council of Academic Deans - The council consists of the Provost of Miami University, the deans of each of the six academic divisions, dean of the graduate school and secretary of the university. Meetings are held twice a month (every-other-week). There are no terms of appointments as members serve during their administrative appointments.

Miami University Senate - This body consists of elected and appointed faculty, staff and students who represent constituencies from the entire university. Term of appointment is typically two years. Meetings are held twice a month (every other week). This body provides explicit final approval of new degrees and majors by vote.

Miami University Board of Trustees - The members of this body are appointed by the Governor of the State of Ohio. They provide final Miami approval of new degree programs. There are nine voting members, each of whom is nominated by the Governor of the State of Ohio with the advice and consent of the University Senate. They serve nine year terms. In addition to the voting members, there are two student representatives and national trustees.

4.2 Program development

Describe how the proposed program aligns with the institution's mission.

- Offering bachelor degree programs.

The proposed program advances the mission of the Miami Regionals by providing open and affordable access to higher education for the residents of Southwest Ohio that the Oxford Campus does not offer. The BS in Applied Biology does this by providing two concentrations for students: Environmental Biology and Human Biology & Health Sciences. These two distinct foci provide regional campus students with a structured curriculum and transcript notation that is easily interpreted by both students and employers. Transcript notation of the student's concentration as either Environmental Biology or Human Biology & Health Sciences is appropriate because the curriculum for each includes more than 65% of courses within the concentration (refer to Course Offerings and required courses). The two degree concentrations create diverse educational opportunities that enhance students' biological experiences and allow them to acquire skills and competencies that make them competitive in job markets (for example, critical thinking, problem solving, communication, analytics). The BS in Applied Biology will allow underrepresented, low-income, and non-traditional students the opportunity to complete meaningful STEM degrees that qualify them to enter the increasingly available jobs in science, industry, and education.

According to the US Department of Education's National Center for Education Statistics, 181,000 of the 1,840,000 bachelor's degrees conferred in 2012–13 were obtained in health professions and related programs (9.8%) [SOURCE: U.S. Department of Education, National Center for Education Statistics. (2016). Digest of Education Statistics, 2014 (NCES 2016-006) Chapter 3.] Data from the National Science Foundation shows that in 2012, about 13% of first year students intended to major in biological and/or agricultural science, which was up from approximately 7% in the early 1970's. Clearly there is a need and an interest in students pursuing this type of traditional degree. The Miami Regionals follow the National trend of approximately 5% of all students majoring in a biology-related field (207 majors/ 4,125 students in 2016; 5%).

- Providing academic programs to meet needs of the region.

The BS in Applied Biology will offer opportunities for experiential learning by students interested in working at local companies, government agencies, and nonprofit organizations. Because very few (if any) evening classes are offered on the Oxford Campus, the Regionals are essentially the only place at Miami where working students may access higher education. The BS in Applied Biology will also be available to transfer students from local 2- and 4-year institutions, while also offering a gateway to other institutes of higher education.

A sample of local organizations where the BS in Applied Biology would be valuable: Cincinnati Children's Hospital Medical Center, Miller Brewing Co., AK-Steel, Genetica, Inc., Lab Corp., Procter & Gamble, Q Laboratories, Wright Patterson AFB, Ohio Department of Natural Resources, and Local & State Government agencies. Furthermore, a degree in biological sciences will train those planning to pursue post-baccalaureate degrees in the health sciences.

Indicate whether the institution performed a needs assessment/market analysis to determine a need for the program. If so, briefly describe the results of those findings. If completed, submit the full analysis as an appendix item.

The Chronicle of Higher Education's Almanac of Higher Education (2013), states that only 24.6% of Ohio adults have a bachelor's, with that percent dropping to 15.1% in Middletown and 14.4% in Hamilton. Labor market information from the Ohio Department of Job and Family Services indicates a growing need for individuals with backgrounds and training in the biological sciences. The latest Ohio job growth projections (2022) show an increase of 23.4% for Medical and Clinical Laboratory Technologist, 15.3% for biological Technicians, 9.7% for Soil and Plant Scientists and 9.3% for Environmental Scientists. All of these rates are above the projected Ohio job growth rate of 8.3%. These professions command an average annual salary ranging from \$44,000 to \$70,000. According to the US Department of Education National Center for Education Statistics, the number of bachelor's degrees awarded in the biological and biomedical sciences increased 59% between 2002 and 2012.

There is an impending crisis for science (STEM) education in the United States based on the increasing demand for math/science teachers without a coinciding increase in students being trained in these fields (NSF-National Science Board 2015). The demand for K-12 science teachers in Ohio is predicted to rise due to the gap between retirements and STEM teachers entering the profession (Fordham Inst.). The two foci of study in the proposed BS in Applied Biology provide pathways for graduates to become science teachers (middle school average salary \$42K - \$54K; Bureau of Labor Stats), albeit additional licensure requirements are required.

Indicate whether the institution consulted with advisory groups, business and industry, or other experts in the development of the proposed program. If so, briefly describe the involvement of these groups in the development of the program.

Members of the Citizens' Advisory Councils for both the Hamilton and Middletown campuses were consulted. They expressed strong support, citing the timeliness and relevancy of the skills that degrees of this type will afford the students in our region.

Owner and President of Q Laboratories, Dave Goins, located in Cincinnati, OH has served the food, food ingredients/flavorings, cosmetic, pharmaceutical, over-the-counter drug, health and beauty care, and dietary supplement industries since 1966, offering comprehensive microbiology and chemistry product analysis and research and development services. Q laboratories has job openings in research and development, and for technicians. These job openings require a minimum of a Bachelor's degree in biology and experience in molecular techniques such as PCR, DNA sequencing, HPLC, and quality control. Planned course offerings in the Applied Biology degree on the Miami University Regionals provide courses in these areas. Based on conversations with Q Laboratories, students who successfully complete this BS degree on the Miami University Regionals would be qualified candidates for such positions.

We have consulted with TRC, an environmental consulting firm based in Cleveland with

local offices in Cincinnati, regarding their needs for biologists trained in the application of ecological and evolutionary principles for solving environmental problems. Rebecca Winterringer, Senior Aquatic Ecologist with TRC, stated that our proposed Environmental Biology concentration includes the coursework required for biologists at TRC and similar companies.

We have recently been contacted by Procter & Gamble regarding creation of an Associate Degree for training technicians to meet their laboratory needs in the consumer products industry. These students will be likely to continue their education to earn a BS in Applied Biology in order to permit job advancement in their careers.

Indicate whether the proposed program was developed to align with the standards of a specialized or programmatic accreditation agency. If so, indicate whether the institution plans to pursue programmatic/specialized accreditation for the proposed program and provide a timeline for achieving such accreditation. If the program is already accredited, indicate the date that accreditation was achieved and provide information on the next required review.

While there is no national accrediting body for the biological sciences, our curriculum will meet generally accepted standards in the field. We will consult with the Department of Biology on the Oxford Campus, as needed, to meet these standards. The Biology Department regularly goes through internal and external program reviews to maintain and improve these standards. The same will be true for the new Department of Biological Sciences on the regional campuses.

4.3 Collaboration with other Ohio institutions

Indicate whether any institution within a 30-mile radius of your institution offers the proposed program. If so, list the institutions that offer the proposed program, and provide a rationale for offering an additional program at this site.

The University of Cincinnati, Wright State University, and the University of Dayton offer bachelor degrees in biological sciences, while Miami University offers BA and BS degrees in Biology, Botany, and Zoology based on the Oxford Campus. None of these offer a degree in Applied Biology. Ohio University offers a B.A. in Applied Plant Biology, which is neither similar to our proposed Applied Biology major nor does it include certificates or a "tools" requirement. Bowling Green State University offers an Applied Health Science degree for students to enter the job market in areas such as health education, pharmaceutical and medical equipment sales and health information services, which is distinctly different from the proposed Applied Biology major. No other Ohio institution offers an Applied Biology degree.

Xavier University states that they offer a BS in Applied Biology, but to complete this degree Xavier students must be accepted at Duke University for their senior year. Students who fail to be accepted at Duke University are required to change their major in order to graduate from Xavier University. Thus we are proposing the only local degree

in Applied Biology that incorporates both certificates and a "tools" requirements that will make our students more competitive compared to traditional biology graduates.

Indicate whether the proposed program was developed in collaboration with another institution in Ohio. If so, briefly describe the involvement of each institution in the development of this request and the delivery of the program.

No. This program was not developed in collaboration with any other institutions.

SECTION 5: STUDENT SERVICES

5.1 Admissions policies and procedures

Describe the admissions requirements for the program. In your response, highlight any differences between the admission requirements for the program and for the institution as a whole.

The BS in Applied Biology will follow Miami University Regionals' open enrollment policy for first-time students who have never taken college courses at another accredited university and plan to seek a degree or certification at Miami University. Detailed information about regional admissions can be found at <http://www.regionals.miamioh.edu/admission>.

Describe the transfer credit policies for the proposed program, including the use of credit transfer review committees and the maximum number of hours that can be transferred into the program. In your response, specifically address the credit that may be transferred according to the Board of Regents' Transfer Assurance Guide (TAG) and Career Technical Credit Transfer (CT²) initiatives; and other types of transfer credit awarded toward major program requirements (e.g., AP, life experience, CLEP, portfolio, etc.).

Transfer students applying to the proposed program are required to have earned a high school diploma and have a minimum of 2.0 g.p.a. in college courses in order to be eligible for transfer admission. Transfer students are responsible for meeting all requirements that are in effect when they first enroll as degree candidates. Students who attended another college after high school and registered for one or more courses must apply for admission to Miami as a transfer student. Credit earned at another college is subject to transfer regulations. (Adapted from <http://www.miamioh.edu/academics/bulletin/>)

Students who have successfully completed the Transfer Module at an Ohio college or university will be considered to have fulfilled the Transfer Module at Miami. Additional Miami Plan requirements that are not included in the Transfer Module, however, may be required.

Articulation tables and program information that can be found on uselect (accessed via <http://www.transfer.org/uselect/>) are maintained to assist students in reviewing / previewing transfer credit information. (Adapted from <http://www.units.miamioh.edu/reg/transfercredits/>).

5.2 Student administrative services

Indicate whether the student administrative services (e.g., admissions, financial aid, registrar, etc.) currently available at the institution are adequate to support the program. If new or expanded services will be needed, describe the need and provide a timeline for acquiring/implementing such services.

Miami's regional campuses are full-service, and the administrative resources are adequate to support the proposed program. Many of the courses are existing courses that already are fully supported by tutoring services such as TRiO. TRiO is a set of federally-funded college opportunity programs that motivate and support students whose education and economic background can make the pursuit of a college degree difficult by providing tutoring, personal counseling, mentoring, financial guidance, and other supports necessary so students can focus on earning a degree. This is especially helpful the many first generation college students on the regional campuses.

5.3 Student academic services

Indicate whether the student academic services (e.g., career services, counseling, tutoring, ADA, etc.) currently available at the institution are adequate to support the program. If new or expanded services will be needed, describe the need and provide a timeline for acquiring/implementing such services.

Miami's regional campuses are full-service, providing well-established administrative resources supplying all student services to support the proposed program.

SECTION 6: CURRICULUM

6.1 Introduction

Provide a brief description of the proposed program as it would appear in the institution's catalog (*General Bulletin*). The description should be no more than 150 words.

Biology is the study of all living organisms, from the microscopic to macroscopic. The biology faculty at the Regionals offer a wide range of courses that provide a solid background in two primary concentrations for the BS in Applied Biology: 1) Environmental Biology and 2) Human Biology & Health Sciences. Each concentration trains students in critical thinking, scientific inquiry, and the application of science to societal issues. The course of study for either concentration within Applied Biology will prepare students to formulate questions, make meaningful observations, analyze and interpret data, and arrive at conclusions. Development of these skills will enable students to recognize, address, and solve problems while gaining scientific literacy and a broad knowledge of biology. During their training as biologists students will learn how living organisms function, evolve, and interact with one another and their environment. Students majoring in Applied Biology may not major in Biology or Zoology.

6.2 Program goals and learning objectives

Describe the goals and objectives of the proposed program. In your response, indicate how these are operationalized in the curriculum.

6.3 Course offerings/descriptions

Complete the following table to indicate the courses that comprise the program. Please list courses in groups by type (e.g., major, general education, elective) and indicate if they are new or existing courses.

Environmental Biology Concentration

Course (number/name)	Cr hrs	Major	General Education (Miami Plan)	Elective	OTM TAG CTAG	New/Existing Course
MAJOR REQUIREMENTS						
BIO 115 Biological Concepts: Ecology, Evolution, Genetics, and Diversity	4	■				
BIO 116 Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4	■				
BIO 206 Evolutionary Biology	3	■				
BIO 209 Fundamentals of Ecology	3	■				
Take 3: BIO 311 Vertebrate Zoology or BIO 312 Invertebrate Zoology or BIO 314 Plant and Fungal Diversity or BSC 313 Microbial Diversity	12	■				
BIO 342 Genetics	3	■				
BSC 292 Applied Biology Sophomore Seminar: Planning Your Future in Applied Biology (Seminar I)	3	■				
BSC 492 Applied Biology Senior Seminar: Becoming a Professional Biologist (Seminar II)	1	■				
Take 2 (1 required at 400-level): BSC 321 Research in Applied Biology	1-3	■				
BIO 351 Environmental Education: Focus on Natural History or BSC 415 Approaches to Problem Solving and Research in Applied Biology Capstone or BIO 467 Conservation Biology or BSC 475 Capstone in Environmental Biology	3-4					
BSC 415 Approaches to Problem Solving and Research in Applied Biology Capstone	3-4					
BIO 467 Conservation Biology	3					
BSC 475 Capstone in Environmental Biology	3					
ADDITIONAL REQUIREMENTS						
CHM 141 or CHM 141R College Chemistry	3-4	■				
CHM 142 College Chemistry	3	■				
CHM 144 College Chemistry Laboratory	2	■				
CHM 145 College Chemistry Laboratory	2	■				

ECO 201 Principles of Macroeconomics <i>or</i> POL 241 American Political System	3	■				
STA 261 Statistics <i>or</i> MTH 151 Calculus I	4-5	■				
GLG 115L Understanding the Earth	1	■				
GLG 121 Environmental Geology	3	■				
GLG 244 Oceanography <i>or</i> GLG 307 Water and Society	3	■				
<i>Earn 1 Tool:</i> GIS Certificate Commerce Minor Data Intelligence Minor Forensic Investigation Minor	18-21	■				

Human Biology & Health Sciences Concentration

Course (number/name)	Cr hrs	Major	General Education (Miami Plan)	Elective	OTM TAG CTAG	New/Existing Course
MAJOR REQUIREMENTS						
BIO 115 Biological Concepts: Ecology, Evolution, Genetics, and Diversity	4	■				
BIO 116 Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4	■				
BIO 201 Human Anatomy	4	■				
BIO 203 Introduction to Cell Biology	3					
BIO 206 Evolutionary Biology <i>or</i> BIO 209 Fundamentals of Ecology	3	■				
<i>Take 3 (1 required at 400-level):</i> MBI 361 Epidemiology <i>or</i> BSC 321 Research in Applied Biology <i>or</i> BSC 416 Applications of Biotechnology to Human Health: Concepts and Issues <i>or</i> BSC 313 Microbial Diversity	9	■				
BIO 342 Genetics	3	■				
BIO 305 Human Physiology	4	■				
BSC 292 Applied Biology Sophomore Seminar: Planning Your Future in Applied Biology (Seminar I)	3	■				
BSC 492 Applied Biology Senior Seminar: Becoming a Professional Biologist (Seminar II)	1	■				
BSC 416 Applications of Biotechnology to Human Health: Concepts and Issues	3	■				
ADDITIONAL REQUIREMENTS						
CHM 141 <i>or</i> CHM 141R College Chemistry	3-4	■				
CHM 142 College Chemistry	3	■				
CHM 144 College Chemistry Laboratory	2	■				
CHM 145 College Chemistry Laboratory	2	■				
CHM 241 Organic Chemistry	3	■				
CHM 242 Organic Chemistry	3	■				
CHM 244 Organic Chemistry Laboratory	2	■				

CHM 245 Organic Chemistry Laboratory	2	■				
STA 261 Statistics or MTH 151 Calculus I	4-5	■				
PHY 161 Physics for Life Sciences with Laboratory I	4	■				
PHY 161 Physics for Life Sciences with Laboratory II	4	■				
<i>Earn 1 Tool:</i> GIS Certificate Commerce Minor Data Intelligence Minor Forensic Investigation Minor	18-21	■				

Provide a brief description of each course in the proposed program as it would appear in the course catalog. In your response, include the name and number of the course. **Submit course syllabi as appendix items.**

- 6.4 Program sequence:** Provide the intended/ideal sequence to complete the program in the Plan of Study/Roadmap table below. Add additional time period as needed.

Environmental Biology Concentration

Time Period	Curriculum component	Time period	Curriculum component
Freshman Year			
Year 1	Courses/Activities (hrs.)	Year 1	Courses/Activities (hrs.)
Fall Semester	BIO 115 (4)	Spring Semester	BIO 116 (4)
Fall Semester	ENG 111 (3)	Spring Semester	GLG 115L (1)
Fall Semester	GLG 121 (3)	Spring Semester	MPF Social Sciences (3)
Fall Semester	MPF Humanities (3)	Spring Semester	MP Global 1 (4)
Fall Semester	MPF Fine Arts (3)	Spring Semester	STA 261 (4)
Time period	Curriculum component	Time period	Curriculum component
Sophomore Year			
Year 2	Courses/Activities (hrs.)	Year 2	Courses/Activities (hrs.)
Fall Semester	BIO 206 (3)	Spring Semester	BIO 209 (3)
Fall Semester	CHM 141R (4)	Spring Semester	BSC 292 (1)
Fall Semester	CHM 144 (2)	Spring Semester	CHM 142 (3)
Fall Semester	MP Global 2 (3)	Spring Semester	CHM 145 (2)
Fall Semester	Tool 1 (3)	Spring Semester	MPF Intercultural (3)
		Spring Semester	Tool 2 (3)
Time period	Curriculum component	Time period	Curriculum component
Junior Year			
Year 3	Courses/Activities (hrs.)	Year 3	Courses/Activities (hrs.)
Fall Semester	BIO 312 (4)	Spring Semester	BIO 311 (4)
Fall Semester	BIO 342 (3)	Spring Semester	BIO 314 (4)
Fall Semester	Tool 3 (3)	Spring Semester	GLG 307 (3)
Fall Semester	Tool 4 (3)	Spring Semester	Tool 5 (3)
Fall Semester	Elective (3)	Spring Semester	Elective (3)
		Spring Semester	
Time period	Curriculum component	Time period	Curriculum component
Senior Year			

Year 4	Courses/Activities (hrs.)	Year 4	Courses/Activities (hrs.)
Fall Semester	BIO 467 (3)	Spring Semester	BIO 351 (4)
Fall Semester	ECO 201 (3) or POL 241 (3)	Spring Semester	BSC 492 (1)
Fall Semester	MP Writing (3)	Spring Semester	Tool 7 (3)
Fall Semester	Tool 6 (3)	Spring Semester	Elective (7)
Fall Semester	Elective (3)		

Human Biology & Health Sciences Concentration

Time Period	Curriculum component	Time period	Curriculum component
Freshman Year			
Year 1	Courses/Activities (hrs.)	Year 1	Courses/Activities (hrs.)
Fall Semester	BIO 115 (4)	Spring Semester	BIO 116 (4)
Fall Semester	CHM 141R (4)	Spring Semester	CHM 142 (3)
Fall Semester	CHM 144 (2)	Spring Semester	CHM 145 (2)
Fall Semester	ENG 111 (3)	Spring Semester	MPF Humanities (3)
Fall Semester	MPF Fine Arts (3)	Spring Semester	MPF Social Sciences (3)
Time period	Curriculum component	Time period	Curriculum component
Sophomore Year			
Year 2	Courses/Activities (hrs.)	Year 2	Courses/Activities (hrs.)
Fall Semester	BIO 203 (3)	Spring Semester	MTH 151 (5) or STA 261 (4)
Fall Semester	BSC 292 (1)	Spring Semester	BIO 206 (3) or BIO 209 (3)
Fall Semester	CHM 241 (2)	Spring Semester	CHM 242 (3)
Fall Semester	Tool 1 (3)	Spring Semester	CHM 245 (2)
Fall Semester	MPF Global 1 (3)	Spring Semester	Tool 2 (3)
Time period	Curriculum component	Time period	Curriculum component
Junior Year			
Year 3	Courses/Activities (hrs.)	Year 3	Courses/Activities (hrs.)
Fall Semester	BIO 201 (4)	Spring Semester	BIO 342 (4)
Fall Semester	PHY 161 (4)	Spring Semester	CHM 332 (4)
Fall Semester	MPF Global 2 (3)	Spring Semester	CHM 332L (2)
Fall Semester	Tool 3 (3)	Spring Semester	PHY 162 (4)
Fall Semester	Elective (3)	Spring Semester	Tool 4 (3)
Time period	Curriculum component	Time period	Curriculum component
Senior Year			
Year 4	Courses/Activities (hrs.)	Year 4	Courses/Activities (hrs.)
Fall Semester	BIO 464 (3)	Spring Semester	BSC 416 (3)
Fall Semester	BIO 305 (4)	Spring Semester	BSC 492 (1)
Fall Semester	Tool 5 (3)	Spring Semester	Tool 6 (3)
Fall Semester	Elective (3)	Spring Semester	Tool 7 (3)
		Spring Semester	Elective (7)

6.5 Alternative delivery options (please check all that apply):

- ☐ More than 50% of the program will be offered using a fully online delivery model
 More than 50% of the program will be offered using a hybrid/blended delivery model
☐ More than 50% of the program will be offered using a flexible or accelerated delivery model

For the purposes of this document, the following definitions are used:

- an **online course** is one in which most (80+%) of the content is delivered online, typically without face-to-face meetings;
- a **hybrid/blended course** is one that blends online and face-to-face delivery, with substantial content delivered online;
- a **flexible or accelerated program** includes courses that do not meet during the institution's regular academic semester (fall or spring) as well as courses that meet during the regular academic term but are offered in a substantially different manner than a fixed number of meeting times per week for all the weeks of the term.

6.6 Off-site program components (please check all that apply):

- ☒ Co-op/Internship/Externship
☐ Field Placement
☐ Student Teaching
☐ Clinical Practicum
☐ Other

If one or more of the items is checked, please provide a brief description of the off-site component(s).

The Department of Biological Sciences has reached out to and consulted with regional companies including TRC, an engineering, environmental consulting and construction management firm that provides services to the energy, environmental, and infrastructure markets; Q Laboratories, a microbiological and analytical chemistry testing facility providing testing services for food, cosmetics, pharmaceuticals and OTC products; and Medpace, a clinical research organization conducting global clinical research for the development of drugs and medical devices. These companies provide competitive internship opportunities for Applied Biology majors in both concentrations of Environmental Biology and Human Biology & Health Sciences.

SECTION 7: ASSESSMENT AND EVALUATION

7.1 Program assessment

Assessment efforts are directed by the Office of the Provost and the Center for the Enhancement of Learning, Teaching and University Assessment. Because of the accreditation standards of the Higher Learning Commission, each department and program at Miami University is required to implement a full cycle assessment program for each undergraduate major, general education, free-standing certificates, and all graduate programs.

Each major or degree program specifies at least three learning outcomes to assess. Each year, data is collected and analyzed related to the outcomes and used for program

improvement. When beginning the process of assessment for the first time, departments and programs create an assessment plan for each degree program or major. Annually or biennially, the assessment data for the three or more learning outcomes are analyzed and discussed and plans for improving teaching and learning based upon those findings should be put in place. The summary of the data collected, the analysis and the steps for improvement are recorded in an assessment report which is submitted each year. Plans and reports are reviewed regularly by divisions.

Please see <http://www.units.MiamiOH.edu/celt/assessment/guidelines.php> for details about how your proposed assessment plan will be reviewed.

Is your program externally accredited? If yes, does the external body require the program to do **direct assessment of student work showing student achievement of your stated learning outcomes**? If so, please provide a copy of the assessment requirements/plan to the university assessment coordinator. If not, please answer all the following questions:

- List at least 3 specific student learning outcomes (SLOs) that the students are expected to achieve by the time they complete the program. If the program includes liberal education course(s), articulate any specific linkages between your stated SLOs and Miami Plan principles or competencies.

SLO #1. Acquire and apply foundational knowledge, concepts, and theories in biology.

SLO #2 Collect, synthesize, and critically evaluate information in order to suggest solutions to environmental and human health-related problems.

SLO #3 Acquire a broad range of tools that can be applied in research and in the workplace to solve biological problems.

SLO #4 Earn professional certifications in order to increase employment prospects.

As the students accomplish these SLOs, they will also compete the Global Miami Plan.

Together with their focus in Applied Biology, students will become independent critical thinkers with strong written communication skills, ready to integrate and apply their knowledge society's greatest problems.

- Identify courses (and examinations or assignments within them) or other culminating projects where these outcomes are emphasized and can be measured, especially near the point of graduation. If relevant, specify any licensing or external exams you intend to use.

SLO #1. As with a traditional biology program, the foundational knowledge will build over the program curriculum. At each level, courses will build on the basic knowledge from earlier courses. For example, students in the environmental biology concentration will expand on the basics from BIO 115 & 116 in BIO 206 (Evolutionary Biology) and BIO 209 (Fundamentals of Ecology), whereas students in the Human Biology & Health Sciences concentration will build their understanding of organismal function in BIO 203 (Cell Biology) and BIO 305 (Human Physiology). Instructors will deploy pre- and post- tests in each section every other year that address specific course SLOs that relate to content.

SLO #2. All senior level classes (i.e., 400 level) will include a project that requires students to assemble and analyze information relating to a current real-world problem. In some cases, students may collect and analyze real world data and in other instances they may gather information through the literature, interviews, or the use of real world databases. Their projects will be assessed using the Miami Plan critical thinking evaluation tool. The reports they prepare will be assessed using the Miami Plan written communication evaluation tool.

SLO #3 Students in each concentration will take field or laboratory courses where they learn modern techniques for addressing environmental or human health related questions. Their

success in mastering these tools will be reflected in their grades for these courses. Their competency in deploying these tools will emerge in the project that they complete for their capstone experience.

SLO #4 Students will obtain a certificate or minor in association with the Applied Biology degree. In the sophomore seminar course, they will also earn a 10 hour OSHA certification (or equivalent) and in the senior seminar course they will earn the 40 hour OSHA - HAZWOPER certification (or equivalent). Consultation with alumni, the BSC Advisory Council, and current and potential employers will allow us to add additional certification programs as appropriate.

- **Describe how you intend to evaluate the learning outcomes by means of the assignment(s)—e.g., rubric(s) or answer key(s) to exam.**

Each of our senior level classes (400 level) will include a project that requires students to assemble and analyze information relating to a current real-world problem. An example of an applied biology assignment used by our faculty in capstone courses is attached (please see BSC example assignment).

Instructors of at least half of the sections of these classes will evaluate the projects using the critical thinking and written communication rubrics designed by the Liberal Education Council (Please see "Rubric GMP critical thinking" and "Rubric GMP written communication" attached) These rubrics capture key components of SLOs #1, #2 and #3. In addition, we have developed a rubric for the assessment of applied biology projects (please see "Rubric BSC Science" attached). This rubric will be deployed to assess the laboratory report that students prepare in the second semester course of the first year (BIO 116 in Hamilton and BIO 115 in Middletown). This same rubric will be used to assess the final projects in at least half of the capstone sections in any given year. This rubric captures key components of SLOs #1, #2 and #3.

Data collected from all of these rubrics will be analyzed using the multivariate approach recommended by Weber (2009) Quantifying Student Learning: How to analyze assessment data. Ecology101, a publication of the Ecological Society of America doi: 10.1890/0012-9623-90.4.501

- **Describe the sampling procedure. What percentage of your student body will comprise your sample? If the sample size is small, make the case that they adequately represent the whole.**

As mentioned above, we will assess all of the laboratory reports of students in the spring semester of our introductory biology sequence. This should include all of students in the Applied Biology major (except those who transfer credits in or received AP credit), as well as a number of students majoring in Biology, Zoology, Botany, or Microbiology in the College of Arts and Science (total approximately 120 students). We will deploy our science rubric ("Rubric BSC Science" attached) again in the final project in at least half the sections of our 400 level courses. In addition, the critical thinking and written communication rubrics of the LEC will be applied to assignments in capstone courses (both rubrics are attached). We believe this will capture more than 60% of our Applied Biology majors (approximately 75 students at the senior level). If this proves insufficient, we will increase our evaluative efforts.

Data collected from all of these rubrics will be analyzed using the multivariate approach recommended by Weber (2009) Quantifying Student Learning: How to analyze assessment data. Ecology101, a publication of the Ecological Society of America doi: 10.1890/0012-9623-90.4.501

- **Describe how you intend to collect student perceptions of their achievement of the program learning outcomes.**

Students will complete process controlled instructor evaluations in each course that contain standard questions stipulated by the university and the division. The instructors will add questions to address specific aspects of SLOs associated with their course. Students will be asked to react to each of the four SLOs associated with the Applied Biology major in their evaluation of BSC Seminar II, which is taken in the senior year.

In addition, we will ask students to complete a free-writing reflection reacting to their experience in the major as the final assignment in BSC Seminar II. At this time, they will be asked to discuss the knowledge acquisition, critical thinking abilities and estimate the importance of the tools they have acquired.

We will work with the regional Career Services and Professional Development Office as well as the CLAAS Alumni Office and the BSC Advisory Council, to solicit feedback from our graduates and from regional employers. Through formal surveys and informal conversations, we will attempt to respond quickly to changing employment needs and to keep our curriculum current. We expect to reach at least 20% of those who have graduated within five years and to solicit input from at least 10 regional employers over that same 5 year period.

- **Describe your plans for regular (annual or biennial, depending on program size) collection and summary of data.**

We will assess the laboratory report of each student in the second semester of the introductory biology course each year with Rubric BSC Science (attached). Projects from one-half of all 400 level courses will be assessed for science applications, critical thinking and written communication each year (rubrics attached). Alumni and employers will be contacted at least every two years.

The curriculum committee will ensure that data are collected and compiled to support continuous improvement. Short annual assessment reports will be prepared each year. Comprehensive reports will be prepared every five years as a part of the university program review.

Written works from each capstone course or writing intensive biological science course each year will be collected, analyzed, and assessed for meeting learning outcomes. Alumni surveys will be administered every other year.

- **Describe your plans for a regular faculty meeting in which faculty discuss assessment data findings and make plans for improvement of teaching and learning based upon the data.**

The annual assessment reports will be distributed to the full-time faculty. The findings will be discussed at a faculty meeting and changes in the assessment approach, improvements of the rubrics, and/or alterations in our courses will be made as needed.

- **Identify who will be responsible for creating and submitting an annual assessment report to the assessment coordinator at the end of each academic year.**

The Curriculum Committee, composed of biological sciences faculty under the direction of the department chair, will be responsible for creating and submitting the annual assessment report.

7.2 Other means of measuring student success

In addition to program assessment, describe the other ways that individual student success in the proposed program will be measured (e.g., exit interviews, job placement, alumni surveys). Describe the measurements to be used, frequency of data collection and how the results will be shared and used for program improvement.

The Miami University Retention Committee with the support of The Office of the Provost and the Office of Institutional Research (OIR) guides and implements the university's student success evaluation and assessment. Student success is measured through national surveys and projects (e.g., the National Survey of Student Engagement, CIRP Freshman survey, Collegiate Learning Assessment, College Senior Survey, Your First College Year, HERI Faculty Survey, Faculty Survey of Student Engagement, and the Voluntary System of Accountability) as well as in-house graduate survey and alumni survey.

Process control student evaluations will be conducted in all classes with questions added to reflect the SLOs of each BSC class. In addition, faculty will make use of Small Group Instructional Diagnosis (SGID) sessions offered by the Center for Teaching and Learning. These reports solicit feedback from students in the middle of the semester so that modifications can be made in the course format or structure to better meet the needs and desires of the students.

The regional Career Services and Professional Development Office as well as the CLAAS Alumni Office and the BSC Advisory Council will help us obtain feedback from our graduates and from regional employers. Through formal surveys and informal conversations, we will attempt to respond quickly to changing employment needs and to keep our curriculum current. We expect to reach at least 20% of those who have graduated within five years and to solicit input from at least 10 regional employers over that same 5 year period.

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Course-level data from end-of-course evaluations, pre/post knowledge assessments, and SGID data will be collected each semester and compiled. Alumni data will be collected near graduation and biannually thereafter. The Office of Institutional Research (OIR) data are available annually.

All data will be updated as collected. Assessment reports will be discussed and changes made with an eye for continuous improvement. The Department of Biological Sciences is committed to preparing students to be able to apply their knowledge of biology immediately upon graduation. This goal means we must be responsive to the needs of our students and of the employers in the region.

SECTION 8: FACULTY

8.1 Faculty appointment policies

Describe the faculty designations available (e.g., professor, associate professor, adjunct, instructor, clinical, etc.) for the proposed program's faculty. In your response, define/describe the differences between the designations.

Faculty teaching in this program hold an array of ranks, including Professor, Associate Professor, Assistant Professor (tenure-track), Visiting Assistant Professor (VAP), Lecturer, and Adjunct Instructor. Tenured and tenure-track faculty have teaching, research and service responsibilities at the institution. VAPs and Lecturers have teaching and service responsibilities, but are not expected to have an active research agenda. Adjuncts, typically professionals working in the field, have responsibilities limited to the courses taught.

Describe the credentialing requirements for faculty who will be teaching in the program (e.g., degree requirements, special certifications or licenses, experience, etc.).

The majority of the course instruction will be conducted by faculty holding doctoral degrees in biology or a biology-related field. Some courses may be taught by individuals' holding a minimum of a Master's degree in biology or a biology-related field.

Describe the institution's load/overload policy for faculty teaching in the proposed program.

No new faculty will be required to offer this degree. Existing faculty in the Department of Biological Sciences (9 Associate/Full Professors; 3 full-time VAPs, and 1 full-time staff member with a 1/4 time instructional appointment) are able to offer all courses in biology (BIO), microbiology (MBI), and biological sciences (BSC) that includes 7 new course in BSC. The ability to offer all courses in the major may require some faculty to teach the required courses in the Applied Biology major rather than teach courses not required for the major. For example, a BSC faculty member who has taught BIO 161 Human Physiology (a non-majors course) will be required to teach a course in the Applied Biology major and the BIO 161 will be covered by a part-time instructor. It should also be noted that not all courses for the Applied Biology major will be offered every year. Some upper-level courses will be offered every other year to in order to maximize enrollment, which allows existing faculty members to cover the courses in the major. However, we do foresee hiring tenure-track faculty to replace retiring faculty and 1-2 new tenure-track faculty as the program grows.

Indicate whether the institution will need to identify additional faculty to begin the proposed program. If additional faculty members are needed, describe the appointment process and provide a timeline for hiring such individuals.

[MUPIM 6.5 Overload Teaching](#)

8.2 Program faculty

Provide the number of existing faculty members available to teach in the proposed program.

Full-time: 12

Less than full-time: 1

Provide an estimate of the number of faculty members to be added during the first two years of program operation.

Full-time: 1-2

Less than full-time: 0

8.3 Expectations for professional development/scholarship

Describe the institution's general expectations for professional development/scholarship activities by the proposed program's faculty. In your response, describe any differences in the expectations for tenure-track vs. non tenure-track faculty and for full-time vs. part-time faculty. Indicate the financial support provided for such activities. **Include a faculty handbook outlining the expectations and documenting support as an appendix item.**

All tenured and tenure-track faculty are expected to continue teaching and scholarly development throughout their careers. Lecturers are expected to engage in teaching development. All faculty members are evaluated annually based on their assigned responsibilities.

Miami has a rich array of professional development resources. Through the Oxford Campus' Center for Teaching Excellence, faculty members are offered considerable teaching and learning workshops, as well as small grants to support teaching improvement, every semester. The Miami regional campuses have one regionalized Center for Teaching and Learning that serves both campuses. Many of these opportunities are open to part-time faculty as well.

The University and campuses also provide support, through workshops, mentoring programs, start-up funds, and grants for traditional scholarship of discovery activities.

Because the campuses are committed to serving Ohio and the communities in which they live, scholarly service and public scholarship are also supported. Each regional campus has a center for civic engagement and a downtown center that offer support for faculty who are interested in this type of work by making connections between a faculty member's area of expertise and needs in the community; providing fellowships to seed the work, assisting faculty in understanding the place for the work in Miami's tenure, promotion, and evaluation system, and providing a venue for faculty- led discussions and other work.

All tenured faculty have opportunities to periodically apply for and receive Assigned Research Appointments and Faculty Improvement Leaves, which provide opportunity for longer term scholarship, service, and professional development projects. All faculty on the tenure track are guaranteed an improvement leave, often taken during the third year of the tenure track. The regional campuses also provide support for scholarly

activities through departmental travel budgets.

http://www.miamioh.edu/_files/documents/secretary/MUPIM.pdf

8.4 Faculty matrix

Complete a faculty matrix for the proposed program. A faculty member must be identified for each course that is a required component of the curriculum. If a faculty member has not yet been identified for a course, indicate that as an “open position” and describe the necessary qualifications in the matrix (as shown in the example below). **A copy of each faculty member’s CV must be included as an appendix item.**

SECTION 9: LIBRARY RESOURCES

Librarian representative to do: http://www.lib.MiamiOH.edu/subject_librarians/

9.1 Library resources

Describe the involvement of a professional librarian in the planning for the program (e.g., determining adequacy of current resources, working with faculty to determine the need for additional resources, setting the budget for additional library resources/services needed for the program).

The Director of the Gardner-Harvey Library at Miami University Middletown, John Burke and the Director of the Rentschler Library at Miami University Hamilton, Krista McDonald, were consulted concerning the resources available for courses in the program and have committed to supporting courses by enhancing student understanding of the use of the library and literature in applied biology.

Describe the library resources in place to support the proposed program (e.g., print, digital, collections, consortia, memberships, etc.).

The regional campuses have their own libraries. Additionally, students, faculty, and staff have access to resources provided by Miami libraries on all University campuses. The regional campus libraries are also members of the Ohio LINK statewide consortium. These two affiliations and the local resources available to the regional libraries include 180 periodical databases, over 80,000 full-text periodicals, 11.5 million unique books, DVDs, and related items, and over 55,000 e-books on a wide variety of topics.

The regional libraries are committed to supporting the classroom mission of instructors in the program by helping students become self-sufficient information seekers. The instruction offered is based on the Information Literacy Competency Standards for Higher Education as established by the Association for College and Research Libraries. The goal is to promote these professionally recognized standards as a foundation for all Miami University regional students.

Regional library staff members offer a range of instructional services to assist students and support courses: (1) classroom information literacy sessions that are specially tailored to fit the needs of students in the course, (2) the embedded librarian program, which involves placing a librarian (with links to databases, tutorials, and other course-specific resources) in the course management system to assist students at their point of need (both face-to-face and web-based courses can have embedded librarians); and (3) one-on-one research consultations in which students can confer with a librarian for assistance with search strategies and knowledge of useful resources.

Regional library staff members will also stay in touch with department chairs to see if faculty instruction sessions or workshops are needed.

Describe any additional library resources that will be needed to support the request and provide a timeline for acquiring/implementing such services. Where possible, provide a list of the specific resources that the institution intends to acquire, the collaborative arrangements it intends to pursue, and monetary amounts the institution will dedicate to the library budget to support and maintain the proposed program.

The current collection, OhioLink, and other online resources currently available are more than adequate to support the proposed program.

SECTION 10: BUDGET, RESOURCES, AND FACILITIES

10.1 Resources and facilities

List the facilities/equipment currently available for the program. Where possible, provide a list of the specific resources that the institution intends to acquire, the collaborative arrangements it intends to pursue, and monetary amounts the institution will dedicate to the library budget to support and maintain the proposed program.

The only physical resources that will be needed to support the proposed program will be classrooms and laboratory space, and the regional campuses currently have adequate classroom and laboratory space. Additionally, the laboratory equipment required to run laboratory exercises for all proposed classes in the new degree program is currently available.

Describe the institution's intent to incorporate library orientation and/or information literacy into the proposed program. In your response, describe any initiatives (e.g., seminars, workshops, orientations, etc.) that the institution uses or intends to use for faculty and students in the program.

The Applied Biology degree will incorporate the library staff in BSC 292 Seminar I to introduce tools for conducting literature searches in science, and in BSC 492 Seminar II in order to develop an in-depth understanding of scientific literature.

10.2 Budget/financial planning:

Complete the table on the following page to describe the financial plan/budget for the first three years of program operation.

Fiscal Impact Statement for New Degree Programs

	Year 1	Year 2	Year 3	Year 4
I. Projected Enrollment				
Headcount full time	20	40	60	80
Headcount part time	10	20	30	40
Full-time equivalent (FTE) enrollment	25	50	75	100
II. Projected Program Income				
Tuition (paid by student or sponsor)	\$116,910	\$233,820	\$350,730	\$467,640
Expected state subsidy	\$62,500	\$125,000	\$187,500	\$250,000
Externally funded stipends, as applicable	None	None	None	None
Other income (if applicable, describe in narrative section below)	None	None	None	None
Total Projected Program Income	\$179,410	\$358,820	\$538,230	\$717,640
III. Program Expenses				
New Personnel				
<ul style="list-style-type: none"> Instruction (technical, professional and general education) Full _____ Part Time _____ Non-instruction (indicate roles in narrative section below) Full _____ Part time _____ 	0 FT 0 PT	0 FT 0 PT	0 FT 0 PT	0 FT 0 PT
New facilities/building/space renovation (if applicable, describe in narrative section below)	None	None	None	None
Scholarship/stipend support (if applicable, describe in narrative section below)	None	None	None	None
Additional library resources (if applicable, describe in narrative section below)	None	None	None	None
Additional technology or equipment needs (if applicable, describe in narrative section below)	None	None	None	None
Other expenses (if applicable, describe in narrative section below)	None	None	None	None
Total Projected Expense	\$0	\$140,000	\$140,000	\$305,000

Budget Narrative:

Use narrative to provide additional information as needed based on responses above.

The Bachelor of Science degree in Applied Biology will utilize existing faculty, courses, and other resources resulting in the reduction of expenses for a new degree offering. No new faculty will immediately be required to launch the degree. Recruitment of new full-time faculty will be required with expected increases in enrollment and retention. This is

likely to occur after the second year of offering the degree. The proposed degree program will not require any new physical facilities beyond what is already available on the regional campuses including both classroom and laboratory space. Additionally, the laboratory equipment required to run laboratory exercises for all proposed classes in the new degree program is currently available.

APPENDICES

Please note that the institution is required, at a minimum, to submit the following the items as part of the review:

Results of recent accreditation reviews	Course syllabi
Organizational Chart	Faculty CVs
Faculty/student handbooks (or link)	Current catalog (http://bulletin.miamioh.edu/)

Appendix	Description
A	BSC Governance 2017
B	BSC Dept. Chair CV
C	BSC example Assignment
D	Rubric BSC Science
E	Rubric GMP Critical Thinking
F	Rubric GMP Written Communication
G	Courses of Instruction
H	Faculty Matric
I	Faculty CVs
J	CUC Approval

Miami University is committed to continual support of the delivery of the [DEGREE] in [MAJOR]. If Miami University decides in the future to close the program, the university will provide the necessary resources and means for matriculated students in the program to complete their degree.

Miami University verifies that the information in the application is truthful and accurate.

Respectfully,

Phyllis Callahan
Provost and Executive Vice President for Academic Affairs
Miami University

Department Chair/Program Director Approval and Forwarding:

Name: Paul Harding	Email: hardinpa@miamioh.edu	Phone:
1 513 727 3447	Date: 	

Department Chair/Program Director approval indicates that the program and its student learning outcomes will be assessed in accordance with the department's/program's overall assessment plan.

Divisional Dean approval indicates that the new program fits into the mission of the division, and that any overlap between the courses and other extant courses in the divisional curriculum has been identified and any related concerns resolved. By approving, the Dean (A) takes oversight responsibility for ensuring that the new program meets divisional standards for rigor, (B) indicates a recognition and acceptance of the staffing model and implications, and (C) forwarding of other related resource issues, when approved.

When approved by the Dean, following the divisional curriculum approval, forward for Registrar action within the curriculum approval process.

Please submit completed approved forms (in Microsoft Word) via e-mail to:
courseapproval@MiamiOH.edu

NOTE: New Degrees: This form requires approval by the department/program, division, CUC or Graduate Council, COAD, a vote by University Senate plus ten (10) class days for review, the President, the Miami University Board of Trustees and the Ohio Board of Regents (see MUPIM, Section 11). Upon submission of this form, the Office of the University Registrar will verify the information and forward this request to the appropriate contact.

NOTE: New Majors: This form requires approval by the department/program, division, CUC or Graduate Council, COAD and a vote by University Senate plus ten (10) class days for review (see MUPIM, Section 11). Upon submission of this form, the Office of the University Registrar will verify the information and forward this request to the appropriate contact.

Department of Biological Sciences Miami University

I. MISSION

The mission of the Department of Biological Sciences is to provide scientific education to regional students in the biological sciences through outstanding instruction, research, and professional experiences. Our students will be broadly trained as scientists, educators, and practitioners who work to improve human health, enhance environmental sustainability, and promote public understanding of the life sciences.

II. VISION

Our vision is to be the premier biological sciences department offering a bachelor's degree on the I-75 corridor recognized for teaching and experiential learning in emerging areas ranging from environmental to molecular and cell biology.

III. ADMINISTRATION

A. General Business

The business of the Department of Biological Sciences is conducted by the qualified faculty. The qualified faculty comprise full-time individuals with some instructional duties. This includes lecturers, assistant, associate, and full professors as well as staff members that regularly contribute to our teaching efforts. Hereafter, when this document refers uses the term "faculty" it means the qualified faculty.

Departmental business is conducted at meetings of the faculty. A quorum shall consist of no less than fifty percent (50%) of the qualified members. A simple majority of those voting is sufficient to pass a general business motion unless a procedure to the contrary has been established. Typically, a voice or hand vote is deployed, however a written ballot can be requested by any faculty member. Any item can be deemed major business by a member of the faculty and, those items so designated require a one week waiting period prior to a vote. Minutes of the meetings are distributed prior to the following meeting and must be approved by a majority of the faculty members at a subsequent meeting.

Exceptions to the above voting rules are in place for promotion, tenure and changes in the governance of the department. Voting on recommendations for faculty promotion is limited to members of the faculty holding the considered rank or higher. Voting on recommendations and evaluations pertaining to tenure are limited to tenured faculty members. Changes in the governance document requires a two-thirds (2/3) majority of the qualified faculty.

B. The Chair

The lead administrator for the Department of Biological Sciences is the Chair. The Chair must have a terminal degree in the biological sciences or a related discipline. The Chair works in close harmony and communication with the members of the department. The role of the Chair is to lead the department in program and policy formulation in addition to promoting the strength and abilities of the faculty, staff, and students in the biological sciences. The Chair manages the affairs of the department and provides leadership to ensure that the department's interests are represented throughout the university and the community. The chair is obliged to manage departmental resources consistent with the needs and priorities of the Department, and the University. The chair provides faculty with feedback on their performance, makes teaching assignments, authorizes faculty workloads, and makes recommendations regarding salary improvements to the Dean.

C. Relationship to Cognate Departments in the College of Arts and Science

The Department of Biological Sciences values close relationships with the Departments of Biology and Microbiology. All tenure-track and tenured faculty members in the Department of Biological Sciences participate fully in their affiliate department in the College of Arts and Science. It is recognized that students from all campuses move between the undergraduate programs offered by these three departments and the department supports their ability to complete the degree they chose.

D. Committee Structure

Most general business of the Department of Biological Sciences is handled by the qualified faculty as a whole. Committees for specific tasks are established by the Chair and the faculty on an ad hoc basis. Below are listed the standing committees.

1. Curriculum Committee.

The role of the Curriculum Committee is to develop and review proposals for programs and courses that are housed within the Department of Biological Sciences or that affect the offerings of the department in a significant manner. Specifically, this committee works with the faculty as they generate and submit documents to ensure that curriculum proposed by the Department progress through the University review process successfully.

2. Awards Committee.

The role of the Awards Committee is to ensure that our faculty, staff, and students are recognized for their achievements. The committee identifies and nominates faculty and staff for College, University, and other honors. In addition, they review undergraduate nominations and proposals in order to make recommendations for awards and scholarships.

3. Personnel Committee.

The role of the Personnel Committee is to enact all procedures relating to departmental membership, including adjunct and affiliate status, and promotion and tenure (see Section V).

IV. HIRING PROCEDURES

A. Tenure-track Faculty Searches

1. The faculty discuss and develop and prioritize the specifications for new faculty positions. The Department Chair presents a formal justification for the position to the appropriate Dean(s).
2. The Department Chair in consultation with the faculty of Biological Sciences and the Steering Committee of the Department of Biology and/or the Department of Microbiology appoints a search committee. The committee includes at least five (5) individuals.
 - a. The Chair of the committee is always a tenured member of the Department of Biological Sciences
 - b. At least two (2) others selected from the qualified faculty in the Department of Biological Sciences.
 - c. At least one (1) other member selected from the faculty of the Department of Biology or the Department of Microbiology.
 - d. One or more additional members, which may include graduate and undergraduate students, is added as appropriate to the expertise targeted by the position description.
3. The advertisement is developed by the Department Chair and submitted to the Department for modifications and approval. The Department Chair and Search Committee are responsible for ensuring that the entire search process is in full compliance with the University's "Procedures and Information for Recruiting and Hiring Tenured and Tenure-Track Faculty".
4. The search committee develops a list of acceptable candidates and the qualified faculty discuss and approve a ranked list. All faculty have access to applications and are encouraged to provide input and recommendations to the search committee over the course of the search.
5. Once the University administration has approved the ranked list of candidates, interviews are scheduled. Unless otherwise stipulated by the faculty, interviews should include the following:
 - a. A research seminar in the Department of Biology or the Department of Microbiology at a time when most members of the Department of Biological Sciences can attend.
 - b. Opportunities for meetings with members of the Department of Biological Sciences, the Department of Biology and the Department of Microbiology.
 - c. Opportunities for meetings with students.

- d. Meetings with the Department Chair(s) and the Dean(s) or their designate.
 - e. Teaching discussion or presentation on one of the regional campuses.
6. Following interviews, the search committee solicits input from all constituents and develops a ranked list of acceptable candidates to bring to the qualified faculty for discussion and possible amendment. The qualified faculty vote on a final ranked list.
 7. Once the list is approved by the appropriate Dean, the Department Chair works with the top-ranked candidate to develop the terms for employment. If the top candidate declines, the Department Chair will move down the list of approved candidates until an agreement of employment is obtained. If unsuccessful with the ranked candidates, the Department Chair returns to the faculty to consider whether to establish another ranked list from the applicant pool or to decide the search has failed.

B. Non-tenure-track Faculty or Staff Searches

1. In consultation with the qualified faculty, Department Chair appoints a Search Committee of at least three members. The Chair of the Search Committee is always a member of the faculty. The search committee develops a position description and advertised which is then approved by the faculty.
2. The position is posted and advertised in accordance with the university guidelines as an Equal Opportunity-Affirmative Action Employer. All application files are available to the qualified faculty who are welcome to provide input to the search committee. The search committee reviews applications and develops a list of individuals to be invited for interviews.
3. Interviews include meetings with the search committee and any interested members of the faculty, staff, and administration. Candidates for positions that include teaching obligations give a public presentation.
4. The Search Committee solicits input from the department and others who have met with the candidates after which time they develop a ranked list. The list is shared with the faculty before an offer is made.
5. The Department Chair or the Chair of the Search Committee, in consultation with the Office of the Dean, contacts the top candidates to negotiate an offer. If a hiring agreement is reached, the appropriate materials are submitted to complete the hiring process. If unsuccessful, the search committee return to the applicant pool or determine that the search has failed.

V. PROMOTION AND TENURE

A. Criteria for Promotion to Associate Professor and Tenure

The Department of Biological Sciences is committed to the success of our colleagues. The following guidelines aim probationary faculty members in making progress towards achieving promotion and tenure. Candidates are required to meet the criteria enumerated in the Miami University Policy and Information Manual (MUPIM; <http://www.muohio.edu/mupim>) in order to garner a positive recommendation for tenure. In addition, Probationary faculty members receive annual written evaluations by the departmental Personnel Committee and the Department Chair.

1. *Teaching and Academic Advising*

a. Expectations

- i. Faculty are expected to demonstrate high quality teaching at multiple levels including major and non-major courses.
- ii. Active participation in advising students in our programs and mentoring them as they move through our program.
- iii. Mentorship of students in independent studies or other learning experiences such as internships and practicums.
- iv. Additional evidence of pedagogical involvement may include participation in new course and curriculum development, pedagogical research, and other means of improving courses such as funding from fellowships and grants to enhance learning outcomes.

b. Evaluation/documentation for inclusion in annual reports

- i. Student evaluations for each course taught. Peer evaluation by at least one colleague each semester. Quality teaching may be further documented through other means.
- ii. A list of the number of advisees and contributions to formal and informal advising programs. Extra activities such as workshops or advisory materials developed can be included. An estimate of the time committed to advising can be included.
- iii. Student mentorship activities should be documented, including such things as presentations, new opportunities, project descriptions, publications.
- iv. Efforts to improve teaching may be evidenced by reporting participation in workshops and programs designed to enhance teaching effectiveness.

2. *Research and Scholarship*

a. Expectations

- i. Establish a high quality research program.
- ii. Publications in peer-reviewed journals based on research conducted while at Miami University.
- iii. Scholarly work presented regularly at regional, national, and international meetings.
- iv. Regularly seek external funding for scholarly activities.

b. Evaluation/documentation for inclusion in annual reports

- i. Prospective continuation in scholarship should be evidenced by the development of a focused research program that includes peer-reviewed publications of work accomplished while at Miami University.
- ii. Quality of publications should be established through a variety of means, such as documenting journal rankings, impact factors, journal circulation, or numbers of citations of articles. A clear indication of the candidate's specific contribution in co-authored publications should be provided.
- iii. List of presentations from the research group including presentations of students or collaborators with details as to the nature of the venue.
- iv. All grant proposals submitted should be listed. Information on granting agency, amount requested, and funding outcome should also be included.

3. *Professional Activities*

a. Expectations

- i. Participation in departmental committees as well as in college or university committees.
- ii. Service to the profession. Examples include meeting/symposium organizer, editor of a journal, officer in a professional organization, and reviewer of manuscripts, grant proposals, theses and books, as well as service on regional, national, or international panels.
- iii. Service to students such as academic advising, student-aimed programing or working with student organizations.
- iv. Participating in the community as a representative of the university, or activities that contribute to the public welfare and call upon the faculty member's expertise as a scholar or teacher.

b. Evaluation/documentation for inclusion in annual reports

- i. Activities should be listed and described. Include an estimate of time committed to each activity.
- ii. Letters of thanks or certifications of participation.
- iii. Indications of the impact of the activities such as number or diversity of participants reached or any measure of outcome of a program or activity.

4. Collegiality

It is expected that all faculty be collegial, as defined in MUPIM.

B. Criteria for Promotion to Full Professor

1. *Teaching and Academic Advising*

a. Expectations

- i. Faculty are expected to demonstrate excellent teaching at multiple levels including major and non-major courses.
- ii. Active participation in advising students in our programs and mentoring them as they move through our program.
- iii. Mentorship of students in independent studies or other learning experiences such as internships and practicums.

- iv. Additional evidence of pedagogical involvement may include participation in new course and curriculum development, pedagogical research, and other means of improving courses such as funding from fellowships and grants to enhance learning outcomes.
- b. Evaluations/documentation for inclusion in the dossier
 - i. Student evaluations for each course taught. Peer evaluations for several courses over several years. Quality teaching may be further documented through other means.
 - ii. A list of the number of advisees and contributions to formal and informal advising programs. Extra activities such as workshops or advisory materials developed can be included. An estimate of the time committed to advising can be included.
 - iii. Student mentorship activities should be documented, including such things as presentations, new opportunities, project descriptions, publications.
 - iv. Efforts to improve teaching may be evidenced by reporting participation in workshops and programs designed to enhance teaching effectiveness.

2. *Research and Scholarship*

- a. Expectations
 - i. An excellent research record that includes high quality peer-reviewed publications
 - ii. Regular presentations at regional, national and/or international meetings.
 - iii. An active record of soliciting funding for scholarly activities.
- b. Evaluations/documentation for inclusion in the dossier
 - i. List of publications. Quality of publications should be established through a variety of means, such as documenting journal rankings, or numbers of citations of articles. A clear indication of the candidate's specific contribution in co-authored publications should be provided.
 - ii. List of presentations from the research group including presentations of students or collaborators with details as to the nature of the venue
 - iii. List of all grant proposals submitted. Information on granting agency, amount requested, and funding outcome should also be included.

3. *Professional Activities*

- a. Expectations
 - i. Participation in departmental committees as well as in college and university committees.
 - ii. Service to the profession. Examples include meeting/symposium organizer, editor of a journal, officer in a professional organization, and reviewer of manuscripts, grant proposals, theses and books, as well as service on regional, national, or international panels.
 - iii. Service to students such as academic advising or working with student organizations

- iv. Participating in the community as a representative of the university, or activities that contribute to the public welfare and call upon the faculty member's expertise as a scholar or teacher.
 - b. Evaluation/documentation for inclusion in the dossier
 - i. Activities should be listed and described. Include an estimate of time committed to each activity.
 - ii. Letters of thanks or certifications of participation.
 - iii. Indications of impact such as number or diversity of participants reached or any measure of outcome of a program or activity.
4. *Collegiality*
It is expected that all faculty be collegial, as defined in MUPIM.

C. Procedure for Evaluation for Promotion and Tenure

The procedure for consideration of faculty eligible for promotion and tenure follows the procedures, policies, and criteria specified in MUPIM. Details of that process are not duplicated here.

The Personnel committee reviews the annual report of each pre-tenure faculty and provide a letter of evaluation. Input on a draft of that letter is solicited from the applicant and the personnel committee in the Department of Biology or Department of Microbiology (as appropriate). Revisions are made in light of this input. The Chair also provides a written evaluation of the candidate.

Individuals eligible for promotion and/or tenure must inform the chair of their desire to be formally considered in the spring semester. Once the dossier is submitted and the outside letters have been received, the departmental Personnel Committee prepares a draft recommendation. The draft and supporting documentation is available for review and comment by the applicant and colleagues at the rank being sought or above in the Department of Biology or Department of Microbiology (as appropriate) for five business days. If revisions are made, then a new draft is made available for an additional five days. Once final revisions are made, the letter is voted on by the Personnel Committee. The Department Chair writes an independent letter which contains their recommendation.

VI. EVALUATION OF LECTURERS/CLINICAL FACULTY AND VISITING FACULTY

A. Criteria for success

- 1. Teaching and Academic Advising
 - a. Expectations
 - i. Faculty are expected to demonstrate excellent teaching and show leadership in continuing to improve our offerings.

- ii. Active participation in advising students in our programs and mentoring them as they move through their degree.
 - iii. Additional evidence of pedagogical involvement may include participation in new course and curriculum development, pedagogical research, and other means of improving courses such as funding from fellowships and grants to enhance learning outcomes.
 - b. Evaluations/documentation for inclusion in the dossier
 - i. Student evaluations for each course taught. Peer evaluation by at least one colleague for at least one course each calendar year. In addition, quality teaching may further be documented through other means.
 - ii. Documentation or descriptions of course improvements or mentoring others in improving our offerings.
 - iii. Evidence of regular participation in student advising including numbers of students, the variety of programs and an estimate of the time commitment involved.
 - iv. Efforts to improve teaching may be evidenced by participation in workshops and programs designed to enhance teaching effectiveness.
2. Other Professional Activities
- a. Expectations
 - i. Participation in departmental committees as well as in college and university committees.
 - ii. Service to the profession. Since the excellence in teaching is the primary focus of these positions, faculty should consider their discipline broadly and this would overlap with the pedagogical involvement mentioned above.
 - iii. Service to students such as academic advising or working with student organizations.
 - iv. Participating in the community as a representative of the university, or activities that contribute to the public welfare and call upon the faculty member's expertise as a scholar or teacher.
 - b. Evaluation/documentation for inclusion in the dossier
 - i. Activities should be listed and described. Include an estimate of time committed to each activity.
 - ii. Letters of thanks or certifications of participation.
 - iii. Indications of impact such as number or diversity of participants reached or any measure of outcome of a program or activity.

B. Evaluation of Lecturers. Clinical Faculty and Visiting faculty

1. The First Four Years

Each year in the first four years of their appointment, lecturers and visiting faculty submit a report of professional activities. The Chair and the Personnel Committee prepare an annual written evaluation of the individual's accomplishments, including strengths and weaknesses and specific recommendations for improvement.

2. *Continuing Evaluation of Lecturers and Clinical Faculty*

After the fourth year, the annual report of professional activities is submitted to the Chair, who provides the performance review. The Chair can, but is not required to, solicit input from the Personnel Committee. A decision not to renew a Lecturer requires consultation with the faculty. It is noted that Visiting faculty positions typically end after year five.

3. *Promotion to Senior Lecturer or Clinical Faculty*

For promotion to Senior Lecturer, a Lecturer must have served five years and be nominated by the Personnel Committee and Department Chair. After nomination, a dossier and review documents from the Personnel Committee and the Department Chair is presented to the qualified faculty at a rank above Lecturer for a vote on the nomination. Lecturers must exhibit exceptional performance in pedagogy and service in order to be promoted (as per MUPIM).

VII. TEACHING EVALUATION PLAN

A. The Importance of Teaching

Excellent teaching is integral to our mission. We believe that no single instrument can properly evaluate teaching, whether the goals are formative or summative in nature. Hence, we advocate multiple formative and summative measures.

B. Formative Evaluations

Formative evaluations are designed to be used by faculty to improve their teaching and the content of their courses. Any way to garner feedback throughout the semester is encouraged including informal student feedback sessions, instant responses, or any additional creative mechanisms to get information from students is encouraged. It is important to target these toward the learning goals of the course, within a framework that is as non-confrontational as possible. In addition, faculty are encouraged to employ portfolios that include documentation of student outcomes and deploy other means of self-assessment tools as they develop their teaching.

C. Summative Evaluations

Summative evaluation instruments are designed for use by the Department Chair, the Personnel Committee, and other individuals or groups charged with evaluating faculty teaching performance. All instructors, whether temporary or permanent, must administer evaluations for every course, every semester. Peer evaluations are also an important teaching assessment mechanism. Ideally these are based on multiple classroom visits. Faculty are encouraged to develop other creative means to garner feedback from their students and others with the aim to improve teaching. Student evaluations, peer evaluations, and other feedback is included in the faculty member's Annual

Performance Report, and is considered with other written documentation for salary raises and other personnel matters.

VIII. FACULTY MENTOR PROGRAM

The Department of Biological Sciences views mentoring as a collective responsibility and has a mentor program in which individual tenured faculty members mentor pre-tenure faculty members. These mentors are appointed by the Department Chair, after consultation with the two involved individuals.

The role of the faculty mentor is to provide advice and assistance to pre-tenure faculty members during their probationary period. Minimally such mentors should:

1. provide an understanding of Department and University culture and expectations.
2. assist the probationary faculty member in arranging for peer evaluations for courses.
3. provide input and feedback on research activities including, but not limited to, proposals and manuscripts.
4. aid in the development of annual activities reports and promotion and tenure packets.
5. serve as an advocate for the pre-tenure faculty member to the Personnel Committee, the department and, when appropriate, other offices of the University.

IX. PROCEDURES FOR APPROVAL OF ADJUNCT OR AFFILIATE STATUS

Adjunct or affiliate status may be conferred upon approval by a majority of the faculty and by the Department Chair. Unless initially stated otherwise, adjunct or affiliate status is continuous. A prospective adjunct submits the following materials to the Departmental Personnel Committee via the Department:

1. a letter of application to the Department Chair describing his/her goals for the association with the Department, including research objectives
2. a curriculum vitae

The Personnel Committee evaluates the application and forwards its recommendation for faculty consideration.

Appendix C
Department of Biological Sciences
CV of Chair

Paul A. Harding, Ph.D.

Department of Biology, Miami University
727-3447 (office); 529-3169 (lab); hardinpa@miamioh.edu

EDUCATION

B.S. Zoology	Ohio University	1983 - 1987
M.S. Microbiology	Ohio University	1987 – 1990
Ph.D. Molecular and Cellular Biology	Ohio University	1990 – 1994
Post-doctoral Fellow	The Ohio State University & Children's Hospital, Columbus, OH	1994 – 1998

PROFESSIONAL EXPERIENCE

2015 – present	Professor & Chair, Department of Biological Sciences, Miami University Regionals, College of Liberal Studies and Applied Science
2014 – present	Professor
2008 – 2-14	Associate Professor Department of Biology, Miami University & Miami University – Middletown
2001 – 2008	Assistant Professor
1999 – 2001	Co-owner & Scientific Director DNA Analysis, Inc., 3900 Montgomery Road. Cincinnati, OH 45212
1994 – 1998	Post-Doctoral Fellow Department of Surgery, Wexner Institute for Pediatric Research, Children's Hospital and The Ohio State University, Columbus, OH 43205
1997 – 1998	Scientific Director, Alpha Genetics, Inc., 3130 Highland Avenue, Cincinnati, OH 45219

SOCIETY MEMBERSHIPS

- | | |
|--|----------------|
| 1. American Society for Cell Biology (ASCB) | 1992 – present |
| 2. Obesity Society | 2004 – present |
| 3. Sigma Xi, The Scientific Research Society | 2004 – present |
| 4. American Association for the Advancement of Science | 2002 – present |

GRANTS**Externally Funded Research/Development:**

1. Quaker Foundation, Gel Electrophoresis Equipment for Miami University-Middletown new Molecular Biology Laboratory, Amount: \$3,580, Role: PI, 5/23/2012
2. National Institute of Child Health and Human Development (NICHD), Determination of IGFBP-3 and -4 mRNA by HB-EGF, Amount: \$210,900. Role: PI, 5/10/2007 – 5/9/2010.
3. National Science Foundation (NSF), Investigation of Genes and Complex Social Behavior Under Ecologically Relevant Conditions, Amount: \$390,000 Role: Co-PI, 3/1/2007 – 2/28/2010.

Internally Funded Research/Development:

1. Research and Grants Committee, Miami University – Middletown, Characterization of Brown Fat Cells at the Protein Level. Role: PI, \$2,500, 4/2014 – 03/2015.
1. Research and Grants Committee, Miami University – Middletown, Synthesis of recombinant HB-EGF

and ADAM 12S adenoviruses. Role: PI, \$1,500, 10/2013 – 09/2014.

2. Research and Grants Committee, Miami University – Middletown, Analysis of the role of heparin-binding EGF-like growth factor (HB-EGF) in diabetes using mouse models. Role: PI, \$1,500, 03/2007 – 02/2008.
3. Miami University Research Advisory Council (MURAC), Exploring the effects of single genes on social behavior. Role: co-PI, \$8,000, 03/2007 – 02/2008.
4. Faculty Development Program Learning Enrichment Fund - Miami University, Decreased reproduction capacity in male connective tissue growth factor (CTGF/CCN2) transgenic mice. Role: PI, \$800, 12/2005 – 11/2006.
5. Research and Grants Committee, Miami University – Middletown, Identification of genes expressed in fibrosis. Role: PI, \$1,000, 01/2005 – 12/2006.
6. Research and Grants Committee, Miami University – Middletown, Synthesis of an HB-EGF carboxy-terminal antibody. Role: PI, \$6,000, 03/2005 – 02/2006.
7. Faculty Development Fund for International Travel - Miami University, Heparin-binding EGF-like growth factor (HB-EGF) misexpression in transgenic mice alters expression of insulin-like growth factor binding protein-3 (IGFBP-3) Gordon Research Conference on Growth Factor Signaling, July 25-30, 2004, Queen's College, Oxford, UK. Role: PI, \$300, 07/2004.
8. Research and Grants Committee, Miami University – Middletown, Project to elucidate the biological roles of Heparin-Binding EGF-like growth factor (HB-EGF) in mammalian cells. Role: PI, \$3,000, 04/2003 – 03/2004.
9. College of Arts and Sciences, Miami University, Photodocumentation of DNA gel electrophoresis in the classroom. Role: PI, \$468.37, 09/2002 - 08/2003.
10. Committee on Faculty Research, Miami University, Generation of *In Vivo* Models to Elucidate the Functional Role(s) of HB-EGF Using Transgenic Mice. Role: PI, \$22,000, 07/2002 - 04/2003.
11. College of Arts and Science, Miami University, Generation of in vivo models to elucidate the functional role(s) of HB-EGF using transgenic mice. Role: PI, \$4,000, 05/2002 – 08/2002.
12. Instructional Improvement Committee - Miami University – Middletown, Purchase of human torso model, Role: co-PI, \$1989, 10/2001.
13. Instructional Improvement Committee - Miami University – Middletown, Purchase of giant heart model, Role: co-PI, \$272, 10/2001.

U.S. PATENTS

2013	No. 8,455,191	Cell Transdifferentiation into Brown Adipocytes
2011	No. 7,897,732	Antibodies to Heparin-binding Growth Factor (hbgf) Polypeptides
2008	No.5,876,730	Heparin Binding Growth Factor polypeptides (CTGF)

HONORS & AWARDS

2014	Excellence in Teaching Award, Miami University – Middletown Campus	
2013	Excellence in Research and Scholarship Award, Miami University – Middletown Campus	
2006	Shoupp Award	Exploring the effects of single genes on social behavior, Co-PI
2002	Shoupp Award	Functional Characterization of Heparin-Binding EGF-like Growth Factor Using an <i>In Vivo</i> Model, PI

PEER-REVIEWED PUBLICATIONS (Total of 19 publications)

Key for all Publications and Presentations below:

^a Miami University Undergraduate Student

^b Miami University Graduate Student

1. Taylor SR^b, Markesbery MG^a, Klements JR^b, Johnson KD^a and **Harding PA** (2014) Cellular transdifferentiation into Brown adipose-like cells. *Journal of Cell and Molecular Biology*, 12 (1&2) 55-62.
2. Taylor SR^b, Markesbery MG^a and **Harding PA** (2014) Heparin-binding epidermal growth factor-like growth factor (HB-EGF) and proteolytic processing by a disintegrin and metalloprotease (ADAM): A regulator of several pathways. *Semin Cell Dev Biol*. 28C:22-30. (invited review).
3. Zhou Z^b, Darwal MA^a, Cheng EA^a, Taylor SR^b, Duan E^b, and **Harding PA** (2013) Cellular Reprogramming into a brown adipose tissue-like phenotype by co-expression of HB-EGF and ADAM 12S. *Growth Factors*, 6:185-198.
4. Ray KC, Blaine SA, Washington MK, Braun AH, Singh AB, Harris RC, **Harding PA**, Coffey RJ, Means AL (2009) Transmembrane and soluble isoforms of heparin-binding EGF-like growth factor regulate distinct processes in the pancreas. *Gastroenterology*, 137(5):1785-94.
5. Solomon N, Richmond A^a, **Harding PA**, Fries A, Jacquemin S^a, Schaefer R, Lucia, K^b, and Keane B (2009) Polymorphism at the avpr1a locus in male prairie voles correlated with genetic but not social monogamy in field populations, *Molecular Ecology*, 18(22):4680-95.
6. Hoskins JT^b, Zhou Z^b, **Harding PA**. (2008) The significance of disulfide bonding in biological activity of HB-EGF, a mutagenesis approach *Biochem Biophys Res Commun*. 375(4):506-11.
7. Zhou Z^b and **Harding PA** (2007) Amino-terminal deletion of heparin-binding EGF-like growth factor₄₁₂₇ (HB-EGF) stimulates cell proliferation but lacks insulin-like activity. *Cell Proliferation* 40(2): 213-230.
8. Provenzano AP^a, Besner GE, James PF, **Harding PA** (2005) Heparin-binding EGF-like growth factor (HB-EGF) overexpression in transgenic mice downregulates insulin-like growth factor binding protein (IGFBP) – 3 and -4 mRNA. *Growth Factors* 23(1): 19-31.
9. Cribbs RK, **Harding PA**, Luquette MH, Besner GE (2002) Endogenous production of heparin-binding EGF-like growth factor during murine partial thickness burn wound healing. *J. Burn Care & Rehab*. **23**: 115-125.
10. **Harding PA**, Davis-Fleischer KM, Crissman-Combs MA, Miller MT, Brigstock DR, Besner, G.E. (1999) Induction of anchorage-independent growth by heparin-binding EGF-like growth factor. *Growth Factors* 17: 49-61.
11. **Harding PA**, Surveyor G, Brigstock DR (1998) Characterization of pig connective tissue growth factor (CTGF) cDNA, mRNA, and protein from uterine tissue. *DNA Sequence* 8(6): 385-390.
12. Steffen CL, Ball-Mirth DK, **Harding PA**, Bhattacharyya N, Pillai S, Brigstock DR (1998) Characterization of cell-associated and soluble forms of connective tissue growth factor (CTGF) produced by fibroblast cells in vitro. *Growth Factors* **15(3)**:199-213.
13. Brigstock DR, Steffen CL, Kim GY, Vegunta RK, Diehl JR, **Harding PA** (1997) Purification and characterization of novel heparin-binding growth factors in uterine secretory fluids. *J Biol Chem*. 272: 20275-20282.

14. **Harding PA**, Wang X, Okada S, Chen WY, Wan W, Kopchick JJ (1996) Growth hormone (GH) and a GH antagonist promote receptor dimerization and internalization. *J Biol Chem.* 272: 6708-6712.
15. **Harding PA**, Brigstock DR, Shen L, Crissman-Combs MA, Besner GE (1996) Characterization of the gene encoding murine heparin-binding epidermal growth factor-like growth factor. *Gene* 169(2):291-292.
16. **Harding PA**, Wang X, Kopchick JJ (1995) Growth hormone (GH) induced tyrosine phosphorylated proteins in cells which express GH-receptors. *Receptor* 5:81-92.
17. **Harding PA**, Wang XZ, Kelder B, Souza S, Okada S, Kopchick JJ (1994) In vitro mutagenesis of growth Hormone receptor Asn-linked glycosylation sites. *Mol Cell Endocrinol.* 106(1-2):171-80.
18. Chiu PY, Chaudhuri S, **Harding PA**, Kopchick JJ, Donkin S, Etherton TD (1993) Cloning of a pig glucose transporter 4 cDNA fragment: use in developing a sensitive ribonuclease protection assay for quantifying low-abundance glucose transporter 4 mRNA in porcine adipose tissue. *J Anim Sci.* 5:1196-203.
19. Wang X, Cioffi JA, Kelder B, **Harding PA**, Chen WY, Kopchick JJ (1993) Expression of a Functional Porcine Growth Hormone Receptor cDNA in Mouse L Cells. *Mol Cell Endocrinol.* 94(1):89-96.

MANUSCRIPTS IN PREPARATION:

1. Taylor SR^b, Markesbery MG^a, and **Harding PA**. Klf4 is a Required for Cellular Reprogramming by HB-EGF and ADAM 12S. To be submitted to *J. Biol. Chem.* Summer 2015.
2. Taylor SR^b, Markesbery MG^a, and **Harding PA**. Examination of the Pathway Involved in Cellular Reprogramming Resulting in “Browning” of Cells. To be submitted Spring 2015.
3. Maxfield A^a, Malnik B^a, Franke E^a, Keane B, Solomon N, and **Harding PA**. Identification of the Olfactory Receptor 976 in Vole Mate Choice Behavior. To be submitted to *Brain Research* in Summer 2015.
4. Duan E^b, Zhou Z^b, and **Harding PA**. Protective Effects of the lack of HB-EGF in Streptozotocin-induced diabetic mice. To be submitted to *J. Biol. Chem* in Summer 2015.

PROFESSIONAL PRESENTATIONS

1. Taylor SR^b, Markesbery MG^a, Johnson KD^a and **Harding PA**. Novel Molecular mechanism for transdifferentiation cells into BAT-like cells. American Society for Cell Biology Meeting, Dec. 13 – 15, 2013, New Orleans, LA, poster presentation.
2. Taylor SR^b, Markesbery MG^a and **Harding PA**. Transdifferentiation of Cells into Brown Adipose Tissue. American Society for Cell Biology Meeting, Dec. 15 – 19, 2012, San Francisco, CA, poster presentation.
3. Klements JR^b, Zhou Z, and **Harding PA**. In Vivo Stimulation of Brown Adipose Tissue by HB-EGF and ADAM 12S adenoviruses. Obesity Society, 28th Annual Meeting, San Diego, CA, October 8-10, 2010, poster presentation.
4. Spicer EG^a, Ade CM^a, Johnston WD^a, **Harding PA**, Shi H. Energy expenditure and fatty acid oxidation contributes to susceptibility or resistance to diet-induced obesity. Symposium: Fat, Fatty Acids, and Metabolism. The Obesity Society. San Diego. October 8-12, 2010. Published at Obesity 18(S2): 66, November 2010.
5. Glitz KM^a, Klements JR^b, Benzaquen D^a, **Harding PA**, Shi H. Mice with brown fat

transplantation partially resist to diet-induced obesity and glucose intolerance. Society for Study of Ingestive Behavior. Pittsburgh. July 13-17, 2010. Published at *Appetite* 54(3): 647, June 2010.

6. Duan E^b, Zhou Z^b and **Harding PA**. Streptozotocin treated HB-EGF transgenic mice exhibit renal hypertrophy. 47th Annual Meeting – American Society for Cell Biology, December 13-17, 2008, San Francisco, CA, poster presentation.
7. **Harding PA** “The significance of disulfide bonding in biological activity of HB-EGF, a mutagenesis approach” Molecular and Cellular Biology, Ohio University, Oct. 11, 2008, Host: Bob Colvin
 - Invited seminar speaker
8. Zhou Z^b, Duan E^b and **Harding PA**. Co-expression of ADAM 12S and HB-EGF stimulate adipogenesis. 47th Annual Meeting – American Society for Cell Biology, December 13-17, 2008, San Francisco, CA, poster presentation.
9. Darwal MA^a and **Harding PA** (2007) Production and characterization of ADAM 12S in mammalian cells. Miami University Undergraduate Research Forum, April 18, *poster presentation*.
10. Darwal MA^a, Zhou Z^b, **Harding PA**, HB-EGF Dependent Stimulation of Adipogenesis by ADAM 12S. 47th Annual Meeting – American Society for Cell Biology, December 1-5, 2007, Washington D.C., poster presentation.
11. Darwal MA^a and **Harding PA**, Redirecting Fibroblasts into Fat, Annual Sigma Xi conference Nov. 1-4, 2007 in Orlando Florida.
12. Zhou Z^b and **Harding PA**, Connective Tissue Growth Factor (CTGF) Stimulates Type I Collagen mRNA Synthesis In Vivo. 46th Annual Meeting – American Society for Cell Biology, December 9-13, 2006, San Diego, CA, poster presentation.
13. Zhou, Z^b, Hoskins JT^b, and **Harding PA**, Characterization of Heparin-Binding EGF-like Growth Factor (HB-EGF) using Mammalian Models. Cell and Molecular Biology Program Research Symposium and Retreat June 9, 2006, 128 Pearson, Miami University.
14. Koch E^a and **Harding PA** (2005) Molecular expression of a disintegrin and metalloproteinase (ADAM) 12S in bacteria. Miami University Undergraduate Research Forum, April 17, 2005, *poster presentation*.
15. Zhou Z^b, Chakraborty S^b, Brigstock DR, and **Harding PA**, Decreased reproduction capacity in male connective tissue growth factor (CTGF/CCN2) transgenic mice. 45th Annual Meeting – American Society for Cell Biology, December 10-14, 2005, San Francisco, CA, poster presentation.
16. **Harding PA** “Heparin-binding EGF-like growth factor signaling” Department of Biological Sciences, Western Michigan University, Kalamazoo, MI, Oct. 7, 2005, Host: Silvia Rossbach
 - Invited seminar speaker
17. **Harding PA**. Structure-function studies of heparin-binding EGF-like growth factor (HB-EGF) using mammalian models. Department of Biology, Wittenberg University, Springfield, OH, Sept. 2005, Host: Jim Welch
 - Invited seminar speaker
18. Hoskins JT^b and **Harding PA**. Analysis of Heparin-binding EGF-like growth factor disulfide bonds using site-directed mutagenesis. 44th Annual Meeting – American Society for Cell Biology, December 4-8, 2004 Washington, D.C., *poster Presentation*.
19. Provenzano AP^a, Besner GE James PF, and **Harding PA**. Heparin-binding EGF-like growth factor (HB-EGF) misexpression in transgenic mice alters expression of insulin-like growth

factor binding protein-3 (IGFBP-3). Gordon Research Conference on Growth Factor Signaling, July 25-30, 2004, Queen's College, Oxford, UK, *invited presenter*.

20. **Harding PA** Provenzano AP^b, James PF and Besner GE. Heparin-Binding Epidermal Growth Factor like Growth Factor Misexpression in Transgenic Mice, , 43rd Annual Meeting - American Society for Cell Biology, December 7-11, 2003, San Francisco, CA, poster presentation.
21. **Harding PA**. Misexpression of HB-EGF in Transgenic Mice. Children's Hospital and Ohio State University, Department of Surgery, July, 2003, Invited Speaker.
22. Provenzano AP^a and **Harding PA**. Characterization of Heparin-Binding EGF-like Growth Factor, Undergraduate Research Forum, Miami University, April 16, 2003, Oral presentation.
23. **Harding PA**. Functional Characterization of Heparin-Binding EGF-like Growth Factor, Miami University – Middletown, Scholars & Artists Week, April 7-11, 2003 oral presentation.
24. **Harding PA**. Biological Characterization of Heparin-Binding EGF-like Growth Factor (HB-EGF) Using In Vivo Models, July 31, 2002, Cognis Corporation, Cincinnati, OH.
 - Invited Speaker
25. Hickey CJ^b, Provenzano AP^a, and **Harding PA**. Functional Expression of Heparin Binding EGF-like Growth Factor in Mammalian Cells. Earl H. Morris Symposium, Wright State University School of Medicine, May 31, 2002.
26. Provenzano AP^a and **Harding PA** (2002) Heparin-binding EGF-like growth factor (HB-EGF) overexpression in transgenic mice downregulates insulin-like growth factor binding protein (IGFBP)-3 and -4 mRNA. Miami University Undergraduate Research Forum, April 17, 2002, *oral presentation*
27. Provenzano AP^a and **Harding PA**. Functional Expression of Heparin-Binding EGF-like Growth Factor in Mammalian Cells. Miami University Undergraduate Research Forum, April 17, 2002, poster presentation.
28. **Harding PA**, Davis-Fleischer KM, Crissman-Combs, Brigstock DR, and Besner GE (1996) Heparin-binding EGF-like growth factor expression and transforming activity. Gordon Conference on Growth Factors and Receptors, Meriden, NH.
29. **Harding PA**, Brigstock DR, Shen L, Crissman-Combs MA, and Besner GE (1995) Structural organization of the gene for murine heparin-binding epidermal growth factor-like growth factor (HB-EGF) ASCB Annual Conference, Washington, DC.
30. **Harding PA**, Brigstock DR, and Besner GE (1995) Structural organization of the gene for murine heparin-binding epidermal growth factor-like growth factor (HB-EGF). 16th Annual Children's Hospital and Children's Hospital Research Foundation Research Forum.
31. **Harding PA**, Brigstock DR, and Besner GE (1995) Structural organization of the gene for murine heparin-binding epidermal growth factor-like growth factor (HB-EGF). 21st Annual ICSABER Society Graduate Research Forum, The Ohio State University.
32. Woodley, FW, Kelder B, Okada S, **Harding PA**, and Kopchick JJ (1992) Effects of introns on bGH gene expression in cultured cells. FASEB Meeting, Anaheim, CA.
33. **Harding PA**, Wang X, Kelder B, Cioffi JA, and Kopchick JJ (1992) Site-directed mutagenesis of the porcine growth hormone receptor (pGHR) gene: role of N-linked glycosylation. FASEB Meeting, Anaheim, CA.
34. Kelder B, **Harding PA**, and Kopchick JJ (1987) Role of introns in bovine growth hormone (bGH)

expression. American Society for Microbiology, New Orleans, LA.

GRADUATE STUDENTS SUPERVISED

As a regional campus faculty member, I am neither obligated nor even expected to supervise graduate students. However, I believe that maintaining an active research program strengthens my teaching by staying current with the latest advances and techniques in molecular biology. I have served as the major research advisor to 6 graduate students (2 Ph.D. and 4 M.S.) in the Department of Biology and Cell, Molecular and Structural Biology Program.

1. Sean Taylor , Ph.D. (current, anticipate completion in 2016)
Dissertation Title: Cellular Transdifferentiation into Brown Adipose-like Cells: Identification of key regulatory genes.
 - 4 presentations
 - 2 first-author publications; 1co-author; 1 manuscript in preparation
2. Jamie Klements, M.A. (2011)
Thesis Title: Production of Recombinant Adenoviruses encoding Heparin-Binding EGF-like Growth Factor (HB-EGF) and A Disintegrin and Metalloprotease (ADAM) 12S.
 - 2 presentations
 - co-author 1 publication
 - Veterinary School – Iowa State University, Ames, IA
3. Zhenqing Zhou, Ph.D. (2009)
Dissertation Title: Biological Significance of Heparin-Binding Growth Factors, HB-EGF and CTGF.
 - 6 presentations
 - 2 first-author publications; 1co-author publication; 1 manuscript in preparation
 - Post-doctoral Fellow, Department of Ophthalmology and Visual Sciences, Washington University St. Louis, MO
4. Erning Duan, M.S. (2009)
Thesis Title: The Effects of Heparin-Binding EGF-like Growth Factor on Diabetic Renal Disease
 - 2 presentations
 - 1 co-author publication; 1 manuscript in preparation
 - Research Assistant, Department of Pathology & Immunology, Washington University St. Louis, MO
5. Joe Hoskins, M.S. (2005)
Thesis Title:
 - 2 presentations
 - 1 first-author publication
6. Chris Hickey, M.S. (did not complete – left after first year)
 - 1 presentation

Graduate Committees

	<u>Completed</u>	<u>Current</u>
Doctoral students (Dissertation Advisor)	<u>1</u>	<u>1</u>
Master's students (Thesis Advisor)	<u>3</u>	<u>--</u>
Doctoral students (Dissertation committee)	<u>9</u>	<u>5</u>
Master's students (Thesis committee)	<u>7</u>	<u>--</u>

UNDERGRADUATE RESEARCH (including currently held position, reflecting continuing career in science/medicine/health fields)

1. Michael Markesbery (2012 – present) *Project:* Characterization of Genes in Brown Adipose-like Cells
 - Astronaut Scholarship (\$10,000)
 - Goldwater Scholarship - Honorable Mention
 - Parke & Dorothy Smith Scholarship (\$3,500)
2. Katie Johnson (2012 – present) *Project:* Identification of BAT genes in epidermoid carcinoma transdifferentiated cells
3. Lexie Brush (2012) *Project:* Bioengineering OLFTR 976 adenovirus
4. Sean Taylor (2011) *Project:* Bioengineering OLFTR 976 adenoviral vector
 - Graduate School – Cell Molecular Structural Biology Program, Miami University
5. Chelsey Dubocq (2010) *Project:* Determination of in vitro bioactivity of adenoviruses encoding HB-EGF and ADAM 12S
 - Dental School – University of Kentucky
6. Esther A. Cheng (2008 – 2009) *Project:* Bioengineering HB-EGF and ADAM 12S adenovirus vectors for stimulation of brown fat *in vivo*.
 - Undergraduate Summer Scholars (USS) Award, Dean's Scholar
 - Medical School – University of Cincinnati (2014)
 - Residency in ENT - Loyola University
7. Amanda Maxfield (2008) *Project:* Characterization of olfactory 976 mRNA levels in brains of voles.
8. Bobby Malnik (2007 – 2008) *Project:* Characterization of serum glucocorticoid regulated kinase mRNA in brains of voles.
9. Betsy Franke (2007) *Project:* Characterization of vasopressin receptor mRNA levels in brains of voles
10. Amber Kleiner (2006 – 2007)) *Project:* Immunohistochemical detection of HB-EGF in tissues of mice.
 - USS Award
11. Stephen Jacquemin (2006) *Project:* Real-time RT-PCR quantitation of vasopressin mRNA in the brains of voles.
12. Maureen Darwal (2005 – 2006) *Project:* Production of recombinant ADAM 12S protease.
 - USS Award
 - Medical School – Lake Erie College of Medicine
 - Neurosurgical Resident – Hackensack University Medical Center, NJ
13. Ellen Koch (2004) *Project:* Production of ADAM 12S protease in bacteria
 - USS Award
 - Medical School – Ohio State University
 - Dermatology Residency – University of Pittsburgh Medical Center, Pittsburgh, PA
14. Chris Chapman (2004) *Project:* Molecular expression of ADAM 12S in bacteria
15. John Romer (2004) *Project:* Characterization of enhanced green fluorescent protein (EGFP) and HB-EGF in mammalian cells.

16. Shawn Horwitz (2003) *Project:* Identification of a novel alternatively spliced HB-EGF transcript.
 - Medical School – Ohio University College of Osteopathic Medicine, Athens, OH
 - General Surgeon
17. Aaron Provenzano (2003) *Project:* HB-EGF misexpression in transgenic mice.
 - Hughes' Scholar, Dean's Scholar, USS Award
 - Medical School - Ohio University College of Osteopathic Medicine, Athens, OH
 - Fellow - Hematology/Oncology, West Virginia University, Morgantown
18. Jessica Mable (2003) *Project:* Role of rac during myoblast proliferation in *Drosophila* (Advisor: Dr. Fernandes)
19. David Yehsukl (2003) *Project:* Immunohistochemical analysis of tissues from HB-EGF transgenic mice
20. Tim Milligan (2002) *Project:* In vitro mutagenesis of HB-EGF Cysteine Residues

RESEARCH AGENDA

Obesity is characterized by the accumulation of white adipose tissue (WAT) or white fat, which is involved in energy storage. Another type of adipose tissue is brown adipose tissue (BAT) which is involved in heat generation and increased energy expenditure. The major goal of my research lab is to understand the molecular mechanisms of cellular reprogramming into brown adipose-like cells by the co-expression of heparin-binding EGF-like growth factor (HB-EGF) and a disintegrinase and metalloprotease (ADAM) 12S. BAT is a type of fat that has a large number of mitochondria, the organelle responsible for energy production, and is involved in stimulation of non-shivering thermogenesis resulting in generation of heat rather than energy. In addition to having an increased number of mitochondria, BAT has elevated levels of PR domain 16 (PRDM16) transcriptional co-regulator, peroxisome proliferator-activated receptor gamma coactivator 1 alpha (PGC-1 α) and uncoupling protein 1 (UCP-1), all of which are unique to BAT. Our reprogrammed non-fat cells (fibroblasts, kidney cells, and cancerous cells) exhibit all of the above BAT properties, which suggests that our reprogrammed cells may function as BAT.

HB-EGF undergoes proteolytic processing by ADAM 12S, an enzyme that processes HB-EGF yielding both soluble and intracellular domains. The soluble form of HB-EGF binds to and activates EGF receptors (EGFRs) resulting in stimulation of cell division, while the intracellular domain migrates to the nucleus and relieves transcriptional repressors involved in cell division. My awarded NIH R15 proposal (2007 – 2010) to investigate down-regulation of IGFBPs by HB-EGF directed the focus of our lab to BAT reprogramming by co-transfecting HB-EGF and ADAM 12S into mouse fibroblast resulting in these serendipitous findings. It was expected that co-expression of HB-EGF and ADAM 12S would enhance cellular division, but results in the cells being reprogrammed into BAT. Our laboratory has demonstrated that HB-EGF and ADAM 12S results in lipid accumulation, increased mitochondrial staining, up-regulation of BAT genes (PRDM16, PGC-1 α , UCP-1) and down-regulation of WAT genes, including CAAT-enhancer-binding protein (C/EBP α) and lamin A/C (LMNA) further supporting the hypothesis that HB-EGF/ADAM 12S co-expression reprograms cells to a BAT-like state (Zhou et al., 2013 and Taylor et al., 2014).

Currently, an adenoviral gene-delivery system for HB-EGF and ADAM 12S is being characterized in order to demonstrate BAT-like reprogramming of cells. Future studies, in collaboration with the pharmaceutical company Zen-Bio, Inc., Research Triangle Park, NC, include using human primary adipocytes collected from human liposuction procedures in an attempt to reprogram the WAT to BAT-like cells by co-infection with

purified, high titer ($>10^{12}$ viral particles per ml) adenovirus encoding HB-EGF and ADAM 12S. These studies will be the first reported reprogramming of human WAT into BAT. Additionally, mouse 3T3 L1 adipocytes are also being investigated for BAT-like reprogramming. Recently collected data demonstrate that HB-EGF/ADAM 12S co-expression transdifferentiates cells to a stem-like state mediated by fibroblast growth factor 2 (FGF2) and Krüppel-like factor 3 (Klf3) and results in BAT-like cells by induction of BAT genes and down-regulation of genes involved in WAT signaling pathway. Upon validation of BAT transdifferentiation *in vitro* using Western blotting of proteins for each of the differentially regulated BAT and WAT genes, experiments are being planned to investigate BAT transdifferentiation *in vivo* using mice as a model. This research has possible therapeutic applications to combat obesity and type 2 diabetes.

The major focus of my latest NIH R15 grant proposals (submitted on November, 1, 2012 and April 4, 2014) is to investigate *in vivo* transdifferentiation of WAT into BAT-like cells by co-infection with adenoviruses encoding HB-EGF and ADAM 12S. Neither proposal was scored making them ineligible for funding citing the major criticism as lack of published manuscripts in recent years. However, when applying for a US Patent, it was prohibitive to publish related findings without jeopardizing the patent being awarded. Since the patent was awarded in 2013, we have published 3 manuscripts relative to BAT reprogramming and do not believe that lack of production in published manuscripts will be of concern in future grant proposals. Furthermore, we have two additional manuscripts in preparation that focus on cellular reprogramming by HB-EGF and are likely to be published in 2015. I plan on submitting a NIH R15 grant proposal on October 25, 2014 in an attempt to secure external funding supporting our research focusing on BAT reprogramming *in vivo*. The broader impacts of this proposal will demonstrate a therapeutic link to obesity and type 2 diabetes; two diseases that greatly affect our society.

My lab is also interested in the molecular function of the amino-terminus versus the transmembrane forms of HB-EGF and have established a collaboration with Dr. Anna Means of Vanderbilt University to investigate this area of HB-EGF. Using transgenic mice that express soluble mature or membrane bound HB-EGF, very different results are obtained. Expression of soluble, mature HB-EGF in the pancreatic islet cells results in fibrosis, metaplasia and adenoma formation in the exocrine pancreas but the islets are fine. Expression of a non-cleavable form of HB-EGF results in dysfunctional islets and the mice become diabetic, but the exocrine pancreas is fine. We wish to examine samples from human pancreatic cancer patients to determine if there is more non-cleaved HB-EGF in their islets as compared to normal. This could possibly explain why most pancreatic cancer patients become glucose intolerant or diabetic.

Furthermore, our lab is interested in the role HB-EGF plays in kidney function under diabetic conditions. Diabetics frequently suffer kidney complications including renal hypertrophy. HB-EGF is normally expressed at low levels in the normal kidney; however, in response to diabetes, HB-EGF mRNA is significantly upregulated in the distal tubules of the kidney. A potent mitogen, HB-EGF, is a likely candidate responsible for renal cell proliferation. I am interested in determining whether HB-EGF contributes to renal hypertrophy by using our HB-EGF transgenic mice (Provenzano et al., 2005, *included*) that overexpress HB-EGF in the kidney and HB-EGF knockout mice that lack HB-EGF and induce diabetes in these mice with streptozotocin in order to investigate the role HB-EGF plays in this disorder. We hypothesize that diabetic HB-EGF transgenic mice will likely result in renal hypertrophy while diabetic HB-EGF knockout mice will not. The ultimate goal of this research is to provide a therapeutic approach to delaying or halting renal hypertrophy in diabetics. Currently, a manuscript is in preparation summarizing these findings.

I am fortunate to have had the opportunity to share my expertise in molecular and cellular biology with others in the department. I served the role as Co-PI on a NSF funded grant "Investigation of Genes and Complex Social Behaviour Under Ecologically Relevant Conditions". I was responsible for determining the differentially regulated genes by conducting microarrays using RNA from voles encoding long and short *avpr1a* alleles.

Differentially regulated genes were validated by quantitative real-time RT-PCR. We identified olfactory receptor 976 (OLFR 976) gene was differentially regulated. In light of these results, I cloned OLFR 976 cDNA in order to engineer an adenovirus vector to deliver the OLFR 976 gene and ultimately OLFR 976 protein into the brains of voles that lack this gene in an attempt to change their behavior toward monogamy. Voles that lack the OLFR 976 are promiscuous while voles that expressed OLFR976 tend to be monogamous. This was the basis of a NIH grant proposal, in which I was a Co-PI, that received a Priority Score of 34 (1/24/2012) and after revision and resubmission received a Priority Score of 26 (16th percentile) that unfortunately were not funded. This score under most economic circumstances would likely be awarded. For example, the National Institutes of Mental Health (NIMH) payline (the percentile cut-off for a study section scoring within which all grants are funded) for 2012 was a Priority Score of 10, while in 2013 and 2014 the payline was increased to a Priority Score between 10-20, according to NIH. This emphasizes the difficult economy in 2012. Future plans include a revision of this proposal and submit the revised proposal to NIH.

The research conducted in my laboratory is significant and of high impact as evidenced by the following:

- Acquisition of \$604,480 in external funding (NIH and NSF)
- U.S. Patent awarded No. 8,455,191, Cell Transdifferentiation into Brown Adipocytes
- 6 published manuscripts after having received tenure in 2008 that involved both graduate and undergraduate students
- My research was highlighted on the Miami University website main page during Fall and Spring semesters, 2013 – 2014.
- My research was highlighted in the *Miamian* (Summer 2014).
- Established collaborations with Zen-Bio, Inc. (Bentley Cheatham, Ph.D., Vice President of Research & Development)
- Research Award - Miami University – Middletown
- Trained 5 graduate students (2 Ph.D. and 3 M.S.) with laboratory alumni with positions in prestigious institutes (*as indicated above*).
- Trained 20 undergraduate students (50% female and over 50% currently in medical, dental or graduate school)
- Undergraduate recognition at the National level with research involvement (Astronaut Foundation Scholarship and Goldwater Award – Honorable Mention to Michael Markesbery)
- In total, undergraduate researchers have secured in excess of \$15,000 in funding for their research projects.

I maintained an independent, high level of research while required to carry a heavy teaching load (10 – 13 contact hours per semester with an average of ~11 contact hours per semester over the past 12 years). I will continue to pursue excellence in research and scholarship by publishing high quality peer-reviewed journal articles while working with undergraduate and graduate students while continuing to seek external funding for my research.

I am extremely proud of the undergraduate and graduate students that have contributed to the success of my research laboratory at Miami University and I will continue to mentor undergraduate and graduate students in my research program. My research program would not be possible without the efforts of these students. Our laboratory is moving into a very exciting and competitive area and I feel confident that our research will contribute significantly to better understanding fat biology and the involvement of growth factors. Research ultimately strengthens my formal classroom teaching particularly by remaining active with current technology.

TEACHING EXPERIENCE

The standard regional campus teaching load is 12 contact hours per semester. I received a 2 hour course load reduction the past 2 years for maintaining an active research program. I have an average of 22 contact hours per year over the past 13 years. This typically includes 2 different courses and 2 lab sections. However, 5 semesters out 24 semesters total (20%), I taught 3 separate courses. I am responsible for teaching all lecture and laboratory sections (160 minutes per week for 14 weeks). There are no teaching assistants assigned to the Miami University – Middletown campus and I am responsible for preparation of all lab activities with the assistance of a laboratory coordinator. However, I am responsible for 100% of the lab preparation for Molecular Techniques course. All graduate and undergraduate research instruction is in addition to my normal teaching load of 12 contact hours per week on the Miami University – Middletown campus.

Summer, 2014 BIO 116, Principles of Biology (4 credit lecture and laboratory course). I taught the lecture and laboratory portion of the course. BIO 116 is a majors course and foundation course in the Miami Plan for Liberal Education that examines the basic biological concepts of cell theory, inheritance, and physiology that prepares students for upper level courses in biology and focuses on critical thinking, understanding contexts, engaging with others and reflecting and acting. Examples of laboratory activities that I have introduced in this course include determination of Genetically Modified Organisms, transformation of bacteria with an inducible green fluorescent protein gene, urine analysis and crime scene analysis that utilizes STR DNA and gel electrophoresis.

Spring 2014 BIO 342, Genetics (3 credit lecture course). BIO 342 provides an introduction to the basic principles of genetic organization, function, and inheritance. The course emphasizes problem-based genetic analysis and incorporates a great deal of discussion of current genetic topics. I developed this course for the Miami University Middletown campus. Genetics is a requirement for the newly offered bachelor's degree in forensic science.

BIO 364, Molecular Techniques (3 credit laboratory course) BIO 364 provides an in-depth, hands-on laboratory experience in molecular biology techniques. The class will introduce advanced undergraduates to the molecular techniques that are commonly used in all research laboratories. It also provides a realistic laboratory experience for students who are not able to do independent research projects as undergraduates. I have designed laboratory activities that include cloning and sequencing a gene by RT-PCR using isolated RNA from mammalian cells, transformation and determination of efficiency, site-directed mutagenesis, protein fingerprinting to determine evolutionary relationships among a number of fish species, Western blotting, and mammalian tissue culture.

Fall 2014 BIO 116, Principles of Biology (2 sections)

BIO 161, Principles of Human Physiology (3 credits lecture, 1 credit lab) is a Miami Plan Foundation course designed for non-majors and examines physiological systems of the human body. I have modified a number of labs that utilize an "iworx" computer-based system that allows students to visualize their own electrocardiogram, respiratory volumes and sleep apnea simulation to observe its effect on heart rate.

Summer 2013 BIO 116, Principles of Biology

Spring 2013

ZOO 114, Principles of Biology

ZOO 232, Human Heredity for Nursing Students (3 credits)

ZOO/BOT/CHM/MBI 207, Scientific Writing (1 credit) is a course designed to introduce basic scientific writing to students emphasizing summarizing data and conducting relevant literature searches.

<u>Fall 2013</u>	ZOO 114, Principles of Biology (2 sections) ZOO 161, Principles of Human Biology
<u>Spring 2012</u>	ZOO 161, Principles of Human Biology ZOO 342, Genetics ZOO 364, Molecular Techniques
<u>Fall 2012</u>	ZOO 114, Principles of Biology (2 sections) ZOO 161, Principles of Human Physiology ZOO 171, Human Anatomy and Physiology lab
<u>Spring 2011</u>	ZOO 114, Principles of Biology ZOO 161, Principles of Human Physiology (2 sections)
<u>Fall 2011</u>	ZOO 114, Principles of Biology (2 sections) ZOO 161, Principles of Human Physiology
<u>Spring 2010</u>	ZOO 114, Principles of Biology (2 sections) ZOO 161, Principles of Human Physiology
<u>Fall 2010</u>	ZOO 114, Principles of Biology (2 sections) ZOO 161, Principles of Human Physiology
<u>Spring 2009</u>	ZOO 161, Principles of Human Physiology ZOO 364, Molecular Techniques
<u>Fall 2009</u>	Assigned Research Appointment
<u>Spring 2008</u>	ZOO 114, Principles of Biology ZOO 342, Genetics ZOO 630F, Genetics for Teachers
<u>Fall 2008</u>	ZOO 114, Principles of Biology (2 sections)
<u>Spring 2007</u>	ZOO 114, Principles of Biology ZOO 342, Genetics ZOO 630F, Genetics for Teachers
<u>Fall 2007</u>	ZOO 114, Principles of Biology ZOO 161, Principles of Human Physiology
<u>Spring 2006</u>	ZOO 114, Principles of Biology ZOO 161, Principles of Human Physiology
<u>Fall 2006</u>	ZOO 114, Principles of Biology ZOO 342, Genetics ZOO 464, Lab in Molecular and Cellular Biology (3 credits)

ZOO 630F, Genetics for Teachers

Spring 2005

ZOO 114, Principles of Biology (2 sections)
ZOO 161, Principles of Human Physiology

Fall 2005

ZOO 114, Principles of Biology (3 sections)

Spring 2004

ZOO 342, Genetics
ZOO 161, Principles of Human Physiology

Fall 2004

ZOO 114, Principles of Biology (2 sections)
ZOO 171, Human Anatomy and Physiology lab

Spring 2003

Assigned Research Appointment

Fall 2003

ZOO 114, Principles of Biology (2 sections)
ZOO 161, Principles of Human Physiology

Spring 2002

ZOO 114, Principles of Biology (2 sections)
ZOO 161, Principles of Human Physiology

Fall 2002

ZOO 114, Principles of Biology (2 sections)
ZOO 171, Human Anatomy and Physiology lab

Spring 2001

ZOO 114, Principles of Biology (2 sections)
ZOO 161, Principles of Human Physiology

Fall 2001

ZOO 114, Principles of Biology (2 sections)
ZOO 161, Principles of Human Physiology

Curriculum Development (since 2008)

1. I have developed and offered a total of 4 new courses to the Miami University – Middletown campus. All 4 of these courses were the first time ever offered on the Miami University - Middletown Campus.
 - BIO 207, Scientific Writing
 - BIO 232, Human Heredity for Nursing Students
 - BIO 342, Genetics
 - BIO 364, Molecular Techniques
2. I developed a dedicated Molecular Biology lab equipped with modern molecular equipment including PCR thermocyclers, DNA and protein electrophoresis equipment, Bio-imagers for fluorescence, ethidium bromide, and coomassie stain, ABI 310 Automated DNA Sequencer and Analyzer, pipets, mammalian tissue culture incubator, ELISA plate reader, spectrophotometer, orbital shaker incubator, etc. This laboratory will service BIO 114 – Principles of Biology and BIO 364 Molecular Techniques as well as contribute to the B.S. in Forensic Sciences allowing for a hands-on understanding of molecular techniques used in forensic sciences dealing with DNA.

SERVICE**Service to Profession**

- 2014 – present Editor, Journal of Cell Biology and Cell Metabolism, Herald Publishers
- 2014 – present Editor, Journal of Clinical Gastroenterology and Hepatology, Jacobs Publishers
- 2012 *PLoS One*, Reviewer
- Monoclonal Antibody inhibits Cancer Cell Proliferation and Multiple Angiogenic Activities of HB-EGF
 - Identification of the Cancer Cell Proliferation and Survival Functions of proHB-EGF by using an anti-HB-EGF antibody.
- 2004 - 2008 *Journal of Endocrinology*, Reviewer
- Transgenic mice overexpressing GH exhibit hepatic upregulation of GH-signaling mediators involved in cell proliferation
 - Involvement of JAK2 and Src kinase tyrosine phosphorylation in growth hormone-stimulated increases in cytosolic free Ca²⁺ and insulin secretion
- 2005 – 2012 National Science Foundation Panelist (NSF) – Graduate Research Fellowship Program.
- Genetics Panel (2010, 2012)
 - Molecular Biology Panel (2005 – 2009, 2011)

Service to University

- 2008, 20012 – 2014 University Senate – member
- 2003 – 2005 Sigma Xi Scientific Research Society – Miami University Chapter, Secretary
- 2006 – 2008 Sigma Xi Scientific Research Society – Miami University Chapter, President

Service to College of Arts and Science

- 2008 – 2012 Bioinformatics Committee
- 2011 – 2012 Committee for Review of Chairs and Program Directors

Service to Department of Biology

- 2013 – present Graduate Research Committee
- 2013 – present Safety Committee, Chair – Chemicals
- 2008 – 2012 Graduate Advisory Committee
- 2010 Search Committee – Physiologist
- 2005 – 2007 Seminar Committee, Chair
- 2001 – 2005 Seminar Host
- 2003 – 2005 Undergraduate Research Committee

Service to Miami University – Middletown Campus

- 2001 – present Research and Grants Committee
- Chair, 2003 - 2005
- 2008 Associate Dean Academic Affairs (ADAA) Search Committee
- 2005 Director of Records and Registration Search Committee
- 2002 – 2007 Teaching and Learning with Technology Roundtable
- 2002 Guest Lecturer (BOT 191) Dr. Keiffer - DNA replication, transcription, and translation

Service to Students

- 2001 – present Math & Science Undergraduate Advising, Miami University - Middletown
- 2003 Undergraduate Research Forum – Moderator of Oral presentations Natural Sciences Section
- 2005 – present Provide letters of recommendation to undergraduate students seeking admission to professional, graduate schools, jobs, etc. (>25 students)

Service to Community

- | | |
|-------------|--|
| 2014 | Talawanda Science Week |
| | <ul style="list-style-type: none"> • taught DNA extraction from strawberries to 3 classes of 5th graders (75 total students) |
| 2003 – 2011 | McCullough Hyde Memorial Hospital Trust Fundraising Gala |
| | <ul style="list-style-type: none"> • Co-Chair of the event that raised \$120,000 for the purchase of fetal monitoring equipment. |
| 2005 | Kids in College, CSI – Miami University – Middletown |
| | <ul style="list-style-type: none"> • Presented forensic Uses of DNA to area grade school students |
| 2005 | Tech Challenge - Careers in Crime Science, “DNA and Crime” |
| | <ul style="list-style-type: none"> • Presentation to area high school students on DNA human identification |
| 2004 | MidMiami Healthcare Foundation, |
| | <ul style="list-style-type: none"> • Met to discuss possible projects for Miami University - Middletown undergraduate involvement |
| 2002 – 2003 | Science Day Judge, Southwest Ohio District |

EXAMPLE ASSIGNMENT FOR BSC XXX WITH AN ENVIRONMENTAL FOCUS

THE ENTREPRENEUR PROJECT

EEP Description

The definition of **entrepreneur** has been expanding in recent years. We are defining it "a person who organizes and manages any enterprise usually with considerable initiative, creativity, and risk." Rather than working as an employee, an entrepreneur takes the lead on a venture, an idea, some goods or services that solves a problem. The entrepreneur is a leader and innovator of new ideas and creative solutions. Entrepreneurs tend to be good at perceiving new opportunities and they often exhibit positive biases in their perception (i.e., a bias towards finding new possibilities and seeing unmet needs). Since environmental problems are often complex and unique to specific situations, the entrepreneurial spirit is needed to generate long term solutions

The hand-out distributed on the first day of class describes in detail the steps in the scientific method and includes one description of the steps in an environmental problem-solving paradigm. We will be working through these stages in the first section of this course and, through this assignment, you will continue to explore them and come to fully appreciate the distinctions by further applying it to your EEP.

The environmental problem solving (EPS) method as outlined has the following steps:

- 1) Identify and diagnose the problem
- 2) Set goals and objectives
- 3) Design and conduct a study
- 4) Propose alternative solutions
- 5) Implement, include a plan to monitor, reevaluate

Ultimately you will be placed into entrepreneurial teams that will develop creative approaches toward solving some aspect of an environmental problem using the environmental problem-solving stages. In the end, you will present it as if you were a consulting firm hired to come up with solutions to solve that problem.

Part I – XX September 20XX

For class on XX September, each individual is asked to come to class ready to describe an environmental problem that interests you. You can get ideas for the problem from the newspaper, from the web, from television ... they are everywhere! Once you decide on something, you need to articulate the problem clearly in a manner akin to how it might be framed to an environmental consulting company. That is, you would probably not hire a company to solve all chemicals in all habitats in the United States but you might hire one to address chemical contamination in the Great Miami River.

Each person should turn in the following (typed of course) on one single page.

- A clear Statement of the problem - written so that an environmental consultant (or others in your group) would have a sense for what they are getting into.

- Background for the problem – provide some context and an explanation as to how you arrived on this problem
- Include sources where you got the idea or that helped you flesh out the idea. These do not have to be library resources but they should be specific. Identify the date and time of the new program you saw, the specific reference for the newspaper article the URL for the web posting that gave you the idea.

Pick something that captures your imagination! You will be working with your group on one of the problems and so it should interest you.

During class, you will be assigned groups, discuss the various problems each of you have found and select one to address. Start by discussing what you might need to know to identify and diagnose the problem so that you can set the boundaries and be prepared to focus in on your goals and objectives in terms of solving the problem.

Before you leave class on xx September you should turn in a couple sentences to identify what aspect of that big problem your team is going to tackle. Start by discussing what you might need to know to identify and diagnose the problem so that you can list the boundaries to the problem (areas outside of which you will not be able to deal with the problems or issues).

In your discussion, you should identify areas that will require more information. Divide up the tasks, exchange phone numbers and email addresses so that you have a mechanism to coordinate and pull information together.

Part II – September XX, 20XX

Your group will turn in a more detailed description of the problem, a revision of the boundaries and an articulation of the goals and objectives for your environmental team. Remember to be careful about vague terms and to be specific about a time line. This should be typed.

Each person should also turn in a summary of one scientific paper that relates to your environmental problem. We will discuss the difference between primary literature and grey literature in class. The goal of this is to develop a sense for the kind of science available to you as an environmental consultant. This should be typed.

Part III - October XX, 20XX

Next you will need to think about what you would need to conduct a study – brainstorm, brainwrite/ force field analyze/mind map/brain fertilize or use one of the other techniques described in your book as you move to describe a study and come up with all possible alternative solutions there might be. Begin to identify the data you would need to make a judgment among the alternative solutions. Go back and revise the problem statement and objectives as necessary. Gather more references to bolster your case regarding the feasibility or infeasibility of each of your solutions.

Your group will turn in a description of your study. This description will include some research, which you have been doing, as well as data collection (which you can just describe –it might be library work, on-line resources, interviews, etc.) To that end, include at least four references that pertain to your study. You may use the scientific studies you found earlier but you will want to expand outside of science so none of these have to be “scientific papers”. They may contain data, they may be reports, they may be specific interviews, contain information from surveys or be summaries from the general literature. **Included with what you turn in** your group will propose as many **alternative solutions as you can** that are based on the results and information you have gathered.

Go back and revise your problem statement, goals and objectives as necessary. As you continue to ask “Who?” “What?” “Where?” “Why?” & “How?” you will continue to revise and focus your project.

Part IV – November XX, 20XX- The Final report and presentations

Each group should have a full report just as an environmental consulting firm would submit to an agency that had hired them to address a specific problem. The report should be typed double-spaced and stapled with all names on it in alphabetical order. The report should include references – a full URL for any web sites used – a full citation for any text references, literature references or article references used. The specific format you use is up to you just be consistent. Make sure there are no places in the report where you plagiarize (i.e. don't copy phrases or sentences from anything without proper attribution). A full description of plagiarism is posted on the blackboard site. The report should have the following sections.

Written Report Sections:

1. Statement of the problem (note this can be revised as you gather more information – even environmental consultants can learn)
2. Statement of Goals and Objectives (make sure they are SMART!)
3. Description of the study – How are you going to go about refining the problem? collecting data and information about the problem? Consider this a strategic plan.
4. Results of the study
 - a. What results were you able to get from resources available to you?
 - b. What results would you get if you were a firm, had a budget and more time to spend in the field or pay people to collect information?
5. Propose alternative solutions. Be sure to include pros and cons of each solution.
6. Implementation
 - a. Indicate which solution your group would implement.
 - b. Describe an implementation plan that includes how the issue will be monitored and reevaluated going forward.
7. Reference list.

Each group will give a 10-minute presentation of their project to the class. You may use the board, bring posters to class, or use some presentation software. If you choose to use the software come early so we can make sure it is ready to go. Keep in mind that you will not have class time to set up and fiddle with getting into the cloud and find it, etc. Real world clients are not very tolerant of this.

Rubric #1: Assessment of science learning for Applied Biology degree.

To be deployed to evaluate laboratory reports in the second semester of the introductory course (BIO 115 or 116) and again in reports prepared in upper division courses

Category	Novice	Apprentice	Practitioner	Expert
Tools and technology	Did not understand the tool or technology deployed.	Attempted to use appropriate technology but explanation inaccurate or incomplete	Effectively explained the use of tools and technology to gather and analyze data	Accurately and proficiently explained the use of appropriate tools and technology to gather data
Data	Did not analyze or present data	Attempted to analyze data but incompletely or inappropriately	Effectively analyzed most of the data but some not presented	Data analysis appropriate and complete
Presentation	Did not follow guidelines in organization of report. Data not presented or not presented in an understandable manner	Followed most of the guidelines in organization but some pieces missing or minimal Some data presented but not in suggested format or not in an understandable manner	Followed all the guidelines in the organization; nothing missing Data presented in an appropriate format or at least in an understandable manner	Organization is clear and fits all aspects of the guidelines. Data presented in a clear, professional and easy to understand manner
Procedures and reasoning	No evidence of scientific reasoning used	Some evidence of scientific reasoning used	Used effective scientific reasoning	Employed refined and complex reasoning as applied to study
Scientific communication/using data	No explanation, or the explanation could not be understood, or was unrelated to the task or investigation No conclusion stated or conclusion did not stem from data presented	An incomplete explanation or explanation not clearly presented Conclusions were only partly supported by the data	A clear explanation was presented Appropriately used data to support conclusions	Provided clear effective explanation detailing how the task was carried out. Interpretation of data supported conclusions and raised new questions and applied to new contexts
Scientific concepts and related content	No use or mostly inappropriate use of scientific terminology No mention or inaccurate references to relevant scientific concepts Minimal evidence of understanding major concepts.	Used some relevant scientific terminology Minimal reference to relevant scientific concepts. Some evidence of understanding major concepts but not well connected to data	Appropriately used scientific terminology Provided evidence of relevant scientific concepts Evidence of understanding with some connection to data	Precisely and appropriately used scientific terminology Provided evidence of in-depth understanding of relevant concepts. Understanding of major concepts evident; Connections to data are clear and relevant.

Definition of Critical Thinking

There are several definitions of critical thinking. For example, Robert Ennis differentiates critical thinking from higher order thinking and Bloom's taxonomy (Bloom et al., 1956). He defines it as "reflective and reasonable thinking that is focused on deciding what to believe or do" (Ennis, 1985, p. 45). A more recent meta-analysis, defines critical thinking as "the ability to engage in purposeful, self-regulatory judgment, is widely recognized as an essential skill for the knowledge age" (Abrami et al., 2008, p. 1102). The AAC&U define it as "a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion" (Rhodes, 2010, p. 1). The author of the *Delphi Report* (Facione, 1990) interviewed experts in the critical thinking field and concluded that critical thinking is "purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based" (Facione, 1990, p. 2). Facione's (1990) experts recommend six cognitive skills as the core of critical thinking, and each of these cognitive skills has subskills.

Critical Thinking Rubric for GMP 2017

Skill	Subskills	Level 1	Level 2	Level 3	Level 4
		Consistently does all or almost all of the following:	Does most or many of the following:	Does most or many of the following:	Consistently does all or almost all of the following:
Interpretation	Categorization Decoding Significance Clarifying Meaning	Offers biased interpretations of evidence, statements, graphics, questions, information, or the points of view of others	Misinterprets evidence, statements, graphics, questions, etc.	Accurately interprets evidence, statements, graphics, questions, etc. and determines significance	Accurately interprets evidence, statements, graphics, questions, etc. and determines significance
Analysis	Examining Ideas Identifying Arguments Analyzing Arguments	Fails to identify or hastily dismisses strong, relevant counter-arguments	Fails to identify strong, relevant counter-arguments	Identifies relevant arguments (reasons and claims) pro and con within the problem context	Identifies the salient arguments (reasons and claims) pro and con within the problem context
Evaluation	Assessing Claims Assessing Arguments	Ignores or superficially evaluates obvious alternative points of view	Ignores or superficially evaluates obvious alternative points of view	Offers analyses and evaluations of obvious alternative points of view	Thoughtfully analyzes and evaluates major alternative points of view
Inference	Querying Evidence Conjecturing Alternatives	Argues using fallacious or irrelevant reasons, and	Draws unwarranted or fallacious conclusions	Draws warranted, non-fallacious conclusions by	Draws warranted, judicious, non-fallacious

	Drawing Conclusions	unwarranted claims		querying evidence or conjecturing alternatives	conclusions by querying evidence and conjecturing alternatives
Explanation	Stating Results Justifying Procedures Presenting Arguments	Does not justify results or procedures, nor explain reasons	Justifies few results or procedures, seldom explains reasons	Justifies some results or procedures, explains reasons	Justifies key results and procedures, explains assumptions
Self-Regulation (Objectivity)	Self-examination Self-correction	Regardless of the evidence or reasons, maintains or defends views based on self-interest or preconceptions	Regardless of the evidence or reasons, maintains or defends views based on self-interest or preconceptions	Fair-mindedly follows where evidence and reasons lead	Fair-mindedly follows where evidence and reasons lead

Adapted from Peter A. Facione, Norren Facione, and The California Academic Press, 1994.

Written Communication Rubric – Global Miami Plan 2017

CRITERION	1. Does not meet	2. Minimally Meets	3. Meets	4. Meets to Highest Level	N/A	Score
1. How effectively does the writer convey the message or purpose to the intended audience?	You (the reader) are unable to identify the purpose or message of the document.	You have some understanding of the purpose or message but remain unclear about some aspects.	You can identify a clear message or purpose, and there exists a general sense of audience awareness.	The message of the document is thoughtful and conveys a nuanced understanding of the audience.		
2. Are the claims appropriately supported by evidence?	Content and evidence do not support the message and purpose. In most places, more information or details are needed, or inappropriate information or details are used.	Content and evidence generally support the message and purpose, but in a number of places, more information or details are needed or inappropriate details or information are used.	Content and evidence support the message and purpose quite well, but in a few places more information or details are needed or inappropriate information or details are used.	Content and evidence thoroughly and insightfully support the document's message and purpose.		
3. Is the organization appropriate for the audience, genre (type of writing), and purpose?	Not well organized; you cannot follow it that well; it leaves you more confused than clarified; sections and information seem significantly out of order and/or are missing.	Organization is just "okay": you can follow it in many places, but it seems disjointed and coherence within/among ideas/sections isn't always clear.	Solid organization; in a few places the coherence within and between ideas/sections may be a little rough.	All parts of the writing are clear and the coherence within and between ideas/sections works seamlessly and effectively.		
4. Are the style and tone appropriate for the audience?	Style and tone are inappropriate for the audience, genre and	Style and tone are generally appropriate; however, some inappropriate breaks	Style and tone are appropriate; however, minor inconsistencies and	Style and tone are fluent, elegant; appropriate concision is used. Grabs your attention		

genre (type of writing), and purpose?	purpose.	and inconsistencies exist. Overall it's readable, but it doesn't grab your attention in rhetorically appropriate ways as well as it could.	breaks (e.g., "filler" or "fluff" text in parts, clichés). Mostly grabs your attention in rhetorically appropriate ways. A solid fit with the genre.	in rhetorically appropriate ways. For its genre and purpose, it really stands out.		
5. Is the document designed or formatted appropriately for the audience, genre, and purpose (includes use of tables and figures)?	The document design and formatting choices are inappropriate, seriously hindering readability and effectiveness.	The formatting and design choices are generally appropriate for the audience, genre and purpose, but multiple breaks and inconsistencies interfere with understanding or impact of the piece.	The formatting and design choices are appropriate for the audience, genre and purpose. A few minor breaks and inconsistencies exist but none that are too distracting.	The formatting and design choices are appropriate and insightful, improving the overall message or effectiveness of the document.	Document does not call for special design or formatting.	
6. Is the document appropriately and thoroughly proofread and copyedited for the audience, purpose and genre (type of writing)?	Grammatical, spelling, and/or punctuation errors are glaring and problematic, distracting significantly from the document's message.	Multiple grammatical, spelling and/or punctuation errors exist that somewhat distract from message.	A few minor errors but none that distract too much from the message.	No errors or just 1 or 2 very minor ones which are acceptable within the parameters of the rhetorical situations and genre.		
7. Is evidence documented and cited correctly for the audience, purpose and genre (type of writing)?	It is difficult to figure out the source information. Either there are no research citations or the citations have significant errors (e.g., inconsistent documentation, inaccurate or missing important information,	You can figure out the source information, but the research citations have some errors (minor info missing, wrong order, multiple gaps or inconsistencies in documentation style).	Source information is accurate and present, but a few of the research citations include minor errors (few gaps or breaks in citation style).	Research citations are used perfectly or with just one or two very minor errors (e.g., typos, spelling).	Writing does not call for citations.	

	rather than minor formatting errors).					
TOTAL SCORE						

Courses of Instruction

BIO 115. Biological Concepts: Ecology, Evolution, Genetics, and Diversity. (4) (MPF, MPT)

Integrated study of microbes, plants, and animals emphasizing biological diversity and interdependence of life and environment. IVA, LAB. CAS-D/LAB.

BIO 116. Biological Concepts: Structure, Function, Cellular, and Molecular Biology. (4) (MPF, MPT)

Biological principles common to microbes, plants, and animals, including interactions between organism and environment. IVA, LAB. CAS-D/LAB. CAS-QL.

BIO 201. Human Anatomy. (4)

Anatomy of typical vertebrates. CAS-D/LAB.

BIO 203. Introduction to Cell Biology. (3) (MPT)

Introductory study of eukaryotic cell structure and function.

Prerequisite: BIO 114, BIO/[MBI 116](#), or [BIO 191](#).

BIO 206. Evolutionary Biology. (3) (MPT)

Development of major evolutionary concepts and application of such concepts within the biological sciences and related scientific fields are examined. Students cannot receive credit toward the major for both [BIO 204](#) and [206](#). Prerequisite: one year of biological science.

BIO 209. Fundamentals of Ecology. (3) (MPT)

Interrelationships between organisms and their environments.

Prerequisite: One course in the biological sciences (BIO or MBI); or permission of the instructor.

BIO 305. Human Physiology. (4) (MPT)

Study of general physiological principles necessary for basic understanding of life processes. CAS-D/LAB.

BIO 311. Vertebrate Zoology. (4) (MPT)

Taxonomy and life histories with emphasis on local fauna. CAS-D/LAB.

BIO 312. Invertebrate Zoology. (4) (MPT)

Morphology and taxonomy with emphasis on local fauna. CAS-D/LAB.

BIO 314. Plant and Fungal Diversity. (4) (MPT)

Overview of plant and fungal diversity considering all major groups of non-animal eukaryotes. Although primarily a survey of structural and biochemical characteristics that define each group, the course also examines evolutionary themes among these organisms with particular emphasis on land plant evolution and the polyphyletic nature of the algae and fungi.

Prerequisite: a course in biological science.

BIO 342. Genetics. (3) (MPT)

Introduction to basic principles of genetic organization, function, and inheritance.

Prerequisite: one year of chemistry, junior standing, and at least one 200-level biology course, or permission of instructor.

BIO 351. Environmental Education: Focus on Natural History. (4)

Introduction to the field of environmental education emphasizing the natural history and interpretation of natural habitats of southwestern Ohio. Recommended prerequisite: [BIO 115](#).

BIO 467

BSC 292

BSC 313

BSC 321

BSC 415

BSC 416

BSC 475

BSC 492

CHM 141. College Chemistry. (3) (MPF)

General chemistry lecture course. Examines the fundamentals of atomic and molecular structure, chemical reactions and stoichiometry, properties of solutions, thermochemistry, gases, and chemical bonding. Students also develop ideas, experience, methodology, and skills used in the application of scientific methodology.

Credit not given for both [CHM 141R](#) and [141](#). IVB, LAB. CAS-D.

CHM 141R. College Chemistry. (4) (MPF)

Coordinated lecture and recitation to develop ideas, experience, methodology, and skills used in the application of scientific methodology. Framework is consideration of fundamental principles of atomic and molecular structure, chemical bonding, properties of solutions, and chemical reactions. Gain skills in developing hypotheses, observing chemical phenomena, collecting data, and evaluating results critically. Credit not given for both [CHM 141](#) and [141R](#). IVB, LAB. CAS-D/LAB.

CHM 142. College Chemistry. (3) (MPT)

In this follow-up to [CHM 141](#), students will continue their study of the properties of solutions, thermodynamics, and acids and basis. The course also explores chemical kinetics, chemical equilibrium, coordination chemistry and electrochemistry.

Prerequisite: [CHM 141](#).

CHM 144. College Chemistry Laboratory. (2) (MPF)

Presents laboratory exercises to illustrate the fundamental principles of chemistry. An emphasis will be placed on safety, laboratory skills, techniques for simple quantitative measurements and the use of modern instrumentation for data collection and analysis. Students will also gain skills in developing hypotheses, observing chemical phenomena, collecting and sharing data and evaluating results critically. IVB, LAB. CAS-D/LAB.

CHM 145. College Chemistry Laboratory. (2) (MPT)

Presents laboratory exercises to illustrate the fundamental principles of chemistry. In this follow-up to [CHM 144](#), students will continue working on their laboratory skills, using techniques for quantitative measurements and using modern instrumentation for data collection and analysis. Includes chemical kinetics, equilibrium, acids and bases, and electrochemistry. CAS-D/LAB. Prerequisite: [CHM 144](#).

CHM 241. Organic Chemistry. (3) (MPT)

Study of stereochemistry and the reaction mechanisms of various types of organic compounds with examples of chemical reactions in biological systems. For premedical and pre-dental students and science majors not planning to major in chemistry or biochemistry. Credit may not be received for both [CHM 231](#) and [241](#), [242](#) or [251](#), [252](#).

Prerequisites: [CHM 142](#) or [142M](#).

Co-requisites: [CHM 244](#).

CHM 242. Organic Chemistry. (3)

Study of stereochemistry and the reaction mechanisms of various types of organic compounds with examples of chemical reactions in biological systems. For premedical and pre-dental students and science majors not planning to major in chemistry or biochemistry.

Prerequisite: [CHM 241](#).

CHM 244. Organic Chemistry Laboratory. (2) (MPT)

Introduction to experimental techniques involved in synthesis, purification, and chemical identification of organic molecules. CAS-D/LAB.

Prerequisite: [CHM 145](#).

Co-requisite: [CHM 241](#), [242](#).

CHM 245. Organic Chemistry Laboratory. (2)

Introduction to experimental techniques involved in synthesis, purification, and chemical identification of organic molecules. CAS-D/LAB.

ECO 201. Principles of Microeconomics. (3) (MPF, MPT)

Nature and scope of microeconomics, including the role of the market in resource allocation, the role of competition, market forces, the forces governing the distribution of income, and the role of foreign trade in economic welfare. IIC. CAS-C.

GLG 115L. Understanding the Earth. (1) (MPF)

Laboratory course exploring Earth from multiple perspectives. Earth in the solar system; Earth in time; the solid Earth; Earth's surface in flux; Earth's atmosphere and hydrosphere. IVB, LAB. CAS-D/LAB. Prerequisite or co-requisite: any 100-level, 3 credit hour GLG course (students enrolled in these courses are not required to take the lab).

GLG 121. Environmental Geology. (3) (MPF, MPT)

A survey of introductory geology with a sub theme of human interaction with the geologic environment. Topics include flooding, earthquakes, volcanoes, water quality and availability, energy, use and abuse of natural resources and land-use planning. IVB. CAS-D. CAS-QL.

GLG 244. Oceanography. (3) (MPT)

Examination of the major features of the ocean and the processes active there. Oceanic currents, waves and tides, biologic productivity and zonation, nutrient cycles, chemical parameters, bathymetry, and sediments explored.

Prerequisite: one natural science course from MPF IVA or B, or CAS-D.

GLG 307. Water and Society. (3)

Provides a basic scientific understanding of what water is, where it resides and how it moves throughout the entire hydrologic cycle both on a global and watershed scale. Topics emphasize the importance and fragility of water resources and the world-wide threats to those resources. Major issues examined include flooding, water scarcity, irrigation, settlement of arid land, international water conflict and contamination of drinking water supplies. Topics are examined not only through a natural science perspective, but also through perspectives of history, policy, law and societal attitudes.

Prerequisite: any 100-level, 3 credit hour GLG course, or [GEO 121](#).

MBI 361. Epidemiology. (3) (MPT)

Consideration of the epidemic nature, etiology, and characteristics of infectious and organic diseases, and methods used to analyze their control within the framework of environmental and population variables.

Prerequisite: two hours of microbiology or biology or permission of instructor.

MTH 115. Mathematics for Teachers of Grades P-6. (4) (MPF)

Service course. Topics include problem solving, numeration, computation, number theory, and rational numbers. Designed to provide content background for teaching mathematics in elementary grades. Successful completion of this course may require an examination in basic mathematics. Open only to early childhood or middle childhood majors not concentrating in mathematics and special education majors. V.

Prerequisite: two years of high school algebra or a college algebra course.

PHY 161. Physics for the Life Sciences with Laboratory I. (4) (MPF)

This is a quantitative introduction to the basic physical laws of nature. Classical mechanics and quantum physics are emphasized. Concepts are developed through lectures, demonstrations, computer simulations,

laboratory activities, and problem solving. Qualitative reasoning is emphasized and quantitative problem-solving skills are developed. Algebra and trigonometry are used. No previous physics course is required. IVB. CAS-D.

POL 241. American Political System. (3) (MPF, MPT)

Theories and methods of political analysis applied to the American political system. Political beliefs, behavior, institutions, and public policies in the American case will be examined. IIC. CAS-C. CAS-QL.

STA 261. Statistics. (4) (MPF, MPT)

Service course. Descriptive statistics, basic probability, random variables, binomial and normal probability distributions, tests of hypotheses, regression and correlation, analysis of variance. Emphasis on applications.

Note: Credit for graduation will not be given for more than one of [ISA 205](#), [STA 261](#), [STA 301](#), or [STA 368](#).

V. CAS-E.

Name of Instructor	Rank or Title	Full-Time or part-time	Degree Title(s), Institution(s), Include the discipline/field as listed on the diploma(s)	Years of Teaching Experience in the discipline/field	Additional Expertise in the Discipline/field (e.g. licenses, certificates)	Title of the Course(s) this individual will teach in the proposed program (include the course prefix and number)	Number of courses this individual will teach per year at all campus locations
Berg, David	Professor	Full	Ph.D. The Ohio State University; Zoology	24	N/A	BIO 209, BIO 312, BIO 467	7 to 8
Cady, Alan	Professor	Full	Ph.D. University of Tennessee; Zoology	33	N/A	BIO 115, BIO 305, BIO 333, SC 400, BSC 419R	7 to 8
Ferguson, DJ	Associate Professor	Full	Ph.D. The Ohio State University; Microbiology	10	N/A	MBI 161, MBI 201, MBI 361	7 to 8
Gladish, Dan	Professor	Full	Ph. D. University of California - Davis, Plant Biology	26	N/A	BIO 131, BIO 176, BIO 203, BSC 291	7 to 8
Grubb, Brian	Instructor	Full	M.S. Colorado State University	15	N/A	BIO 155, 221	4-Mar
Harding, Paul	Professor & Chair	Full	Ph.D. Ohio University, Molecular & Cellular Biology; M.S., Ohio University, Microbiology	18	N/A	BIO 116, BIO 342, BIO 464	3 to 4
Janik, James	Professor	Full	Ph.D. Rutgers University, Physiology and Neurobiology; M.S. SUNY at Buffalo, Natural Sciences	27	N/A	BIO 203, BSC 292, BSC 492, BSC 401	7 to 8
Keane, Brian	Professor	Full	Ph.D. Purdue University, Biology	26	N/A	116, BIO 121, BIO 311, BIO 351	7 to 8
Keiffer, Carolyn	Professor	Full	Ph.D. Ohio University, Restoration Ecology	20	Tropical Biology, University of Costa Rica OTS	BIO 121, BIO 131, BIO 155, BIO 176, BSC 291	7 to 8
Rypstra, Ann	University Distinguished Professor	Full	Pennsylvania State University, Zoology	34	N/A	Bio 116, BIO 115, BIO 206W, BIO 400	3 to 4

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EDUCATION

A.S., 2002 Chemistry Concentration, Southern State Community College, Hillsboro OH.
B.S., 2004 Biology and Chemistry, Wilmington College, Wilmington OH
Ph.D., 2011 Cell and Molecular Biology, University of Cincinnati – College of Medicine.
Dissertation Title: Cell cycle-dependent association of plectin 1b regulates mitochondrial morphology and function

PROFESSIONAL EXPERIENCE

2015–Present **Visiting Assistant Professor and Coordinator for Anatomy and Physiology**,
Department of Biology, Miami University (Hamilton Campus)
2014 **Visiting Assistant Professor**, Department of Biology, Wilmington College
2012–2014 **Part-Time Instructor**, Department of Biology and Department of Microbiology,
Miami University (Hamilton Campus)
2012–2013 **Part-Time Instructor**, Department of Biology, Wilmington College
2006–2011 **Graduate Research Assistant**, Department of Cancer and Cell Biology,
University of Cincinnati – College of Medicine, Research Focus: Cell-cycle
regulation of mitochondrial morphology and function
2003–2005 **Undergraduate Research Assistant**, Department of Biology, Wilmington
College, Research Focus: Detection of cell cycle regulatory gene expression in the
protistan parasite *Toxoplasma gondii*
2004 **Laboratory Assistant**, Department of Biology, Wilmington College
2004 **Supplemental Instruction Leader**, Department of Chemistry, Wilmington
College
2004 **Independent Peer Tutor**, Wilmington College, Tutored for Cell Biology,
Microbiology, and Quantitative Analysis
2002 **Laboratory Assistant**, Department of Chemistry, Wilmington College
2002 **Undergraduate Research Assistant**, Department of Chemistry, Southern State
Community College, Research Focus: Comparison of three analytical techniques
to determine the calcium concentration in Golden Delicious Apples:
Ethylenediaminetetraacetic Acid (EDTA) titration, calcium ion-selective
electrode (ISE), and inductively coupled plasma (ICP)
2001–2002 **Laboratory Assistant**, Department of Chemistry, Southern State Community
College

COURSES TAUGHT (current courses in italics)

BIO 171&172: Human Anatomy & Physiology I and II (service course for Nursing majors)
BIO 161: Human Physiology (freshman; nonmajors); MBI 111: Microorganisms and Human Diseases (freshman, nonmajors); MBI 131: Community Health Perspectives (freshman, nonmajors). Other Biology Courses (Wilmington College): Life Processes, Introduction to Cell Biology, Molecular Biology, Microbiology & Immunology, Senior Research & Seminar

PROFESSIONAL PRESENTATIONS

10 symposium/seminar presentations and 3 professional meeting presentations

PROFESSIONAL SERVICE ACTIVITIES

2015 Presiding Officer, Annual Midwestern Conference of Parasitologists
 2003-Present Various Committees (judging, auditing, symposium), Annual Midwestern Conference of Parasitologists
 2003-2005 Chemistry Demonstrations and Instruction, High School Chemistry Night, Wilmington College
 2004 Student Aide, Pittsburgh Conference and Exposition on Analytical Chemistry and Applied Spectroscopy
 2003 Chemistry demonstration, Science Olympiad Program, Cincinnati State Technical and Community College
 2003 Organized and directed a Science Overnight for the entire Clinton County Unit of the Girl Scouts of the Buckeye Trails Council, Camp Whip-Poor-Will, Ohio
 2003 Student Host, Westheimer Peace Symposium, The Environment - Pollution, Politics, and Peace, Wilmington College

DAVID J. BERG

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EDUCATION

B.S., 1982 Biology, University of Notre Dame, Notre Dame, IN.
 M.S., 1984 Zoology, Northwestern State University of Louisiana, Natchitoches, LA. Thesis title: The distribution of aluminum in the tissues of three warmwater fishes.
 Ph.D., 1991 Zoology, The Ohio State University, Columbus, OH. Dissertation title: Genetics and ecology of an invading species: *Bythotrephes cederstroemi* in the western basin of Lake Erie.

PROFESSIONAL EXPERIENCE

2004-present **Professor**, Department of Biology, Miami University (assigned to Hamilton Campus); **Faculty Member**, Ph.D. Program in Ecology, Evolution, and Environmental Biology; **Faculty Affiliate**, Institute of Environmental Sciences, Miami University.
 2005-2013 **Coordinator of Faculty Research & Scholarship** (2010-13) and **Special Assistant to the Dean for Scholarship and Research** (2005-2010), Miami University Hamilton Campus;
 1999-2004 **Associate Professor**, Department of Zoology, Miami University (assigned to Hamilton Campus).
 1991-2003 **Summer Faculty**, F.T. Stone Laboratory, Ohio State University, Put-in-Bay, OH.
 1993-1999 **Assistant Professor**, Department of Zoology, Miami University (assigned to Hamilton Campus).
 1992-93 **Postdoctoral Research Scholar**, Department of Zoology, Miami University.
Adjunct Assistant Professor, Department of Biology, Thomas More College and Department of Natural Sciences and Mathematics, Indiana University East.
 1991-92 **Postdoctoral Research Associate**, Department of Entomology, Ohio State University.
Lecturer, Program in General Biology, Ohio State University.
 1985-91 **Graduate Teaching Associate, Graduate Research Associate, University Fellow, Presidential Fellow**, Department of Zoology, Ohio State University.
Visiting Researcher, Max-Planck-Institut für Limnologie, Plön, Germany.
 1984-85 **Laboratory Technologist II**, Louisiana Department of Health and Human Resources, New Orleans, LA.
 1982-84 **Graduate Teaching Assistant**, Department of Biology and Microbiology, Northwestern State University of Louisiana.
 1982 **Environmental Protection Assistant (GS-5)**, U.S. Environmental Protection Agency, Chicago, IL.

COURSES TAUGHT (current courses in italics)

BIO 121: *Environmental Biology* (freshman, nonmajors); BIO 161: *Human Physiology Laboratory* (freshman, nonmajors); BIO 171 & 172: *Human Anatomy & Physiology I and II* (service course for Nursing majors); BIO 209W: *Fundamentals of Ecology* (sophomore, Biology majors); BIO 312: *Invertebrate Zoology* (junior, Biology majors); BIO 467 *Conservation Biology* (senior/graduate, Biology majors); BIO 710: Graduate Seminar in Ecology, Evolution, & Environmental Biology; EEOB 125: *Introductory Aquatic Biology* (freshman, summer course, Ohio State University)

GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS ADVISED

3 M.S. students, 3 M.En. students, 1 M.A.T. student; 9 Ph.D. students (3 current); 2 postdoctoral fellows
 Member, Graduate Committees for 12 M.S. students and 13 Ph.D. students, 1993-present

PROFESSIONAL MEMBERSHIPS

Advancing the Science of Limnology & Oceanography
 Desert Fishes Council
 International Association for Great Lakes Research
 Society for Freshwater Science

Council on Undergraduate Research
 Freshwater Mollusk Conservation Society
 Society for Conservation Biology

EXTRAMURAL GRANTS RECEIVED (active in last 4 years; \$3,234,472 total at Miami University)

"Conservation genetics of *Lampsilis powellii*," \$10,000 from the Arkansas Game and Fish Commission for 2015-16.
 "Research Experiences for Undergraduates Site: Ecology in Human-Dominated Landscapes," (DBI-1460518), \$488,571 from the National Science Foundation for 2015-20 (with A. L. Rypstra).

"Conservation of aquatic invertebrates in the northern Chihuahuan Desert," \$392,961 from the New Mexico Department of Game & Fish for 2012-2017.

"Utilization of environmental DNA to detect endangered mussel populations in the southwest US," \$2,365 from the Malacological Society of London for 2013-14 (with K. Inoue).

"Population genetics and population viability analyses of the spectaclecase, *Cumberlandia monodonta*," \$59,499 from the Missouri Department of Conservation and U.S. Fish & Wildlife Service for 2012-14.

"Molecular phylogenetic and morphological analyses of the state endangered wrinkled marshsnail, *Stagnicola caperata* (Say, 1829)," \$31,670 from the New Mexico Department of Game and Fish for 2012-14.

"Research Experiences for Undergraduates Site: Ecology in Human-Dominated Landscapes," (DBI-1156703), \$392,617 from the National Science Foundation for 2012-15 (with A. L. Rypstra).

\$432,844 in internal grants received from Miami University.

PEER-REVIEWED PUBLICATIONS (since 2014; 49 total; * = student author)

Stanislawczyk, K.*, A. D. Walters*, T. J. Haan*, M. Sei, B. K. Lang, and D. J. Berg. In revision. Macroinvertebrate community structure in springs of the northern Chihuahuan Desert. Currently being revised after receiving positive review from *Freshwater Science*.

Adams, N. E.*, K. Inoue*, D. J. Berg, B. Keane, and N. G. Solomon. Accepted with minor revision. Range-wide microsatellite analysis of the genetic population structure of prairie voles (*Microtus ochrogaster*). *American Midland Naturalist*.

Youngquist, M. B.*, K. Inoue*, D. J. Berg, and M. D. Boone. 2016. Effects of land use on population presence and genetic structure of an amphibian in an agricultural landscape. *Landscape Ecology* doi: 10.1007/s10980-016-0438-y.

Inoue, K.* and D. J. Berg. 2016. Predicting the effects of climate change on population connectivity and genetic diversity of a freshwater mussel in riverine systems. *Global Change Biology* doi: 10.1111/gcb.13369.

Holste, D. R.*, K. Inoue*, B. K. Lang, and D. J. Berg. 2016. Identification of microsatellite loci and examination of genetic structure for the endangered springsnails *Juternia kosteri* and *Pyrgulopsis roswellensis* in the Chihuahuan Desert. *Aquatic Conservation: Marine and Freshwater Ecosystems* 26: 715-723.

Inoue, K.*, B. K. Lang, and D. J. Berg. 2015. Past climate change drives current genetic structure of an endangered freshwater mussel species. *Molecular Ecology* 24: 1910-1926.

Morningstar, C. R.*, K. Inoue*, M. Sei, B. K. Lang, and D. J. Berg. 2014. Quantifying morphological and genetic variation of sympatric populations to guide conservation of endangered, micro-endemic springsnails. *Aquatic Conservation: Marine and Freshwater Ecosystems* 24: 536-545.

Inoue, K.*, T. D. Levine*, B. K. Lang, and D. J. Berg. 2014. Long-term mark-and-recapture study of a freshwater mussel reveals patterns of habitat use and an association between survival and river discharge. *Freshwater Biology* 59: 1872-1883.

Inoue, K.*, A. L. McQueen*, J. L. Harris, and D. J. Berg. 2014. Molecular phylogenetics and morphological variation reveal recent speciation in freshwater mussels of the genera *Arcidens* and *Arkansia* (Bivalvia: Unionidae). *Biological Journal of the Linnean Society* 112: 535-545.

Ansah, K. N.*, K. Inoue*, B. K. Lang, and D. J. Berg. 2014. Identification and characterization of 12 microsatellite loci for *Physa* in the Chihuahuan Desert. *Conservation Genetics Resources* 6: 769-771.

Inoue, K.*, E. M. Monroe*, C. L. Elderkin, and D. J. Berg. 2014. Phylogeographic analyses reveal Pleistocene isolation followed by high gene flow in a wide-ranging, but endangered, freshwater mussel. *Heredity* 112: 282-290.

PROFESSIONAL PRESENTATIONS

20 invited seminars (5 in last 5 years), 154 presentations at professional meetings (39 in last 5 years; 108 with student authors)

SELECTED PROFESSIONAL SERVICE ACTIVITIES

2015-16 Scientific Expert, Texas Hornshell Species Status Assessment, U.S. Fish and Wildlife Service

2015-16 Organizer and Lead Instructor, Workshop entitled *Population Genetics and Freshwater Mollusk Conservation* at National Conservation Training Center, Shepherdstown, MD

2006-present Member, Texas Hornshell Recovery Plan Advisory Committee, New Mexico Department of Game and Fish

2005-present Associate Editor, *American Midland Naturalist*

2004-present co-Chair of Genetics Committee, Member of the Executive Committee, Member of Awards Committee; Freshwater Mollusk Conservation Society

1993-present Have provided professional consultations to the U.S. Fish and Wildlife Service, New Mexico Department of Game and Fish, Ohio Department of Natural Resources, Texas Parks & Wildlife Department, Pennsylvania Department of Environmental Protection, South Carolina Department of Natural Resources, Maine Department of Inland Fisheries and Wildlife, Arizona Game and Fish Department, Petitcodiac River Recovery Team (Quebec)

CURRICULUM VITA

ALAN BRUCE CADY

Professor of Biology
Department of Biology and Department of Biological Sciences
Miami University-Oxford and Miami University-Regionals

4200 North University Boulevard
Middletown, Ohio 45042 USA
(513) 727-3258 FAX (513) 727-3450
CadyAB@MiamiOH.Edu

a. Professional Preparation

Onondaga Community College, Math-Science (*cum laude*), **A.A.S.**, 1974
State University of New York, College of Environmental Science and Forestry,
Forest Biology (*cum laude*), **B.S.**, 1976
Ohio University, Zoology, **M.S.**, 1978
University of Tennessee, Zoology, **Ph.D.**, 1984
University of Tennessee – Memphis, Dept. of Physiology & Biophysics,
Biochemical/ neurological basis sleep in vertebrates and invertebrates, 1986 – 1989

b. Appointments

2002 - Professor, Zoology, Miami University
1996 - Associate Professor, Zoology, Miami University
1990 - Assistant Professor, Zoology, Miami University
1989 - Visiting Assistant Professor, Zoology, Miami University
1989 - Adjunct Assistant Professor, Biology, Indiana University East
1986 - Instructor, Physiology and Biophysics, University of Tennessee-Memphis
1983 - Adjunct Professor of Nursing, Deaconess College of Nursing
1983 - Visiting Assistant Professor, Biology, Lindenwood College
1978 - Instructor / Teaching Assistant, Zoology, University of Tennessee-Knoxville
1976 - Teaching Assistant, Zoology and Microbiology, Ohio University

c. Publications

- (i) Halaj, J., A. Cady, and G. Uetz. 2000. Modular habitat refugia enhance generalist predators and lower plant damage in soybeans. *Environmental Entomology* 29(2): 383-393.
- Rinaldi, I.M.P., B.P. Mendes, and A.B. Cady. 2002. Distribution and importance of spiders inhabiting a Brazilian sugar cane plantation. *Revta Brazilian Zoology* 19(1): 271-279.
- Finkes, Laura K., Alan B. Cady, Juliana Mulroy, Keith Clay, and Jennifer A. Rudgers. 2006. Plant-fungus mutualism affects spider composition in successional fields. *Ecology Letters* 9: 347-356.
- Tietjen, W.J. and A. B. Cady. 2007. Sublethal exposure to a neurotoxic pesticide affects activity rhythms and patterns of four spider species. *Journal of Arachnology* 35(2):396-406.
- Cady, Alan B., K. Delaney, and G. W. Uetz. 2011. Energetic costs of signaling in two wolf spider species with divergent courtship behaviors. *Journal of Arachnology* 39(2) 161-165.
- (ii) Riechert, S.E. and A.B. Cady. 1983. Patterns of resource use and tests for competitive release in a spider community. *Ecology* 64: 899-913.

- Cady, A.B. 1984. Microhabitat selection and locomotor activity of *Schizocosa ocreata* (Walckenaer) (Araneae:Lycosidae). J. Arachnology, 11: 297-307.
- Cady, A.B., S. Kotani, T. Shiba, S. Katsumoto, and J.M. Krueger. 1989. Somnogenic activities of synthetic lipid A. Infection & Immunity, 57:396-403.
- Anderson, C., A. Cady, & D. Meikle. 2003. Effects of vegetation structure and edge habitat on the density and distribution of white-footed mice (*Peromyscus leucopus*) in small and large forest patches. Canadian Journal of Zoology 81: 897-904.
- Begley-Miller, Danielle and Alan B. Cady. 2015. White-Tailed Deer Browsing of Soybeans Significantly Changes Plant Morphology and Reduces Yield, Contributing to Large Financial Losses. Ohio Journal of Science 115(2):56-61.

d. Synergistic Activities

Have mentored approximately 88 undergraduate students between 1990-2015, resulting in 27 podium or poster presentations at international, national, and local meetings since 2000. Undergraduate students are the lead authors on 66% of these productions.

Participated as a mentor in REU program at Miami University in 2002, 2004, 2006 – 2008, 2010, 2013, 2015, producing 17 presentations at international, national, and local meetings.

Have taken over 17 undergraduates to national and international meetings since 1990.

Secretary for the American Arachnological Society 1993-2014, producing bi-annual 16+ page newsletter.

e. Collaborators & Other Affiliations

- (i) Collaborators:** C. Anderson, Ohio State U., T. Bankroff, D. Meikle, R. Schaefer, J. Tyson, Miami U.; C. Buddle, McGill U.; K. Clay, Indiana U.; L. Finkes, Slippery Rock U., R. Homsher, Middletown OH; S. Marchetti, Arizona; J. Mulroy, Denison U.; J. Rudgers, Rice U.; W. Tietjen, Bellarmine U.; G. Uetz, U. Cincinnati; T. Bankroff, Miami University; J. Coddington, Smithsonian Inst.
- (ii) Graduate and Postdoctoral Advisors:** J. Rovner, Ohio U. (ret.); S. Riechert, U. Tennessee; J. Krueger, Washington State U.
- (iii) Thesis Advisor and Postgraduate-Scholar Sponsor:** T. Bankroff Miami U., K. Fisher, Ohio State U.; 5 graduate students advised, 1 post-doc sponsored.

DONALD J (D.J.) FERGUSON JR

PROFESSIONAL PREPARATION

1988-1992: B.S. in Biology, Virginia Tech, Blacksburg, VA.

1992-2000: Ph.D. in Microbiology, The Ohio State University, Columbus, OH.

2000-2003: Postdoctoral Fellow, VA Medical Center, Cincinnati, OH.

APPOINTMENTS

2015-present: Associate Professor, Departments of Microbiology and Biological Sciences, Miami University Regionals, Hamilton, OH.

2008-2015: Assistant Professor, Department of Microbiology, Miami University Regionals, Hamilton, OH

2005-2008: Adjunct Assistant Professor, Department of Biology, University of Cincinnati, Raymond Walters College, Cincinnati, OH.

Research Scientist, University of Cincinnati, Department of Genome Science, 2003-2008.

COURSES TAUGHT

MBI 161: Elementary Medical Microbiology (service course for freshman Nursing majors); MBI 201:

General Microbiology (sophomore course for Microbiology and Biology majors); MBI 361:

Epidemiology (junior course for Nursing, Microbiology, and Biology majors)

EXTRAMURAL GRANTS RECEIVED

Alternative routes of gut microbial methylamine metabolism that may limit trimethylamine N-oxide, a trigger for atherosclerosis. Submitted to the National Institutes of Health June, 2015. R01. Co-principal investigator with J. Krzycki and K. Wrighton, 30% involvement. \$366,931 for 2016-2021.

Investigating the function of the *mttBI* gene product from *Desulfitobacterium hafniense*. August, 2010.

Department of Health and Human Services, American Recovery and Reinvestment Act funds.

COMBEX. Principal investigator, 100% involvement. \$14,200 for 2010-2011.

\$65,401 in internal grants received from Miami University.

PUBLICATIONS

Ticak T, Hariraju D, Bayron M, Arivett BA, Fiester SE, and DJ Ferguson Jr. 2014. Isolation and characterization of a tetramethylammonium degrading *Methanococcoides* strain and a novel glycine betaine utilizing *Methanohalobius* strain. Arch. Microbiol. 197(2): 97-209.

<http://link.springer.com/article/10.1007%2Fs00203-014-1043-6>

Ticak T^{**}, Kuntz, D^{*}, Girosky K^{**}, Krzycki JA, and DJ Ferguson Jr. 2014. A nonpyrrolysine member of the widely distributed trimethylamine methyltransferase family is a glycine betaine methyltransferase. Proc. Nat. Acad. Sci. U.S.A. Oct 28; 111(43):E4668-76. DOI:10.1073/pnas.1409642111

<http://www.pnas.org/content/111/43/E4668.long>

Ferguson, D.J. Jr., D.G. Longstaff and J.A. Krzycki. 2011. Assay of methylotrophic methyltransferases from methanogenic archaea. Meth. Enzymol. vol 494. pp. 139-158.

<http://www.ncbi.nlm.nih.gov/pubmed/21402214>

Gong W, Hao B, Wei Z, Ferguson DJ Jr., Tallant T, Krzycki J, and Chan M. Structure of the $\alpha_2\epsilon_2$ Ni-CODH component of the *Methanosarcina barkeri* ACDS complex. PNAS. 2008 Jul

15;105(28):9558-63. <http://www.pnas.org/content/105/28/9558.full>

- Ferguson DJ Jr, Gorlatova N, Grahame DA, Krzycki JA. Reconstitution of dimethylamine:coenzyme M methyl transfer with a discrete corrinoid protein and two methyltransferases purified from *Methanosarcina barkeri*. J Biol Chem. 2000 Sep 15;275(37):29053-60.
<http://www.jbc.org/content/275/37/29053.long>
- BP Anton, Y-C Chang, P Brown, H-P Choi, L Faller, J Guleria, Z Hu, N Klitgord, A Levy-Moonshine, A Maksad, V Mazumdar, M McGettrick, L Osmani, R Pokrzywa, J Rachlin, R Swaminathan, B Allen, G Housman, C Monahan, K Rochussen, K Tao, A Bhagwat, S Brenner, L Columbus, V deCrecy-Lagard, DJ Ferguson Jr., A Fomenkov, G Gadda, RD Morgan, A Osterman, K Rudd, D Soll, J Spain, S-Y Xu, A Bateman, M Blaser, R Blumenthal, JM Bollinger, W-S Chang, M Ferrer, I Friedberg, M Galperin, J Gobeill, D Haft, J Hunt, P Karp, W Klimke, E Koonin, C Krebs, D Macelis, R Madupu, MJ Martin, JH Miller, C O'Donovan, B Palsson, M Pop, P Ruch, A Setterdahl, G Sutton, J Tate, A Yakunin, R Greiner, D Horn, K Sjolander, S Salzberg, D Vitkup, S Letovsky, D Segrè, C DeLisi, RJ Roberts, M Steffen, S Kasif. COMBREX: Design, Methodology, and Initial Results. PLOS Biol. 11(8). 2013.
<http://www.plosbiology.org/article/info%3Adoi%2F10.1371%2Fjournal.pbio.1001638>
- Zhang Y, Johansson E, Miller ML, Jänicke RU, Ferguson DJ, Plas D, Meller J, Anderson MW. Identification of a conserved anti-apoptotic protein that modulates the mitochondrial apoptosis pathway. PLoS One. 2011;6(9):e25284.
<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0025284>
- Ferguson Jr, DJ and Smulian AG. Signal transduction and cellular communication. In *Pneumocystis pneumonia*, Walzer PD and Cushion MT, eds. 3rd ed. 2005, pp127-140.
- Paul L, Ferguson DJ Jr, Krzycki JA. The trimethylamine methyltransferase gene and multiple dimethylamine methyltransferase genes of *Methanosarcina barkeri* contain in-frame and read-through amber codons. J Bacteriol. 2000 May;182(9):2520-9.
<http://jb.asm.org/content/182/9/2520.short>
- Ferguson DJ Jr, Krzycki JA. Reconstitution of trimethylamine-dependent coenzyme M methylation with the trimethylamine corrinoid protein and the isozymes of methyltransferase II from *Methanosarcina barkeri*. J Bacteriol. 1997 Feb;179(3):846-52.
<http://jb.asm.org/content/179/3/846.long>
- Ferguson DJ Jr, Krzycki JA, Grahame DA. Specific roles of methylcobamide:coenzyme M methyltransferase isozymes in metabolism of methanol and methylamines in *Methanosarcina barkeri*. J Biol Chem. 1996 Mar 1;271(9):5189-94.
<http://www.jbc.org/content/271/9/5189.long>

PROFESSIONAL PRESENTATIONS

4 invited seminars and 23 presentations at scientific meetings

GRADUATE STUDENTS ADVISED

5 Ph.D. students (3 current), 2 M.S. students

Member, Graduate Committees for 4 M.S. and 12 Ph.D. students, 2008-present

PROFESSIONAL SOCIETY MEMBERSHIPS

American Society for Microbiology

Ohio Branch of the American Society for Microbiology (Current President)

Sigma Xi Scientific Research Society

BIOGRAPHICAL SKETCH: TSUNEO K. FERGUSON

PROFESSIONAL PREPARATION

Biochemistry; Second Major Biology; Minor Chemistry, Bachelor of Science, 1996, Virginia Tech.
Microbiology, Master of Science, The Ohio State University, 2000.

APPOINTMENTS

2014-Present: Visiting Instructor, Department of Biological Sciences, Miami University Regionals, OH.
2010-2014: Part-time Instructor, Department of Microbiology, Miami University Regionals, OH.
2000-2008: Research Associate, Department of Molecular Oncogenesis, University of Cincinnati, OH.
1996-2000: Doctoral Candidate, Department of Microbiology, The Ohio State University, OH.
Graduate Teaching Assistant, Department of Microbiology, The Ohio State University, OH.

PUBLICATIONS

Ferguson T, Soares JA, Lienard T, Gottschalk G, and Krzycki JA. RamA, a protein required for reductive activation of corrinoid-dependent methylamine methyltransferase reactions in methanogenic archaea. *J Biol Chem.* 2009 Jan 23; 284(4): 2285-95. DOI: 10.1074/jbc.M807392200
Hao B, Zhao G, Kang PT, Soares JA, Ferguson TK, Gallucci J, Krzycki JA, Chan MK. Reactivity and chemical synthesis of L-pyrrolysine- the 22nd genetically encoded amino acid. *Chem Biol.* 2004 Sept; 11(9): 1317-24. DOI: 10.1016/j.chembiol.2004.07.011
Hao B, Gong W, Ferguson TK, James CM, Krzycki JA, Chan MK. A new UAG-encoded residue in the structure of a methanogen methyltransferase. *Science* 2002 May 24; 296(5572): 1462-6. DOI: 10.1126/science.1069556
James CM, Ferguson TK, Leykam JF, Krzycki JA. The amber codon in the gene encoding the monomethylamine methyltransferase isolated from *Methanosarcina barkeri* is translated as a sense codon. *J Biol Chem.* 2001 Sept 7; 276(36): 34252-8. DOI: 10.1074/jbc.M102929200

OTHER SIGNIFICANT PUBLICATIONS

Seta KA, Yuan Y, Spicer Z, Lu G, Bedard J, Ferguson TK, Pathrose P, Cole-Strauss A, Kaufhold A, Millhorn DE. The role of calcium in hypoxia-induced signal transduction and gene expression. *Cell Calcium* 2004 Sept-Oct; 36(3-4): 331-40. Review. DOI: 10.1016/j.ceca.2004.02.006
Seta KA, Ferguson TK, Millhorn DE. Discovery of oxygen-responsive genes in pheochromocytoma cells. *Methods Enzymol* 2004; 381: 449-64. Book Chapter. DOI: 10.1016/S0076-6879(04)81030-9
Yuan Y, Hilliard G, Ferguson T, Millhorn DE. Cobalt inhibits the interaction between hypoxia-inducible factor-alpha and von Hippel-Lindau protein by direct binding to hypoxia-inducible factor-alpha. *J Biol Chem.* 2003 May 2; 278(18): 15911-6. DOI: 10.1074/jbc.M300463200
Seta K, Kim HW, Ferguson T, Kim R, Pathrose P, Yuan Y, Lu G, Spicer Z, Millhorn DE. Genomic and physiological analysis of oxygen sensitivity and hypoxia tolerance in PC12 cells. *Ann N Y Acad Sci.* 2002 Oct; 971: 379-88. Review.
Beitner-Johnson D, Ferguson T, Rust RT, Kobayashi S, Millhorn DE. Calcium-dependent activation of Pyk2 by hypoxia. *Cell Signal* 2002 Feb; 14(2): 133-7.

SYNERGISTIC ACTIVITIES

Improvement of teaching.

- I completed the New Faculty Teaching Enrichment Program (NFTEP) during 2014-2105 through Miami University's Center for Teaching Excellence.
- I have attended the annual Lily Conference on College Teaching at Miami University in 2014 and 2015.

Development of curriculum and pedagogical methods.

- I have created and been involved in the implementation of redesigned course content with the goal of increasing student engagement in their learning through inquiry-driven learning assignments and use of the concepts of critical thinking.
- I have introduced flow charts and concept mapping to my students to improve understanding.

Student Support.

- I became certified in Mental Health First Aid from the National Council for Behavioral Health in 2015.
- To help first year students, I visit UNV 101, I am Miami Courses, to discuss with first-year students faculty expectations and tips for success and I refer students to the TRIO program.
- On an ongoing basis, I recruit student tutors for the Office of Learning assistance.

Faculty Support.

- I am a current member of the MUH Center for Teaching and Learning Leadership Collaborative that provides small grants to faculty, faculty-mentoring, events to enrich teaching, and Small Group Instructional Diagnosis to provide midterm student feedback to instructors.

PROFESSOR DANIEL K. GLADISH

Biology and Biological Sciences Departments
 Cell, Molecular, and Structural Biology Graduate Program
 Ecology, Evolution, and Environmental Graduate Program
 Director of The Conservatory at Miami University
 Miami University, 1601 University Blvd., Hamilton OH 45011, USA

EDUCATION

BS in Botany, honors--University of California, Davis CA (March 1989).

PhD in Plant Biology--University of California, Davis CA (December 1995).

PROFESSIONAL EXPERIENCE

2016 Professor, Department of Biological Sciences, Miami University-Regionals
 2015-2016 Coordinator of Mathematics and Sciences, Miami University-Hamilton
 2013-present Professor, Department of Biology, Miami University
 2013, 2015 Visiting Research Professor, Takushoku University, Hachioji, Japan
 2010-2013 Professor, Department of Botany, Miami University
 2005, 2007 Visiting Research Professor, Takushoku University, Hachioji, Japan
 2004-present Director of The Conservatory, Miami University-Hamilton
 2000-2010 Associate Professor, Department of Botany, Miami University
 1996, 1999 Visiting Research Professor, Takushoku University, Hachioji, Japan
 1995-2000 Assistant Professor, Department of Botany, Miami University
 1994-1995 Instructor, Department of Botany, Miami University
 1989-1994 Teaching Assistant, Section of Plant Biology, University of California-Davis

COURSES TAUGHT

BIO 131: Plants, Humanity, and Environment (non-majors); BIO 176: Ecology of North America (non-majors); BIO 191: Plant Biology (majors and non-majors); BIO 203W: Introduction to Cell Biology (majors); BIO 4/502: Plant Anatomy (majors and graduates); BIO 606: Advanced Cell Biology (graduates)

GRADUATE STUDENTS SUPERVISED

Five MS, two MA, two PhD in Botany and Institute of Environmental Sciences.
 Served on graduate committees for seven MS and eight PhD students.

PEER-REVIEWED ARTICLES & BOOK CHAPTERS (since 1990: 24) *Student author Gladish, Daniel K., and Teruo Niki (2000). Factors inducing cavity formation in the vascular cylinders of pea roots (*Pisum sativum* L., cv. Alaska). *Environmental and Experimental Botany* 43: 1-9.

Gladish, Daniel K., Ellen G. Sutter, and Thomas L. Rost (2000). The role of free IAA levels, IAA transport, and sucrose transport in the high temperature inhibition of root system development in pea (*Pisum sativum* L. cv. Alaska). *Journal of Plant Growth Regulation*.
 Niki, Teruo and Daniel K. Gladish (2001). Changes in growth and structure of pea primary roots (*Pisum sativum* L. cv. Alaska) as a result of sudden flooding. *Plant and Cell Physiology* 42:694-702.

- Gladish, Daniel K., and Teruo Niki (2006). Apoptosis-like programmed cell death occurs in procambium and ground meristem of pea (*Pisum sativum* L.) root tips exposed to sudden flooding. *Annals of Botany* 97:895-902.
- Sarkar, Purbasha*, Teruo Niki, and Daniel K. Gladish (2008). Changes in cellular ultrastructure induced by sudden flooding at 25° C in *Pisum sativum* (Fabaceae) primary roots. *American Journal of Botany* 95:782-792.
- Gladish, Daniel K., and Teruo Niki (2008). Ethylene is involved in vascular cavity formation in pea (*Pisum sativum*) primary roots. *Plant Root* 2:38-45.
- Niki Teruo, Mitsuo Takahashi, Daniel K. Gladish (2011). Comparison of the effects of flooding vs. low-oxygen gas on pea (*Pisum sativum* L. cv. 'Alaska') primary roots. *Plant Root* 5:31-39.
- Sarkar, Purbasha*, and Daniel K. Gladish (2012). Hypoxic stress triggers a programmed cell death pathway to induce vascular cavity formation in *Pisum sativum* roots. *Physiologia Plantarum* 146:413-426.
- Gladish, Daniel K. (2015). Vascular aerenchyma and PCD, in A. Gunawardena and P. McCabe, Eds., *Plant Programmed Cell Death*, Springer, Berlin.
- Niki, Teruo, Susumu Saito, Daniel K. Gladish (2015). Granular bodies in root primary meristem cells of *Zea mays* L. var. *Cuscoensis* K. (Poaceae) that enter young vacuoles by invagination: a novel ribophagy mechanism. *Protoplasma* 251: 1141-1149.
- Evans, David E., and Daniel K. Gladish (2016). 83. Water Relations of Plants: Plant Responses to Waterlogging, *Encyclopedia of Applied Plant Sciences*, 2e. Elsevier, Oxford, UK.
- Takahashi, Mitsuo, Teruo Niki, Kevin D. Deem*, and Daniel K. Gladish (2016). Vascular cavity formation enhances oxygen availability during flooding in root tips of *Phaseolus coccineus* L. primary roots. *International Journal of Plant Sciences* 177:277-286.

PROFESSIONAL PRESENTATIONS

25 presentations with published abstracts, including six invited seminars.

EXTERNAL RESEARCH and DEVELOPMENT GRANTS and FELLOWSHIPS

Takushoku University (Hachioji, Japan) Visiting Professor Fellowship; 2013: \$4000.
 Ohio Plant Biotechnology Consortium Research Grant; 2009: \$40,475.
 Takushoku University (Hachioji, Japan) Visiting Professor Fellowship; 2007: \$3478.
 Takushoku University (Hachioji, Japan) Visiting Professor Fellowship; 2005: \$1855.
 Hughes Foundation Research Grant (Univ. of Calif.-Davis); 2002: \$750.
 OBOR Eisenhower Professional Development Program Grant (co-author); 1999: \$84, 229.
 Takushoku University (Hachioji, Japan) Visiting Professor Fellowship; 1996: \$8570.
 Takushoku University (Hachioji, Japan) Visiting Professor Fellowship; 1999: \$3420.

PROFESSIONAL SERVICE

Member: Botanical Society of America, International Society for Plant Anaerobiosis, Japanese Society of Plant Physiologists, Scandinavian Society for Plant Physiology, National Center for Science Education, Sigma Xi
 Journal editorial board member: *Plant Root*, *Plants* (journal), *Plant Science Bulletin*

BIOGRAPHICAL SKETCH

Brian Grubb

Conservatory Manager and Instructor
Department of Biology
Miami University – Hamilton

Phone: 513-785-3086
Email: grubbb@miamioh.edu
Hamilton, OH 45011

A. PROFESSIONAL PREPARATION

Institution	Major/Department	Degree & Year
West Virginia University	Horticulture	BSc. 1995
Colorado State University	Horticulture	MSc. 2000

B. APPOINTMENTS

- Nursery Operations Manager, Broadacres Nursery Inc. 2014
- Horticulture Instructor, Clackamas Community College, 2014
- Nursery Production Superintendent, Pacific Regeneration Technologies, Inc. 2007-2013
- Nursery Production Supervisor, Colorado State Forest Service, 2002-2006
- Nursery Production Manager, Aquatic and Wetland Company, 2000-2001
- Horticulture Instructor, Front Range Community College, 2000

C. PUBLICATIONS

Grubb, B.H. 2007. Propagation protocol for bareroot Silver buffaloberry (*Shepherdia argentea*).
Native Plants Journal vol. 8 no. 3 233-235

D. ACTIVITIES

Outreach:

- i. I am a member of the Board of Directors of Audubon Miami Valley. (AMV). AMV works to conserve and restore natural ecosystems, focusing on birds, other wildlife and their habitats for the benefit of humanity and the earth's biological diversity. I participate in board meetings, volunteer days and outreach.
- ii. I am a councilmember of the Oxford Farmers Market Uptown (OFMU). I participate in council meetings and volunteer at the market to support local farmers in the region of Butler County.

Teaching:

- i. BIO 155 Field Botany. Field/laboratory-oriented, interpretive introduction to botany in the regional out-of-doors. Emphasis given to identification, uses, habit, habitat and communities of plants, and fungi in the context of local terrestrial and aquatic environments. LAB.
1 Lec. 2 Lab.
- ii. BIO 221 Plant Propagation. Provides students with knowledge of the scientific and applied aspects of plant propagation in a closed system including basic plant production, watering, fertilization, crop management, insect and disease control, and problem solving.

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Harding, Paul A.	POSITION TITLE Professor and Chair, Department of Biological Sciences		
eRA COMMONS USER NAME Hardingpa			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Ohio State University & Children's Hospital	Post Doc	'94-'97	Molecular Biology
Ohio University	Ph. D.	'90-'94	Molecular Biology
Ohio University	M.S.	'87-'90	Microbiology
Ohio University	B.S.	'83-'87	Zoology

A. Positions and Honors

Positions and Employment

1994 – 1997	Postdoctoral Fellow, Children's Hospital and The Ohio State University, Department of Surgery, mentor: Gail Besner, M.D., Project: Characterization of HB-EGF
1997 – 1998	Scientific Director, Alpha Genetics Inc., Cincinnati, OH
1999 – 2000	Co-owner & Scientific Director, DNA Analysis Inc., Cincinnati, OH
2001 – 2008	Assistant Professor, Department of Zoology, Miami University, Oxford, OH
2008 – present	Associate Professor, Department of Biology, Miami University, Oxford, OH

Honors & Awards:

- Teaching Award (2014) Miami University Middletown
- Scholarship Award (2013) Miami University Middletown
- Shoupp Award (2006) Exploring the effects of single genes on social behavior, Miami University, Oxford, OH

U.S. Patents

- 2013 No. 8,455,191 Cell Transdifferentiation into Brown Adipocytes
- 2011 No. 7,897,732 Antibodies to Heparin-binding Growth Factor (hbfgf) Polypeptides
- 2008 No.5,876,730 Heparin Binding Growth Factor polypeptides (CTGF)

B. Selected peer-reviewed publications (chronological order).

PEER-REVIEWED PUBLICATIONS

Key for all Publications and Presentations below:

^a Miami University Undergraduate Student

^b Miami University Graduate Student

1. Taylor SR^b, Markesbery MG^a, Klements JR^b, Johnson KD^a and **Harding PA** (2014) Cellular transdifferentiation into Brown adipose-like cells. *Journal of Cell and Molecular Biology*, 12(1&2), 55-62.
2. Taylor SR^b, Markesbery MG^a and **Harding PA** (2014) Heparin-binding epidermal growth factor-like growth factor (HB-EGF) and proteolytic processing by a disintegrin and metalloprotease (ADAM): A regulator of several pathways. *Semin Cell Dev Biol*. 28C:22-30. *(invited review)*.
3. Zhou Z^b, Darwal MA^a, Cheng EA^a, Taylor SR^b, Duan E^b, and **Harding PA** (2013) Cellular Reprogramming into a brown adipose tissue-like phenotype by co-expression of HB-EGF and ADAM 12S. *Growth Factors*, 6:185-198.
4. Ray KC, Blaine SA, Washington MK, Braun AH, Singh AB, Harris RC, **Harding PA**, Coffey RJ, Means AL (2009) Transmembrane and soluble isoforms of heparin-binding EGF-like growth factor regulate distinct processes in the pancreas. *Gastroenterology*, 137(5):1785-94.
5. Solomon N, Richmond A^a, **Harding PA**, Fries A, Jacquemin S^a, Schaefer R, Lucia, K^b, and Keane B (2009) Polymorphism at the avpr1a locus in male prairie voles correlated with genetic but not social monogamy in field populations, *Molecular Ecology*, 18(22):4680-95.

6. Hoskins JT^b, Zhou Z^b, **Harding PA**. (2008) The significance of disulfide bonding in biological activity of HB-EGF, a mutagenesis approach *Biochem Biophys Res Commun*. 375(4):506-11.
7. Zhou Z^b and **Harding PA** (2007) Amino-terminal deletion of heparin-binding EGF-like growth factor⁴⁻¹²⁷ (HB-EGF) stimulates cell proliferation but lacks insulin-like activity. *Cell Proliferation* 40(2): 213-230.
8. Provenzano AP^a, Besner GE, James PF, **Harding PA** (2005) Heparin-binding EGF-like growth factor (HB-EGF) overexpression in transgenic mice downregulates insulin-like growth factor binding protein (IGFBP) – 3 and -4 mRNA. *Growth Factors* 23(1): 19-31.
9. Cribbs RK, **Harding PA**, Luquette MH, Besner GE (2002) Endogenous production of heparin-binding EGF-like growth factor during murine partial thickness burn wound healing. *J. Burn Care & Rehab*. **23**: 115-125.
10. **Harding PA**, Davis-Fleischer KM, Crissman-Combs MA, Miller MT, Brigstock DR, Besner, G.E. (1999) Induction of anchorage-independent growth by heparin-binding EGF-like growth factor. *Growth Factors* 17: 49-61.
11. **Harding PA**, Surveyor G, Brigstock DR (1998) Characterization of pig connective tissue growth factor (CTGF) cDNA, mRNA, and protein from uterine tissue. *DNA Sequence* 8(6): 385-390.
12. Steffen CL, Ball-Mirth DK, **Harding PA**, Bhattacharyya N, Pillai S, Brigstock DR (1998) Characterization of cell-associated and soluble forms of connective tissue growth factor (CTGF) produced by fibroblast cells in vitro. *Growth Factors* **15(3)**:199-213.
13. Brigstock DR, Steffen CL, Kim GY, Vegunta RK, Diehl JR, **Harding PA** (1997) Purification and characterization of novel heparin-binding growth factors in uterine secretory fluids. *J Biol Chem*. 272: 20275-20282.
14. **Harding PA**, Wang X, Okada S, Chen WY, Wan W, Kopchick JJ (1996) Growth hormone (GH) and a GH antagonist promote receptor dimerization and internalization. *J Biol Chem*. 272: 6708-6712.
15. **Harding PA**, Brigstock DR, Shen L, Crissman-Combs MA, Besner GE (1996) Characterization of the gene encoding murine heparin-binding epidermal growth factor-like growth factor. *Gene* 169(2):291-292.
16. **Harding PA**, Wang X, Kopchick JJ (1995) Growth hormone (GH) induced tyrosine phosphorylated proteins in cells which express GH-receptors. *Receptor* 5:81-92.
17. **Harding PA**, Wang XZ, Kelder B, Souza S, Okada S, Kopchick JJ (1994) In vitro mutagenesis of growth Hormone receptor Asn-linked glycosylation sites. *Mol Cell Endocrinol*. 106(1-2):171-80.
18. Chiu PY, Chaudhuri S, **Harding PA**, Kopchick JJ, Donkin S, Etherton TD (1993) Cloning of a pig glucose transporter 4 cDNA fragment: use in developing a sensitive ribonuclease protection assay for quantifying low-abundance glucose transporter 4 mRNA in porcine adipose tissue. *J Anim Sci*. 5:1196-203.
19. Wang X, Cioffi JA, Kelder B, **Harding PA**, Chen WY, Kopchick JJ (1993) Expression of a Functional Porcine Growth Hormone Receptor cDNA in Mouse L Cells. *Mol Cell Endocrinol*. 94(1):89-96.

C. Research Support

Ongoing Research Support

1. Quaker Foundation, Gel Electrophoresis Equipment for Miami University-Middletown new Molecular Biology Laboratory, Amount: \$3,580, Role: PI, 5/23/2012
2. National Institute of Child Health and Human Development (NICHD), Determination of IGFBP-3 and -4 mRNA downregulation by HB-EGF (\$210,900), 5/10/2007 – 5/9/2011), Role: PI
3. National Science Foundation, Investigation of Genes and Complex Social Behavior Under Ecologically Relevant Conditions (\$390,000, 3/1/2007 – 2/28/2010), Role: Co-PI, 1/01/2007 – 12/31/2010

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors.

Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME James M. Janik		POSITION TITLE Professor of Biology	
eRA COMMONS USER NAME Janikjm			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
SUNY College at Buffalo, Buffalo, NY	BA	1979	Biology
SUNY at Buffalo, Buffalo, NY	MS	1980	Natural Sciences
Rutgers University, Piscataway, NJ	PhD	1990	Physiology and Neurobiology

A. Positions and Honors**Positions and Employment**

7/05 - present	Miami University	Professor
7/98 - 6/05	Department of Zoology	Associate Professor
8/92 - 6/98	Oxford, Ohio	Assistant Professor
9/90 - 5/92	Miami University	Visiting Assistant Professor
1/89 - 6/90	Department of Zoology Oxford, OH	Visiting Instructor
9/82 - 5/87	Rutgers University Piscataway, NJ	Teaching Assistant
9/80 - 7/82	State University of New York at Buffalo School of Dentistry Dept. of Oral Biology Buffalo, NY	Head Lab Technician

Professional Awards and Honors

2010	Miami University Middletown "Excellence in Teaching Award" Nominee
2009	E. Philip Knox Teaching Award Finalist
2005	Presented Convocation Address at Miami University Middletown 2005-2006 Opening Convocation Ceremony • Address was entitled "Opportunity and Obligation"
2004	Greater Cincinnati Consortium of Colleges and Universities (GCCCCU) "Celebration of Teaching" Award

B. Selected peer-reviewed publications (Total:21) (in chronological order)

Liu X.*, Z. Zhu*, M. Kalyani*, **J. Janik** and H. Shi. Effects of energy status and diet on *Bdnf* expression in ventromedial hypothalamus of male and female rats. *Physiology & Behavior*, 130:99-107 (2014).

Prince-Zullig K.*, E. Murphree, R. Reinscheid, **J. Janik** and P. Callahan. Effect of Nociceptin/Orphanin FQ (N/OFQ) and isoflurane on the corticosterone secretory response in mice lacking the N/OFQ prepropeptide (ppN/OFQ-/-). *Neuropeptides*, 43(3):201-5 (2009).

Zullig,K.*, E. Murphree, R. Reinscheid, **J. Janik** and P. Callahan. Effect of orphanin OFQ/nociceptin (OFQ/N) and isoflurane on the prolactin secretory response in OFQ/N knockout mice. *Peptides*, 28(8):1611-1614 (2007).

Kaur G, **J Janik**, LG Isaacson, P Callahan. Estrogen regulation of neurotrophin expression in sympathetic neurons and vascular targets. *Brain Research*, 1139:6-14, 2007.

Chesterfield M, **J Janik**, E Murphree, C Lynn, E Schmidt and P Callahan. Orphanin FQ/Nociceptin (OFQ/N) is a physiological regulator of prolactin secretion in female rats. *Endocrinology*, 146(11) 5087-5093, 2006.

Kraska A, W Bryant, E Murphree, P Callahan and J Janik. Lack of involvement of dopamine and serotonin during orphanin FQ/Nociceptin (OFQ/N)-induced prolactin secretory response. *Life Sciences* 77:1465-1479, 2005.

Russell JM, E Murphree, J Janik and P Callahan. Effects of steroids and nitric oxide on pituitary hormone release in ovariectomized, peripubertal rats. *Reproduction* 129(4): 497-504, 2005.

C. Research Support

Externally Funded Research Awards (Total \$767,669):

- (1) Project: Role and Mechanisms of Prolactin on HPA Axis Activation Following Stress
Funding Source: NIH (NIMH) Role: Principal Investigator
Project Period: 2/26/09 to 7/31/13 Budget: \$213,000
- (2) Project: Steroid Involvement in OFQ/N-Induced Prolactin Secretion
Funding Source: NIH (NICHD) Role: Principal Investigator
Project Period: 12/1/04 to 11/30/08 Budget: \$213,000
- (3) Project: Mechanisms of Orphanin's Effects on Prolactin Release
Funding Source: NIH (NIDDK) Role: Principal Investigator
Project Period: 9/1/00 to 8/31/04 Budget: \$140,000
- (4) Project: Prolactin Simulation by Multiple Opiate Receptors
Funding Source: NIH (NIDDK) Role: Principal Investigator
Project Period: 9/6/96 to 8/31/00 Budget: \$103,209
- (5) Project: Opiate Regulation of Prolactin Release During Lactation
Funding Source: NIH (NICHD) Role: Principal Investigator
Project Period: 4/1/93 to 8/31/96 Budget: \$98,460

CURRICULUM VITAE

Brian Keane

Professor
Department of Biology
Miami University – Hamilton

Phone: 513-785-3256
Email: keaneb@miamioh.edu
Hamilton, OH 45011

A. PROFESSIONAL PREPARATION

Institution	Major/Department	Degree & Year
Rutgers University	Zoology	BSc. 1981
Purdue University	Biology	Ph.D. 1988
Purdue University	Postdoctoral Research Fellowship (Biology)	1989-1992
Columbia University	NYCEP Postdoctoral Fellowship (Anthropology)	1992-1995
University of Cincinnati	Oak Ridge Postgraduate Fellow (Biology)	1995-1997
University of Cincinnati	Postdoctoral Research Associate (Biology)	1998-2001

B. APPOINTMENTS

- Professor, Miami University, 2015-present
- Associate Professor, Miami University, 2007-2015
- Assistant Professor, Miami University, 2001-2007
- Instructor in Biology, St. Peter's College, 1994-1995

C. PUBLICATIONS

Ten recent publications (¹ = Miami University undergraduate student co-author;
² = Miami University graduate student co-author)

Graham, B.M.¹, N.G. Solomon, D.A. Noe and **B. Keane**. 2016. Male prairie voles with different *avpr1a* microsatellite lengths do not differ in courtship behaviour. *Behavioural Processes* 128: 53-57.

Keane, B., S. Ross¹, T.O. Crist and N.G. Solomon. 2015. Fine scale spatial patterns of genetic relatedness among resident adult prairie voles. *Journal of Mammalogy* 96:1194-1202.

Lucia, K.E.² and **B. Keane**. 2015. Alternate mating strategy compensates for inbreeding depression in male prairie voles. *Behavioral Ecology* 26:1060-1070.

Keane, B., S. Parsons², B.J. Smucker and N.G. Solomon. 2014. Length polymorphism at the *avpr1a* locus is correlated with male reproductive behavior in a natural population of prairie voles (*Microtus ochrogaster*). *Behavioral Ecology and Sociobiology* 68:1951-1964.

Harris, M.N.¹, R. Alvarez, **B. Keane**, A.D. Talib¹, M.J. Eiswerth¹ and N.G. Solomon. 2014. The role of *avpr1a* microsatellite length on reproductive success of female *Microtus ochrogaster*. *Behaviour* 151:1185-1207.

Chesh, A.S.², K.E. Mabry, D.A. Noe, **B. Keane** and N.G. Solomon. 2012. Are body mass and parasite load related to social partnerships and mating in *Microtus ochrogaster*? *Journal of Mammalogy* 93:229-238.

Lucia, K.E.² and **B. Keane**. 2012. A field test of the effects of familiarity and relatedness on social associations and reproduction in prairie voles. *Behavioral Ecology and Sociobiology* 66:13-27.

Streatfeild, C.A., K.E. Mabry, **B. Keane**, T.O. Crist and N.G. Solomon. 2011. Intraspecific variability in the social and genetic mating systems of prairie voles (*Microtus ochrogaster*). *Animal Behaviour* 82:1387-1398.

Castelli, F.R.², R.A. Kelley¹, **B. Keane** and N.G. Solomon. 2011. Female prairie voles show social and sexual preferences for males with longer *avpr1a* microsatellite alleles. *Animal Behaviour* 82:1117-1126.

Henterly, A.C.¹, K.E. Mabry, N.G. Solomon, A.S. Chesh² and **B. Keane**. 2011. Comparison of morphological versus molecular characters for discriminating between sympatric meadow and prairie voles. *American Midland Naturalist* 165:412-420.

D. SYNERGISTIC ACTIVITIES

i) Outreach: Member of the Board of Directors for Audubon Society of Ohio (ASO). The mission of the ASO is to protect the environment, conserve wildlife, and promote an appreciation of nature. One of the ASO's primary means of accomplishing its mission is through education and I have participated in numerous education activities (e.g., talks, articles in newsletters, field trip leader) directed towards grade school students as well as adults.

ii) Mentoring Undergraduates in STEM Education: Since joining the faculty at Miami University - Hamilton in 2001 I have supervised the independent research projects of 18 undergraduate students (72% female). I have also served as a mentor for another 11 students (73% female) that participated in the NSF-REU program at Miami University. Finally, more than 25 additional undergraduate students have worked in my lab in some capacity.

iii) Innovative Teaching: One of the courses I teach is BIO351: *Environmental Education: Focus on Natural History*. This course presents a comprehensive overview of the region's natural history and provides the background information, presentation skills and creative activities necessary to teach natural history in informal settings. The students enrolled in the course are all biology or education majors interested working as naturalists or environmental educators after graduating from Miami University. In order to better serve these students, I have made a substantial change to the way the course has been taught in the past to allow the students that satisfy specific requirements established by the Center for Environmental Education at Miami University and the Environmental Education Council of Ohio to be certified as an environmental educator.

iv) Service to the Profession: Participated in the Ohio frog and toad call survey from 2003 to present. Survey requires monthly monitoring of specific wetland sites in Hamilton and Preble counties for presence of frogs and toads (March – June each year). The purpose of the survey, which receives \$8,000 to \$10,000 a year in state wildlife funding to cover costs, is to gather baseline data on frog and toad distributions within Ohio.

CAROLYN HOWES KEIFFER**ABRIDGED VITA**

Department of Biology, Miami University, Middletown, OH 45042.

Telephone: (513) 727-3243 (office), 727-3380 (secretary), 727-3450 (FAX) Email: keiffech@miamioh.edu

EDUCATION

OHIO UNIVERSITY, Athens, Ohio

Ph.D. June 6, 1996 Advisor: Dr. Irwin A. Ungar

Thesis: "The ecophysiology of five inland halophyte species and their potential use in remediation of saline contaminated soils."

OHIO UNIVERSITY, Athens, Ohio

January 1987 - June 1990

Bachelor of Science, *summa cum laude*. Major: Environmental Botany.

PROFESSIONAL EXPERIENCE

Miami University, Department of Biology, Middletown, Ohio

2014 – present PROFESSOR OF BOTANY

2004 – 2014 ADMINISTRATIVE COORDINATOR for MATH & SCIENCE

2003 – 2009 ASSOCIATE PROFESSOR OF BOTANY

1997 – 2003 ASSISTANT PROFESSOR OF BOTANY

1996 – 1997 VISITING ASSISTANT PROFESSOR OF BOTANY

1992 - 1996 **RESEARCH ASSISTANT**

Ohio University, Department of Environmental and Plant Biology, Athens, Ohio.

GRANTS and CONTRACTS (Since 2000)

2001 "Composition, Structure, and Genetics of a Disjunct American Chestnut Stand in Wisconsin".

The American Chestnut Foundation. Steve Rogstad and Brian McCarthy, Co-PI's.

Grant Amount -\$9,500.

2001 "Composition, Structure, and Genetics of a Disjunct American Chestnut Stand in Wisconsin". Miami University grant to promote research and summer research appointment. Grant Amount -\$9,000.

2001 "Genetic Diversity and Blight Spread Dynamics in an Isolated American Chestnut Stand". The Ohio Plant Biotechnology Consortium. Steve Rogstad and Brian McCarthy, Co-PI's. Total Grant Amount -\$48,652.

2002 "The Effects of Mulch Type and Depth on Edaphic Conditions and Tree Seedling Survival on a Closed Ohio Landfill". City of Cincinnati. Grant Amount -\$1,875.

2002 "The Effect and Role of Zero Valence Iron on Plant Growth, Root Development, and Microbial Activity". Dow Chemical, Canada. Dan Gladish and Henry Stevens, Co-PI's. Grant Amount -\$29,831.

2004 "Ohio Strip-mine Reforestation: a Pilot Study of Carbon Sequestration in Hardwood Trees". The Ohio Plant Biotechnology Consortium & ODNR. Brian McCarthy, Co-PI. Total Grant Amount -24,000.

2005 American Chestnut Foundation. "Ecological monitoring of the West Salem, WI chestnut stand." \$2,500

2006 "From Misconceptions to Illumination: Using Plants to Support Biological Education". Ohio Board of Regents. Beth Schussler and Lynn Hogue, Co-PI's. Total -\$667,100.

2006 USDA Forest Service, Co-Operative Learning Agreement. Mycorrhizal Colonization of American Chestnut on Ohio Strip Mines. \$74,456. Total. Miami University - \$28,000.

2006 US Dept. of Interior, Office of Surface Mining, "Mine land reclamation and American chestnut restoration: bringing technologies together," with B.C. McCarthy. \$108, 633. Total. Miami University subcontract \$24,101.

2006 "Mast Production of American Chestnut (*Castanea dentata*) in a Chestnut-Dominated Hardwood Forest, West Salem, WI. National Wild Turkey Federation –Superfund Grant. \$3,200.

2007 "Mycorrhizal Colonization of American Chestnut on Ohio Strip Mines". USDA Forest Service, Co-Operative Learning Agreement. Additional \$14,650 funding awarded.

2012 Plant and Fungal Dynamics in American Chestnut Restoration. American Chestnut Foundation. \$6,500. Jenise Bauman Co-PI.

CHESTNUT RELATED PAPERS (Since 2010)

- McCarthy, B.C., K.E. Gilland, J.M. Bauman, and C.H. Keiffer. 2010. Factors affecting performance of artificially regenerated American chestnut on reclaimed mine sites. Pages 582-597 in R.I. Barnhisel (Ed.), *Bridging Reclamation, Science, and Community*. Proceedings of the National Meeting of the American Society of Mining Reclamation. Lexington, KY.
- Bauman, J. M., Keiffer, C. H., McCarthy, B. C., and Hiremath S. 2011. Ectomycorrhizal interactions on establishing American chestnut seedlings. *The Journal of the American Chestnut*. 2: 9-10.
- Bauman, J. M., Keiffer, C. H. and Hiremath, S. 2011. The Influence of Inoculated and Native Ectomycorrhizal Fungi on Morphology, Physiology and Survival of American Chestnut. Pages 16-37 in: Barnhisel, R.I., (ed.). *The American Society of Mining and Reclamation Proceedings. Sciences Leading to Success*. Lexington, KY.
- Bauman, J. M., Keiffer, C. H. and Hiremath, S. 2012. Facilitation of American chestnut (*Castanea dentata*) seedling establishment by *Pinus virginiana* in mine reclamation. *International Journal of Ecology*, 2012: 1-12.
- Bauman, J. M., Keiffer, C. H. and Hiremath, S. 2012. The efficiency of introduced *Pisolithus tinctorius* on backcrossed chestnut germination and survival. Pages 6-23 in: Barnhisel, R.I., (ed.). *The American Society of Mining and Reclamation Proceedings. Sustainable Reclamation Tupelo, MS*.
- Gilland KE, Keiffer, C.H. and BC McCarthy. 2012. Seed production of mature forest-grown American chestnut (*Castanea dentata* (Marsh.) Borkh). *Journal of The Torrey Botanical Society* 139(3): 283–289.
- Bauman, J. M., Keiffer, C. H. and Hiremath, S. 2013. The influence of soil variables and seedling genotype on ectomycorrhizal root colonization of American chestnut on abandoned mine lands. *United States Department of Agriculture Forest Service Research Publication*.
- Gilland KE, C.H. Keiffer, and B.C. McCarthy. 2013. Seed production of mature forest-grown American chestnut (*Castanea dentata* (Marsh.) Borkh). *Journal of the American Chestnut Foundation*, Issue 2, Vol.27: 17-21.
- Bauman, J.M., Cochran, C., Keiffer, C.H., and McCarthy, B.C. 2013. American chestnut's role in the ecological restoration of coal mined landscapes. *The Journal of the American Chestnut Foundation*, Issue 5, Vol 28: 15-18.
- Bauman, J.M., Keiffer, C.H., S Hiremath, and BC McCarthy. 2014. Soil preparation methods promoting ectomycorrhizal colonization and American chestnut *Castanea dentata* establishment in coal mine restoration. *Journal of Applied Ecology* 50 (3), 721-729.
- Bauman, J.M., Keiffer, C.H. and BC McCarthy. 2014. Growth performance and chestnut blight incidence (*Cryphonectria parasitica*) of backcrossed chestnut seedlings in surface mine restoration. *New Forests* 45 (6), 813-828.
- French, M.; Barton, C.; McCarthy, B.; Keiffer, C.; Skousen, J.; Zipper, C. and P. Angel. 2015. *Re-establishing American Chestnut on Mined Lands in the Appalachian Coalfields*. Forest Reclamation Advisory No. 12. 6 pages.

PUBLISHED ABSTRACTS OF PAPERS PRESENTED (78) abstracted presentations with:

Ecological Society of America, Botanical Society of America, International Botanical Congress, Ohio Academy of Science, Sigma Xi, International Petroleum Environmental Conference, Rocky Mountain Symposium on Environmental Issues, IBC conference on Phytoremediation, The American Chestnut Foundation.

PROFESSIONAL SOCIETY AFFILIATIONS Seven (7)

American Association for the Advancement of Science, Ecological Society of America, Botanical Society of America, International Association for Vegetation Science, Sigma Xi, American Institute of Biological Sciences, Ohio Academy of Science, The American Chestnut Foundation.

Biographical Sketch - Ann L. Rypstra, Department of Biology and Department of Biological Science, Miami University, Hamilton Campus, Hamilton, OH 45011

a. Professional Preparation

Hope College, Biology, A.B. 1975

Pennsylvania State University, Zoology, Ph.D. 1982

b. Appointments

University Distinguished Professor, Miami University, 2007 – present

Director, Ecology Research Center, Miami University 1995-present

Professor of Zoology, Miami University, Hamilton Campus 1995-present

Visiting Academic, Oxford University, Oxford Silk Group, 2014-2015

Visiting Academic, Oxford University, Ecology 2003-2004

Visiting Academic, Oxford University, Animal Behaviour 1991-1992

Associate Professor of Zoology, Miami University, Hamilton Campus 1989-1995

Assistant Professor of Zoology, Miami University, Hamilton Campus 1985-1989

Visiting Assistant Professor, Miami University, Hamilton Campus 1982-1985

c. Selected Publications (undergraduate authors indicated with *; graduate authors indicated with **)

Sitvarin**, M.I., A.L. Rypstra, & J.D. Harwood (2016) Linking green and brown worlds through nonconsumptive effects. *Oikos* 125:1057-1068. *featured as "Editor's Choice"*

Hoffman*, C.R., M.I. Sitvarin**, & A.L. Rypstra (2016) Information from familiar and related conspecifics affects foraging in a solitary wolf spider. *Oecologia* 181:359-367. *selected as a "Highlighted student publication"*

Rypstra, A.L., S.E. Walker, & M.H. Persons (2016) Cautious versus desperado males: predation risk affects courtship intensity but not female choice in a wolf spider. *Behavioral Ecology* 27:876-885.

Havrila*, J.A., K.M. Shimmel*, A.L. Rypstra & M.H. Persons (2015) Are you paying attention? Female wolf spiders increase dragline silk advertisements when males do not court. *Ethology* 121:345-352.

Schmidt**, J.M., T.O. Crist, K.M. Wrinn** & A.L. Rypstra (2014) Predator interference alters foraging behavior of a generalist predatory arthropod. *Oecologia* 175: 501-508.

Sitvarin**, M.I., & A.L. Rypstra (2014) Fear of predation alters soil carbon dioxide flux and nitrogen content. *Biology Letters* 10: 20140366.

Rittman*, S., K.M. Wrinn**, S.C. Evans*, A.W. Webb* & A.L. Rypstra (2013) Glyphosate based herbicide has contrasting effects on prey capture by two co-occurring wolf spider species. *Journal of Chemical Ecology* 39:1247-1253.

Rypstra, A.L., & C.M. Buddle (2013) Spider silk reduces insect herbivory. *Biology Letters* 9:20120948.

Schmidt**, J.M., P. Sebastian*, S.M. Wilder** & A.L. Rypstra (2012) The nutritional content of prey affects the foraging of a generalist arthropod predator. *PLoS ONE* 7: e49223

Wrinn**, K.M., S.C. Evans* & A.L. Rypstra (2012) Predator cues and an herbicide affect activity and emigration in an agrobiont wolf spider. *Chemosphere* 87:390-396.

d. Synergistic Activities

Association of Ecosystem Research Centers: Elected to the Executive Board of the AERC, a national organization for research centers. This organization organizes congressional and media briefings annually in Washington DC on environmental issues. Elected representative of AERC to **Congressional Visits Day (CVD)** co-sponsored by the Biological and

Ecological Sciences Coalition and Coalition on Funding Agricultural Research

Missions, a forum to lobby Congress on the importance of federal investment in fundamental biological research (specifically funding of the NSF and USDA).

Research Experiences for Undergraduates – Co-PI (completing our 16th year). Miami University's REU program focuses on the theme "Ecology in Human Dominated Landscapes." Each year I work with the steering committee to determine the focus for the summer, recruit and select student participants and help to organize the summer's activities. During the summer I am one of two project leaders that interacts with all of the students in the program to ensure the quality of the program and their individual experiences. I lead the ethic sessions that are incorporated into the program. This program brings a diverse group of students from all over the US to engage in research at Miami University,

Director, Ecology Research Center. Provide leadership to a facility that serves as Miami University's field site. Directorship includes managing the budget, working with a committee to set policy, supervising the manager and working to foster ecological work at Miami.

Major Committee Service to Miami University. *Member of the Liberal Education Council* (2016 - present) – working to develop assessment measures for Critical Thinking. *Presidential Search Committee* (2015-2016) resulting in the hiring of Gregory Crawford as President of Miami University. *Regional Campus Governance Committee* (2015-2016) developed the governance for the new College of Liberal Arts and Applied Science on the regional campuses of Miami University.

e. Collaborators and other Affiliations

Recent Collaborators

D.J. Berg, Miami, Hamilton	M. H. Persons, Susquehanna Univ.
C.M. Buddle, McGill Univ.	S.D. Johnston, Miami Oxford
J.D. Harwood, Univ. of Kentucky	D.G Kaufman, Miami, Oxford
C.D Hoefler, Arcadia Univ.	M.J. Vanni, Miami, Oxford
S.D. Marshall, Northwestern State Univ., LA	F. Vollrath, Oxford University
C.J. Geraci, American U. Iraq, Sulaimani	M. Gardiner, Ohio State Univ.
J.A. Newman, Univ. of Guelph	M.K. Mukhtar, U. Sargodha, Pakistan
T.O. Crist, Miami, Oxford	S.E. Walker, California State, Fullerton

Graduate and Post Doctoral Advisors D.L. Pearson, Arizona State University

Recent Graduate students (total MS=12; PhD=8 including current)

A. Berry (current PhD student)	J.M. Schmidt, Univ. of Georgia
M. Marchetti, Shippensburg, PA	M.I. Sitvarin, Univ. of Kentucky
L.C. Erickson, Miami Univ. (current M.S. student)	M.T. Stanley, Miami Univ. (current PhD student)
J. Godfrey, Miami Univ. (current M.S. student)	S.M. Wilder, Oklahoma State
L. Campbell, Miami Univ.	K.M. Wrinn, Univ. Wisconsin, Rock County

Steven E. Zelski

Adjunct Professor of Biology

George Williams College of Aurora University

Education

Ph.D. Plant Biology, **Mycology**, University of Illinois at Urbana-Champaign, December 2015.

M.S. School of Integrative Biology, concentration in mycology, University of Illinois at Urbana-Champaign. August 2005.

B.S. Liberal Arts and Sciences, concentration in biology, University of Illinois at Urbana-Champaign. December 1995.

Academic Experience

Adjunct Professor of Biology, George Williams College of Aurora University, August 2016-present.

Cell Biology, Fall 2016

Microbiology, Fall 2016

Pathophysiology, Spring 2017

Humans and the Environment, Spring 2017

Statistics, Spring 2017

Graduate Research Assistant, University of Illinois, August 2009-December 2015.

Major advisors: Dr. Carol A. Shearer and Dr. Andrew N. Miller. Duties: Isolation of DNA from fungal fruit bodies, pure cultures, and environmental samples; DNA amplification using multiple PCR protocols; cloning of DNA into competent cells to separate mixed DNA; DNA sequencing, alignment, and phylogenetic analyses; species identification, digital image capture, morphological analyses. Management of laboratory and undergraduate assistants

Graduate Teaching Assistant, University of Illinois, Fall 2004-Spring 2005, Spring 2013-December 2015.

Structure and Function, IB202. Spring 2005. Duties: Served as primary laboratory instructor for two sections of approximately twenty students each. Directed laboratory exercises focused on how organisms function in acquiring, processing, and allocating resources in the face of environmental constraints, with a focus on vertebrate dissection. Administered laboratory assignments and exercises, graded laboratory reports and quizzes.

Organismal and Evolutionary Biology, IB151. Fall 2004. Duties: Served as primary laboratory instructor for two sections of approximately twenty students each. Directed laboratory exercises on genetics, and evolution of functions in organisms, focused on their ecology and diversity. Administered laboratory assignments and exercises, graded laboratory reports and online content.

Introductory Biology, IB150. Spring 2013. Duties: Conducted stand alone discussion sections with a focus on small group activities for four sections of twenty students each. Aided professor in lecture activities focused on introductory biology topics.

Ecology, IB203. Fall 2013. Fall 2014. Duties: Led 2 sections of 16 students each through four field ecology projects, two of which were student driven, taught introductory statistics, taught scientific writing with two major papers based on field research, assisted in lecture activities.

Introductory Plant Biology, IB103. Spring 2014. Duties: Led laboratory exercises for 2 classes of 20 students each. Participated in lecture activities.

Ecology, IB203. Fall 2014. Duties: Led one section of 16 students through four field ecology projects, two of which were student driven, taught introductory statistics, taught scientific writing with two major papers based on field research, graded all lecture activities, graded exams, ran media, analyzed grade distributions.

Environmental Biology, IB105. Spring 2015. Duties: Led 4 discussion sections of approximately 20 students each in activities that supplemented lecture material.

*** From Spring 2013 to Spring 2015 ranked by students as an excellent instructor at the level of outstanding (top 10% of teaching assistants and professors)**

Additional Activities

The Wildlife Society undergraduate mentorship program, University of Illinois at Urbana-Champaign, Fall 2010-Present.

Mycology Reading Group, University of Illinois at Urbana-Champaign, Spring 2010.

Mycorrhizal Reading Group, University of Illinois at Urbana-Champaign. Fall 2009-Present.

Systematics Discussion Group, University of Illinois at Urbana-Champaign, Fall 2009-Present.

School of Integrative Biology Annual Teaching Retreat – 2013 – focus on online education.

Grants, Awards, and Fellowships

2010 R. Weldon Larimore / Jordan Creek Endowment. *Environmental Sampling of Aquatic Fungi in Jordan Creek*. \$320.

Steven E. Zelski | Curriculum Vitae, January 2017

2011 H. H. Ross Memorial Fund. *A phylogenetic reassessment of the family Annulatascaceae (Fungi: Ascomycota)*. \$1,150.

Plant Biology Annual Graduate Student Poster Presentation - 2012. \$50.

NSF REU submitted on behalf of Julia Balto, 2012. \$15,000.

NSF/University of Arkansas (Steve Stephenson), 2012. *Biodiversity of Fungi in Northern Thailand*.

National Institute for Amazonian Research (INPA) fellowship (March - April 2013), \$4,000.

Lemann Grant (2014). *Ecology, systematics, and functional diversity of Brazilian freshwater ascomycetes*. \$13,820.

Publications

Zelski, S.E., Raja, H.A., Miller, A.N., Barbosa, F.R., Gusmão, L.F.P., and Shearer, C.A. 2011. *Longicollum biappendiculatum* gen. et sp. nov., a new freshwater ascomycete from the Neotropics. *Mycosphere* 2(5): 539–545.

Zelski, S.E., Raja, H.A., Miller, A.N., and Shearer, C.A. 2011. *Chaetorostrum quincemilensis*, gen. et sp. nov., a new freshwater ascomycete and its *Taeniolella*-like anamorph from Perú. *Mycosphere* 2(5): 593–600.

Raudabaugh, D.B., Overton, B.E., **Zelski, S.E.**, and Miller, A.N. 2011. Pure culture response of bryophilous fungi to matric-induced water stress. *Mycosphere* 2(6): 656–667.

Raja, H.A., Oberlies, N., Miller, A.N., **Zelski, S.E.**, and Shearer, C.A. 2013. Freshwater Ascomycetes: *Lindgomyces angustiascus*, (Lindgomycetaceae, Pleosporales, Dothideomycetes), a new species occurring on submerged wood from USA based on morphological and nrDNA molecular data. *Mycoscience* 54(5): 353–361.

Methven, A.S., **Zelski, S.E.**, and Miller, A.N. 2013. A phylogenetic assessment of the genus *Gyromitra* based on large subunit nrDNA. *Mycologia* 105(5): 1306–1314.

Janovec, J., Householder, E., Tobler, M., Valega, R., von May, R., Araujo, J., **Zelski, S.E.**, Shearer, C.A., Jiménez, M., Wells, J., Chambi, B., Herrera, F., and Perez Quijano de Janovec, M. 2013. Evaluación de los actuales impactos y amenazas inminentes en aguajales y cochas de Madre de Dios, Perú. WWF, Lima, Peru.

Zelski, S.E., Balto, J.A., Do, C., Raja, H.A., Miller, A.N., and Shearer, C.A. 2014. Phylogeny and morphology of dematiaceous freshwater microfungi from Perú. *IMA Fungus* 5(2): 425–438.

Zelski, S.E., Raja, H.A., Miller, A.N. and Shearer, C.A. 2015. *Conioscypha peruviana* sp. nov., its phylogenetic placement based on 28S rRNA gene, and a report of *Conioscypha gracilis* comb nov. from Perú. *Mycoscience* 56(3): 319–325.

Steven E. Zelski | Curriculum Vitae, January 2017

- Shearer, C.A., **Zelski, S.E.**, Raja, H.A., Miller, A.N., and Janovec, J.P. 2015. Distributional patterns of freshwater ascomycetes communities along an Andes to Amazon elevational gradient in Perú. *Biodiversity and Conservation* 24: 1877–1897.
- Cortez, A.C.A., Sanches, M.A., **Zelski, S.E.**, Souza, J.V. 2016. A comparison of the freshwater fungal community during the non-rainy and rainy seasons in a small black water lake in Amazonas, Brazil. *Journal of Food, Agriculture and Environment* 14(2): 156–161.
- Cortez, A.C., Souza, J.V.B., Miller, A.N. and **Zelski, S.E.** 2016. A comparison of the freshwater fungal community during the dry and rainy seasons in a small black water lake in Amazonas, Brazil. *ISABB Journal of Food and Agricultural Sciences*, in press.
- Dayarathne, M.C., Maharachchikumbura, S.S.N., Phookamsak, R., Fryar, S.C., To-anun, C., Jones, E.B.G., Al-Sadi, A.M., **Zelski, S.E.**, and Hyde K.D. 2016. Morpho-molecular characterization and epitypification of *Annulatascus velatisporus*. *Mycosphere* 7(9): 1389-1398.

Presentations

- Mycological Society of America Annual Meeting, Lexington KY (Jun 2010). *Phylogeographic Relationships between Gyromitra and Morchella*. Poster. **Zelski, S.E.**, Methven A.S., and Miller A.N.
- Mycological Society of America Annual Meeting, Lexington KY (Jun 2010). *Barcoding the Dothideomycetes and Sordariomycetes*. Poster. Miller A.N., Huhndorf S.M., Marvanova L., **Zelski S.E.**, and Shearer C.A.
- Organization for Tropical Studies, Costa Rica (May 2011). Freshwater Mycology. Oral presentation.
- Mae Fah Luang University, Chiang Rai, Thailand (Jun 2012). Ascomycetes of Northern Thailand. Oral presentation.
- Mycological Society of America Annual Meeting, Yale University, New Haven CT (Jul 2012). Environmental Sampling As A Means of Rapid Identification Of Fungal Assemblages On Submerged Woody Debris. Poster. **Zelski S.E.**, Miller A.N., and Shearer C.A.
- Mycological Society of America Annual Meeting, Yale University, New Haven CT (Jul 2012). Species Richness and Distribution Patterns of Freshwater Ascomycetes Along An Altitudinal Gradient in the Peruvian Andes. Poster. Zelski S.E., Miller A.N., Raja H.A., and Shearer C.A.
- Ecolunch, University of Illinois at Urbana-Champaign (Oct 2012). Freshwater Ascomycetes from the Neotropics.
- Instituto Nacional do Pesquisas Amazônicas (INPA) Mycology Department (Apr 2013). Freshwater Ascomycetes of the Neotropics. Oral Presentation.
- Instituto Nacional do Pesquisas Amazônicas (INPA) Botany Department (Apr 2013). Freshwater Ascomycetes of the Neotropics. Oral Presentation.
- Steven E. Zelski | Curriculum Vitae, January 2017

Luso-Brazilian Association/Association of Peruvian Students Seminar, University of Illinois at Urbana-Champaign (Apr 2013). Amazonian Freshwater Ascomycetes. Oral Presentation.

Mycological Society of America Annual Meeting, Michigan State University, East Lansing MI (Jun 2014). A molecular evaluation of the freshwater ascomycete family Annulatascaceae. Zelski S.E., Miller, A.N., and Shearer C.A. Oral Presentation.

Professional Affiliations

Mycological Society of America (MSA) 2009-present.

Other

Languages: English, Italian, French, Latin, Portuguese, Spanish

Field Research Experience: Belize, Brazil, Costa Rica, Laos, Panama, Peru, Thailand, United States

February 18, 2018

Council for Undergraduate Curriculum
Report on Proposed Degree
 Bachelor of Science with a major In Applied Biology

Introduction:

The proposed Bachelor of Science with a major in Applied Biology will be offered at Middletown and Hamilton regional campuses. The Council read the application for the Bachelor of Science with a major in Applied Biology and was able to raise questions and concerns with representatives of the program. Based on the concerns that were discussed with faculty sponsors on regional campuses, and are listed in this report, the degree proposal was rolled-back within the Course Inventory Management system to the divisional level. Amendments were made to the proposal that addressed the Council's concerns. The Council for Undergraduate Curriculum now forwards the proposed new Bachelor of Science with a major in Applied Biology with our **approval**.

After this discussion, Council members outlined a list of perceived strengths, weakness and concerns to use as the basis for their recommendation on the proposed new degree and prepare this written report, all of which is submitted to the University Registrar. This list is provided below.

Strengths:

- The proposed degree is based on research and inquiries made both internal to and external to Miami University that clearly define an unmet need for additional STEM programs that focus on tangible, current employment opportunities for graduates in the Southwest Ohio region. Employers are seeking graduates with four-year degrees and higher-level professional training for numerous positions that have more traditionally gone to two-year degree graduates and/or even non-degreed individuals with a few years of practical experience.
- Given the upper-level coursework and the focus on professional skills and certifications, there is a clear delineation between the new offerings and all existing programs within the Miami University system and versus similar programs at other area institutions. The comparison with Xavier's "hybrid" program that involves a year at Duke University is noteworthy in that the proposed offering would eliminate a very obvious hurdle for students who are location-bound due to family, work, or other obligations.
- The first two years of the proposed BS in Applied Biology are identical to the BS in Biology offered at the Oxford campus..The 300-400 level courses provide distinction between the two degrees. The new degree has received support from both the Dean of the College of Arts and Science and the Chair of the Department of Biology on Oxford's campus. These similarities and differences provide Miami students at various campuses with a number of options:
 - Students could begin their coursework in biology on the Oxford campus and switch to the upper level coursework for the BS in Applied Biology on the regional campuses.
 - Conversely, students could begin their coursework in biology on the regional campuses and switch to the upper level coursework for the BS in Biology on the Oxford campus.
 - Students that are enrolled at the Oxford campus could take some of the courses within the BS in Applied Biology degree at the regional campuses.
- The proposed degree and major in Applied Biology contains two thematic specialties -- Environmental Biology and Human Biology & Health Sciences.
- The program has a strong cross-section of core courses listed that apply to both the Environmental Biology and Human Biology & Health Sciences thematic specialties, yet the specialties become unique through specific advance coursework. This seems highly feasible and should also offer students an opportunity to get into the program in general, take some coursework, and then make the decision as to

which thematic specialty is most advantageous for them. It is unlikely, given this structure, that students will “waste time and effort” by going down a wrong or less-preferred pathway.

- The program does not require incremental resources at present, making it very attractive in a climate of fiscally conservative decisions to increase programming on the Regional Campuses. The addition of staff is enrollment-driven, thus allowing for controlled program growth as a function of demand.

Concerns and Weaknesses:

The concerns listed in this report were discussed with faculty sponsors on regional campuses. Amendments have been made to the proposal that address the Council’s concerns which are listed below:

1. **Certificate Costs** - Acknowledge certificate costs while noting value of the certificates to employers; explain plan to reduce certification costs in future
 - The Council on Undergraduate Curriculum noted that some courses will require students to earn certificates, and students would need to pay a fee for the certificate as part of completing the course. Explain that the department has a plan to get a faculty member certified and explain how this will impact students by reducing or eliminating fees. The explanation can reiterate the value of the certificates to employers.
2. **Other Institutions** - Elaborate on other Institutions in Ohio as part of justification of need.
 - Where else in the state is an Applied Biology degree offered?
 - Will this join an existing trend or is it solely responding to a localized need?
 - The Council learned that, in the immediate region, Xavier has an Applied Biology degree that students must finish by going to Duke University.
3. **New Courses and Faculty** - Clarify impact of new courses on existing and new faculty.
 - The Council on Undergraduate Curriculum learned that, of the seven new courses within the new degree, four courses have already been approved completely, and three are in approval process with liberal education. The proposal states that no new faculty are required, but in discussion we learned that part-time faculty could be or will be required if full-time faculty are shifted from general education courses to the new major-specific courses. In general, the proposal needs to explain how faculty workloads will change to accommodate the new major. On the CourseLeaf report, it reads like new faculty members are being added.
4. **Number of Students** - Estimate the range of students anticipated in the first year and where you are drawing the students from. Explain how you will monitor the enrollments going forward, and how this program expects to help retain students who are not relocating or finishing the degree.
 - An estimate of student demand for the new major should be added to the proposal with an additional discussion of the impact of the new degree on enrollment and retention of students.
5. **Delivery Method** - Clarify delivery methods (face-to-face, hybrid, online).
 - In the section titled Alternative Delivery method, the Council requested that the sponsors clarify the comments about the delivery method for the degree.

Report submitted by:

Gillian Oakenfull

Professor of Marketing, Farmer School of Business

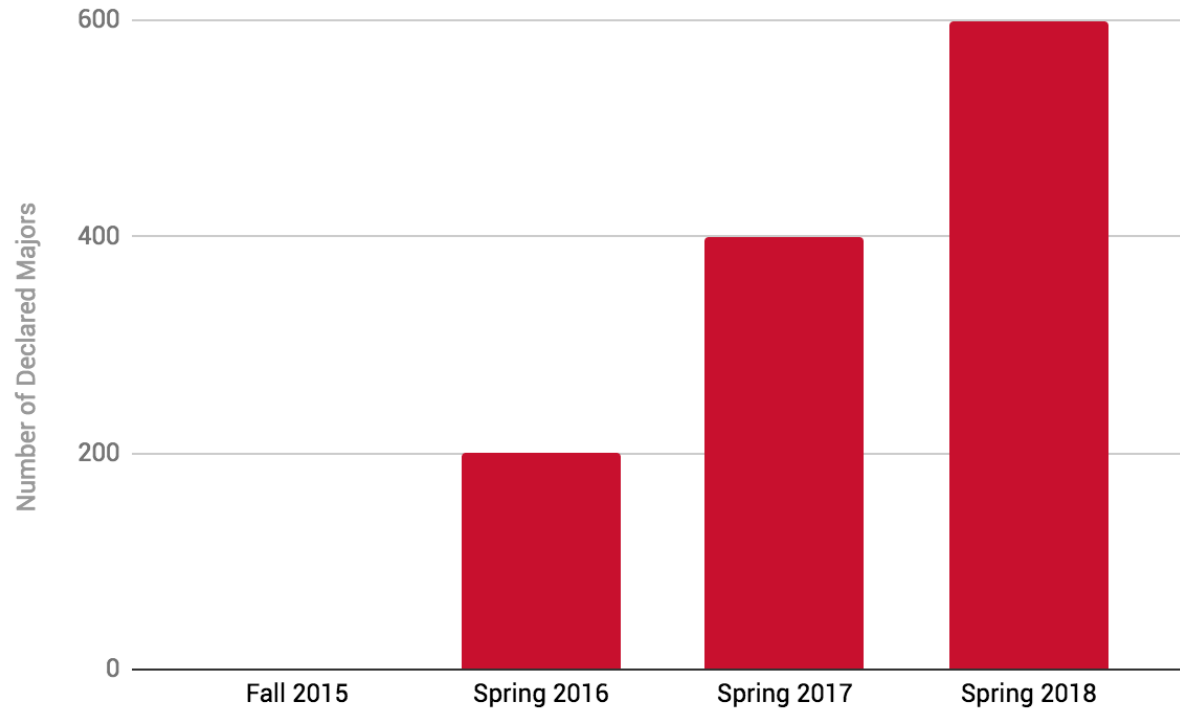
Chair, Council for Undergraduate Curriculum



COMMERCE HIGHLIGHTS

May 2018 • Board of Trustees

Bachelor of Science in Commerce



Understanding Commerce through GM

- » Different automobiles targeted at different markets
- » Shared infrastructure
- » Each contributes to the parent



Buick

Cadillac

Chevrolet



Scalability & Online Classes

- » More than half of CMR student credit hours come from online classes
- » Growth of this magnitude would not have been possible without E-Campus
 - » Hiring part-time faculty to teach online courses built by full-time faculty



Key Target Markets

- » Miami Associate degree graduates
 - » Meaningful transfer of most if not all prior coursework
- » Community Colleges in Ohio
 - » Made possible through online course through the Regionals E-Campus and transfer agreements



Transfer Agreements

within Ohio Community Colleges

- » Cincinnati State
- » Central Ohio Technical College
- » Clark State
- » Columbus State
- » Eastern Gateway
- » Lorain Community College
- » Sinclair Community College
- » Southern State
- » Terra State





NURSING HIGHLIGHTS

May 2018 • Board of Trustees

Nursing Program Expansion in Oxford

- » Programs can't keep up with need for nurses
- » 897 applicants in year one
- » 61 students in our first cohort
- » Increased annual admission from 80 to 140



Nursing Program Expansion in Oxford

- » Highly competitive
- » Direct admission sets us apart
- » Students benefit from diverse clinicals
- » Internships/externships available
- » Job placement is high



Nursing Program Expansion in Oxford

- » Nursing LLC in Year 1
- » Years 1 and 2 in Oxford
- » Clinicals two days per week in Years 3 and 4



RN-BSN Program

- » Decline in enrollment since the AD program closed
- » Lots of Growth Potential
 - » Health Science Recruiter
 - » 7-week sprints
 - » Transfer Advising Program Guides
 - » Sinclair and Edison State



Masters or Accelerated Options

- » Accelerated BSN program
 - » 16-24 months
- » Masters/Doctorate in Nursing Practice: Non-Clinical
 - » Leadership
 - » Evidence-Based Practice
 - » Education
 - » Administration
- » Masters/DNP in Advanced Practice
 - » Family Nurse Practitioner



Thank You

GOOD NEWS FROM ACADEMIC AFFAIRS

February 2018 – May 2018

Miami ranked among 50 top elite public schools

Mar 28, 2018 - Miami University ranks among the nation's top 50 elite public schools in the nation in a ranking by Buffalo Business First. Miami jumped three spots from last year's ranking to 40th in a list developed from the rankings of 485 four-year public institutions based on affordability, academic excellence, diversity and economic strength. The study uses the latest data from the National Center for Education Statistics and the U.S. Census Bureau's American Community Survey.

The 22-part assessment formula pinpoints public institutions that offer the best educational experiences to their students. The rankings were limited to public schools because those institutions generally offer the least expensive path toward a college degree. Military academies are not included.

It gives the highest marks to schools with highly selective admissions processes, strong retention and graduation rates, impressive earnings by alumni, generous resources, affordable tuitions and housing costs, diverse faculties and student bodies and economically robust communities.

The publication's methodology is weighted as such:

- Selectivity (15 percent).
- Advancement (25 percent).
- Prospects (10 percent).
- Resources (10 percent).
- Costs (10 percent).
- Diversity (10 percent).
- Community (10 percent).
- Past (10 percent).

Miami has made the top 50 elite list of U.S. public universities each of the four years Business First has conducted the rankings. The report also provides a separate breakdown for Ohio's public colleges. Miami ranks second among the 13 Ohio institutions included in the rankings.

Tammy Kernodle awarded Benjamin Harrison Medallion

Apr 11, 2018 - Tammy Kernodle, professor of musicology and affiliate faculty of American studies, black world studies and women, gender and sexuality studies, has been awarded Miami University's prestigious Benjamin Harrison Medallion. The Benjamin Harrison Medallion Award is one of the most significant recognitions Miami offers faculty for contributions attesting to qualities of teaching, research and/or service. She will be honored at the University Awards Reception 5-6:30 p.m. Wednesday, April 18, in Marcum Conference Center. The award is named for Benjamin Harrison, the 1852 Miami graduate and 23rd president of the United States, serving from 1889-1893.

"The Benjamin Harrison Medallion has the inscription of 'For Outstanding Contribution to the Education of the Nation,' and it is clear that Tammy's exemplary career as one of the world's leading scholars in music history lives up to those words and exceeds them considerably," nominators said. Another nominator stated, "Frankly, I can think of few other scholars in the United States more worthy of such an award."

Research

Kernodle is widely considered a giant in several related fields, one nominator said. "That in itself is rare since most academics rarely achieve acclaim in *one* narrow realm. Her work in the intersection of jazz, gospel and freedom songs, in the influence and impact of (particularly female) African-American musicians, the civil rights movement, and women's studies is extraordinary and breathtaking in its scope." She has become "THE scholar to consult when curating African American music, particularly women's contributions," another nominator said. Her forthcoming book on gender, music and the Civil Rights Movement "is going to be seen as a landmark study, rewriting many accepted truisms," another musicologist noted.

Kernodle served as a consultant for the Smithsonian's recently opened National Museum of African American History & Culture's (NMAAHC) music division and worked on their premiere exhibit, "Musical Crossroads." Her close involvement with the music portions of the collection "means that she has had direct involvement with how the story of African-American music in the United States is being taught to the thousands of people who pass through the museum on a daily basis," a nominator said. Related to her time with the NMAAHC is her work on the forthcoming Smithsonian Institute Anthology of Hip Hop and Rap, another instance of Kernodle "helping to guide a genre-defining creation," the nominator said. Kernodle has also served as a consultant to National Public Radio on programs highlighting the work of Nina Simone and the Music of the Civil Rights Movement and on the documentary film "Mary Lou Williams: The Lady Who Swings the Band," which premiered on PBS.

Recently she served as the scholarly consultant and contributor for "The Dvorak Statement" for BBC Radio.

GOOD NEWS FROM ACADEMIC AFFAIRS

February 2018 – May 2018

Her monograph, *Soul on Soul: The Life and Music of Mary Lou Williams*, was named one of the Best Jazz Books of the Year in 2004 as mentioned in a New York Times review. She was one of three editors on the *Encyclopedia of African American Music*, and a senior editor on the major revision of the *Grove Dictionary of American Music*, both significant and influential reference works. One of her most notable, recent honors in the field has been to present at the Rock and Roll Hall of Fame and Museum for the American Musicological Lecture Series. Only the upper echelon of musicologists is asked to apply and participate in this series to share scholarship with an audience that extends beyond the academy, a nominator said.

Service

Kernodle is a leader in her profession's most distinguished organizations. Last month she was elected for a three-year term as president of the Society for American Music, the primary professional organization for the study of music in the Americas. She serves as the media editor for the Jazz Perspectives Journal. She is currently the associate editor for the Black Music Research Journal, and becomes the editor later this year.

She serves on the editorial board of the journal *Women and Music: A Journal of Gender and Culture*, *Women, Gender and Families of Color*. Previously she served on the editorial board for the journals *Black Music Research Journal*, *Journal of the Society of American Music* and the *American Music Society for American Music*.

Performer/scholar

Kernodle is the quintessential performer/scholar, a gift that she has been generous enough to share with students and colleagues for many years, a nominator said. Her performance of "She Sang Freedom," a multimedia presentation spotlighting the influence of African- American women on the Civil Rights movement, which she composed and scored, has been performed in numerous venues. "Her presentations are legendary — and her lectures, often coupled with her piano-playing, are in great demand across the country," according to a nominator.

Teaching

Kernodle has fostered innovative curriculum in the field of musicology and music history at Miami, her internal nominators said. She has created new courses for the music department and American studies program, including "Enter the Diva: American Women in Music 1900 to Present," "Roots of Black Music: Blues, Gospel and Early R & B," and "History of Hip Hop Culture," which celebrate difference in the arts and probe questions of diversity relevant to today's political and cultural climate. "In all of her courses she endorses a rigorous study of music, substantiated by contemporary scholarship. The students are held accountable and they love it, and her," a colleague said. "She has established a reputation for an academic study of music that has encouraged student enrollment in our department." She was honored for her teaching with Miami's Effective Educator Award in 2014.

The Benjamin Harrison award "sounds like a worthy form of recognition for the inestimable impact (Kernodle) has had on scholars, students and laypeople in musicology and the arts the world over," another nominator said. "I cannot imagine a better way for the university to acknowledge her many contributions to the scholarly and local community than with the Benjamin Harrison Medallion."

Miami University researchers uncover "nature's secrets" in fungi, flies and frogs

Apr 12, 2018 - Miami University scientists shared their expertise two weeks in a row as guests on the national radio program "Science Friday." Friday, April 20, Miami geologists Mike Brudzinski and Brian Currie were interviewed on air beginning at 2 p.m. to discuss induced earthquakes in Ohio. Friday, April 27, Richard Lee and Nicholas Money were heard nationwide on "Science Friday." Their broadcast was taken from a recording of "Science Friday Live" that a sold-out audience saw at Hall Auditorium, featuring public radio host Ira Flatow. Although the show was sold out, the excitement continued on Twitter - #SciFri and #SciFriMiamiOH. Money and Lee discussed their research in uncovering some of "nature's secrets." The program is co-sponsored by the president's office and the Performing Arts Series.

- Mushrooms and fungi and their amazing adaptations/life strategies, with Nicholas P. Money, professor of botany, Miami.
- Ancient humans and the paleoenvironments they lived in, with Denise Su (Cleveland Museum of Natural History).
- Extreme cold-adapted creatures: flies and frogs, with Clara do Amaral (Miami Ph.D. '14), Mount St. Joseph, and Rick Lee, University Distinguished Professor of Biology, Miami.
- The Miami Men's Glee Club provided musical breaks during the live performance.

"Science Friday" ("Sci Fri" to online fans) has 1.8 million public radio listeners each week and #scifri has 777,000 followers on Twitter, offering what it calls "brain fun for curious people."

The award-winning 90-minute live program typically features conversations with scientists, live music, props, video screenings and demonstrations.

GOOD NEWS FROM ACADEMIC AFFAIRS

February 2018 – May 2018

A news photo ignited Miami's Truman Scholarship recipient Sara Al-Zubi's passion for the health and well-being of refugees

Apr 12, 2018 - The Harry S. Truman Scholarship honors the nation's future public servants and change agents, but Miami University's Sara Al-Zubi, a 2018 recipient, decided the future was too far away. She's making an impact now. In fact, her full-speed-ahead activism began as she was entering her freshman year at Miami with a news report and a photo of a Syrian boy. Three-year-old Alan Kurdi drowned in the Mediterranean Sea, a victim of the Syrian conflict in 2015. His haunting image struck a personal chord with her. Al-Zubi spent some of her early childhood years in Jordan, near the border of Syria — before the war and before her family immigrated to the United States. She recalled later visits back to the region, sitting with family drinking tea and hearing the neighboring bombs. The sound terrified her.

That memory stayed in the back of her mind as she and her family struggled to fit into their new American home. Then college came, and the Syrian boy's photo, and she just could not simply scroll through the news anymore. "I have a four-year-old brother, and if my luck didn't turn out this way, this could have easily been my brother," she said. She began a letter-writing campaign to the children of Syria that grew into her first nonprofit venture, Peace of Mail, in which she encouraged people around the world to write letters of support and hope to children who had fled the Syrian civil war into refugee camps in Jordan, as a reminder that they were not alone.

Fast forward to April 2018, now a junior majoring in human capital management and leadership who is also pre-med, she recently traveled to Washington, D.C. to meet with a panel from the Truman Foundation. Armed with a backpack of recommendation letters and three years of public service work, she personally didn't believe she had a chance at being selected as one of the 59 national scholarship recipients. However, Zeb Baker knew she did. Baker is the chair of Miami's national fellowships committee, who has worked with Al-Zubi since her freshman year. "She's a whirlwind of energy and activity, whose focus and motivation is always, 'I've got to get all this done on behalf of the people I serve.'" Baker thinks about the right word to describe her. "Irrepressible, that's the word. When she sets her mind to do it, she will do it, and there is no doubt she will accomplish it."

During her three years at Miami, the honors student worked on refining her passion for helping refugees. "I was constantly challenged to expand my borders and widen my perspective," she said. She has worked with refugee populations in Cincinnati as a refugee transition coach for Refugee Connect Ohio to improve their adjustment process into the American culture. As a Muslim Jordanian American and a native Arabic speaker, she was someone whose credibility they trusted.

Al-Zubi co-founded ProjectEquip, designing mental health training modules for 80-100 community workers and leaders to better prepare them for their work with refugee clients and patients. Currently, she is working to start a mental health hotline for refugee families in America through her new foundation, 3Sisters Foundation, a nonprofit that seeks to address the mental health challenges that refugees confront. "You don't recognize what you are dealing with until you are at the pool and a plane flies over and the kids are running to hide," she said of her time spent with families. "The trauma is beyond what words can explain. And the mental health issues are a complex conversation that we need to be having. The current setup of refugee resettlement doesn't necessarily prioritize mental health as an objective to fix."

Jump to today, April 12, the official announcement of the award. She is the first recipient since 2003 and first finalist at Miami since 2015. She is also the only winner from Ohio this year. The \$30,000 scholarship will help toward her goal of attending medical school as well as her desire to also earn a master's in public health. She will be recognized with the other Truman Scholars from around the country at an awards ceremony at the Harry S. Truman Presidential Library in Independence, Missouri, on May 27.

In the meantime, as a Truman Scholar, she now can apply for the Washington Summer Institute. She would like to intern for the Office of Refugee Resettlement in the Department of Health and Human Services.

"I'm excited to continue my education to give back to the people with whom I have worked because they have given me more than I could have imagined. I want to make sure that the second chance they get here, in their new home, is the best second chance we can give them."

Two Miami students named Goldwater Scholars; one honorable mention

Apr 30, 2018 - Two Miami University students have each received a Goldwater Scholarship for 2018-2019. They are among 211 students nationwide to receive the scholarship, the premier undergraduate award of its type in the fields of mathematics, natural science and engineering.

Miami's Goldwater Scholars are:

- Robert (Bob) Krueger, a junior mathematics and physics double major and computer science and statistics double minor from Wadsworth.

GOOD NEWS FROM ACADEMIC AFFAIRS

February 2018 – May 2018

- Audrey Short, a junior biochemistry and biological physics double major from Atlanta, Georgia.

Honorable Mention

- Michael Rariden, a bioengineering major from Normal, Illinois.

The Goldwater Scholarship

The Goldwater Foundation Scholarship Program encourages outstanding students to pursue careers in the fields of mathematics, natural sciences and engineering. Nationwide, faculty nominated 1,280 students for the one- and two-year scholarships, worth up to \$7,500 per year.

- Krueger and Short are two of six students at an Ohio public university to receive a Goldwater Scholarship.
- Rariden is one of five students at an Ohio public university to receive an Honorable Mention.
- Paul Urayama, associate professor of physics and Miami's Goldwater faculty representative, said, "This is an amazing outcome for the students and for Miami University with three of our four allowed nominations being recognized. I am so proud of what our nominees have accomplished." Urayama is a 1993 Goldwater Scholar from the University of California-Irvine.

Krueger has been conducting research with faculty mentor Louis DeBiasio, associate professor of mathematics, since his second semester at Miami. He is a member of the university honors program and of the Society for Physics Students and the math honor society Pi Mu Epsilon at Miami and participated in Miami's intercollegiate Data Fest competition since it was first held in 2016. Last year she was selected as a 2017-2018 Beckman Scholar.

Mike Crowder, chair and professor of chemistry and biochemistry, said "I am very impressed with Audrey's initiative, intelligence, willingness to work long hours, independence and her excitement for science/learning. In my opinion, Audrey will be an outstanding research scientist, who will take on the big science challenges." She plans to pursue a doctorate in biophysics after graduating.

Rariden conducted research with Justin Saul, associate professor of chemical, paper and bioengineering, his first two years at Miami. Rariden knew before he even started at Miami that he wanted to do undergraduate research, and he chose Saul's lab for the opportunity to work on a tissue bioengineering project. Saul's research on retinal regeneration — for modeling macular degeneration — involves hands-on engineering. Among other projects, Rariden helped set up and modify an electrospinning apparatus to coat biomaterial scaffolds to promote the attachment of retinal pigmented epithelial cells, Saul said.

This summer, he will be a summer undergraduate research fellow at the University of Texas Health Science Center in a mechanobiology lab investigating how mechanical forces affect blood cell development. Last summer, he was an American Heart Association Undergraduate Student Fellow in a cardiovascular research laboratory at the Pennsylvania State College of Medicine and Hershey Medical Center. That experience "opened my eyes to the reality of full-time research," Rariden said. He was a member of Miami's Scholar Leader program and is involved in intramural hockey. He is also an avid rock climber and pianist and practices Brazilian jiu-jitsu. He plans to pursue a doctorate in bioengineering or mechanobiology after graduating.

Miami University to receive Honorary Luxembourg-American Business Award - Honoring 50 years of the John E. Dolibois European Center

Miami University is the recipient of the 2018 Honorary Luxembourg-American Business Award from the Luxembourg-American Chamber of Commerce (LACC). Miami is the first higher education organization to receive the honor since LACC first presented the award in 1999.

Since 1968, Miami has had a learning center in Luxembourg – the Miami University John E. Dolibois European Center (MUDEC) – that offers students the opportunity to enroll in Miami classes taught by Europe- and Ohio-based Miami faculty. Students enjoy a unique combination of first-class academics, engagement in the local community and various faculty-guided and independent travel opportunities.

"Since the beginning Miami University and Luxembourg have partnered to educate thousands of students from not just the United States and Luxembourg but from all over the world," said Michel Franck, president of the Luxembourg-American Chamber of Commerce. "More than 10,000 students studied at MUDEC and lived with host families to learn about our country and culture because of this partnership."

In 1988, the center was renamed to honor John E. Dolibois a native of Luxembourg, Miami University vice president for development and alumni affairs, and later U.S. Ambassador to Luxembourg. Dolibois was instrumental in establishing Miami's presence in Luxembourg. The center will mark the 50th anniversary of the program with an event in Luxembourg October 2018.

GOOD NEWS FROM ACADEMIC AFFAIRS

February 2018 – May 2018

“Study abroad experiences are transformative for the student,” said Miami University President Greg Crawford. “The students who have studied in Luxembourg are passionate ambassadors for the program, the country and the people. They have gone on to be leaders in their fields. The people of Luxembourg play a huge part in the success of these students, and we look forward to growing this partnership for future generations.”

The Luxembourg-American Business Award recognizes an organization for its unique and lasting contribution to trade and business between the United States of America and the Grand Duchy of Luxembourg. Their Royal Highnesses Crown Prince Guillaume and Crown Princess Stéphanie of Luxembourg will present the honorary award to Miami, along with 2018 American Business Award-winner Amazon on May 15, at a black-tie gala in New York City.

Miami Mock Trial Wins National Championship

May 2, 2018 - The Miami University James Lewis Family Mock Trial Program team won the 2018 American Mock Trial Association National Championship Tournament held in Minneapolis, Minnesota, April 20-22, beating defending runner-up Yale University.

Forty-eight teams competed in the national tournament after starting the season with a field of more than 600 teams from more than 400 colleges and universities — making collegiate mock trial the largest academic competition in the country. The 48-team national championship field is divided into two 24-team fields with the two first-place teams playing for the national championship. The two divisional winners were Miami and Yale. Yale won the 2016 National Championship and was runner up in 2017. Seniors Danielle Kunkel and Isabella Seeberg won All-American Attorney Awards, and senior Da’Rya McAllister won an All-American Witness Award.

Miami’s national championship team was coached by business legal studies professors and attorneys Neal Schuett, Lawrence Hilton and Gus Lazares (Miami ’10); attorneys Jamie Glinka (Miami ’10), Emily Homel Arnzen (Miami ’10) and Matt Rich; law school student Ben Sandlin (Miami ’16), and alumnus Alex Block (member of Miami’s national tournament teams, 2011-2014).

The national championship team members:

Senior members:

- Maria Hooker: public health and pre-medical studies co-major, nutrition minor
- Danielle “Dani” Kunkel: team captain, Chinese major and history and business legal studies double minor
- Da’Rya McAllister: black world studies major and French minor
- Julia Pair: social justice and professional writing double major
- Isabella “Bella” Seeberg: team captain, political science and economics double major
- Chase Shelton: political science, English literature and philosophy triple major
- Austin Worrell, political science major

Other Members:

- Spencer Campbell: junior music and arts management double major, business legal studies minor
- Lizzie Harden: first year journalism and political science double
- Chase Mulholland: sophomore Spanish and international studies double major

Miami Receives Eight (8) Fulbright Grant Offers, the Most Ever

May 3, 2018 - Eight of Miami University’s Fulbright semifinalists have been offered 2018-2019 grants, while three others have been selected as alternates. This is Miami’s largest cohort of Fulbright offers to date. Since 2000, 45 Miami seniors or recent graduates have been offered Fulbright grants to conduct research or teach overseas as English Teaching Assistants.

Miami’s new Fulbright recipients are:

- **Alexa Askari**, who is completing the BA/MA program with double majors in political science and diplomacy and global politics, and double minors in history and European area studies. She was selected to teach in Bulgaria.
- **Hannah Frasco**, a double major in international studies and integrated social studies education with a minor in history, was selected to teach in Malaysia.
- **Sara Giska** ’16, who was a double major in international studies and linguistics, was selected to conduct research/study in Kazakhstan.
- **Jack Henne**, a double major in German and economics with a minor in actuarial science, was selected to teach in Germany.
- **Camila Kowalski**, a double major in integrated mathematics education and Spanish, was selected to teach in Spain.

GOOD NEWS FROM ACADEMIC AFFAIRS

February 2018 – May 2018

- **Katherine Melberg**, a double major in classical humanities and classical languages, was selected to teach in Germany.
- **John Steele '14**, who majored in social justice studies and minored in political science, was selected to teach in South Korea.
- **Allison Van Twisk**, a double major in international studies and economics with a minor in German, was selected to teach in Germany.

Three alternates selected

- **Autumn Harriger**, a double major in political science and history with a minor in Russian, is an alternate to teach in Russia.
- **Aaron Kawamura**, an individualized studies major, is an alternate to teach in Argentina.
- **Tory Paez '12**, who majored in management and organizations and minored in women, gender & sexuality studies, is an alternate to participate in the binational internship program in Mexico.

More than 10,000 applications were received in this application cycle for the 1,900 available grants from the Fulbright U.S. Student Program, the largest U.S. exchange program. Miami University had 28 applicants who applied to 19 countries, said Karla Guinigundo, director of global partnerships in Miami's Office of Global Initiatives. Guinigundo noted that two other Miami alumni who applied for Fulbright grants at-large also were selected; Kala Allen '16, psychology, was selected to do research in Nigeria and Alexandra DeCraene '15, professional writing, was selected to teach in Thailand.

E-Learning Report Assistant Provost Cheryl Young May 17, 2018

Assistant Provost for eLearning, Beth Rubin, departed Miami University in June 2017. Provost Phyllis Callahan appointed the Assistant Provost for Global Initiatives, Cheryl Young, to serve as the Interim Director of eLearning Miami, with a charge to review all aspects of technologically mediated learning, and make recommendations to move forward. On 1 February 2018, Young submitted a report to the Provost. A summary follows, with the recommendations outlined.

After a six-month review of the history, culture, and infrastructure for distance and online learning at Miami University, the report and recommendations provide the first steps toward institutionalizing robust support and charting a path to a strategy for progressive, innovative technologically mediated learning for current and future learners.

A centralized e-learning administrative center is recommended to provide collaborative and strategic oversight of the development of courses and programs, with a vision for ideal progressive learning environments and for how faculty and students interact in those spaces. Centralized administration for e-learning will ensure that there is a consistent, high quality presence that exceeds accepted rigor and standards. The administrative unit will collaborate effectively with the six academic divisions, which are academically and programmatically decentralized to allow for customization, autonomy and quality control at the divisional and departmental level.

Recommendations

The future of online learning at Miami will have a mission and vision focused on inclusive, flexible, engaging and transformative learning for an evolving community of learners that includes our traditional, residential students, regional campus students and students drawn into professional development opportunities offered online in hybrid modes.

- The mission will be based in shared governance and university partnerships, with a focus on support and advancing the Miami University core principles of quality, extraordinary student outcomes, academic rigor, innovation, accountability, efficiency, collaboration, inclusiveness and use of technology to enrich personalized learning experiences.
- Administratively centralized in Academic Affairs with the recognition that technology is embedded into all learning today and will be increasingly so in the future, therefore, effective collaboration with IT Services is critical. Key components include:
 - A centralized administrative unit led by a Director who reports to the Provost through the Assistant Provost for Global Initiatives, allowing for shared services between GLI and ELM (administrative operations management, marketing, data collection and dissemination, etc.).
 - Online learning will welcome students and the campus into technologies in courses with a centralized presence that will support not only faculty, but also students across all campuses and divisions with robust online support services. This centralized presence is online and face-to-face and provides resources that support development of skills and abilities.
 - Appoint an e-learning advisory council to serve as a working committee to review the governance structure, and develop a comprehensive strategic plan in collaboration with stakeholders.
 - Staffing to support sustainable growth of courses and programs, as well as to scale to support innovative revenue generation opportunities.

- Centralized learning management systems support which considers the individual programmatic and pedagogical needs of divisions and departments and students, as well as emerging opportunities for alumni, professional development and training, and cross border engagement.
- Academically-programmatically decentralized to allow for customization, autonomy, and quality control at the divisional level.
 - Charge academic deans with developing a divisional strategy for online learning in collaboration with central administrative unit, including quality control that encompasses consistency, scale, oversight, enrollment management, and instructional design alignment.
- Other recommendations
 - Review faculty compensation models for course development to ensure equity across divisions.
 - Consideration of the [Collaborative Online International Learning \(COIL\)](#) model for globally networked learning, a teaching and learning methodology which provides innovative, cost-effective internationalization strategies by connecting classrooms across the world through technology in an “internationalization at home” model which is cost effective for students who choose not to study abroad, but still want and need a global classroom experience.

These recommendations have been reviewed, discussed, and accepted by the Provost and the Council of Academic Deans. Implementation is beginning in April 2018.

Undergraduate Academic Advising Council Report

Miami University, May 2018

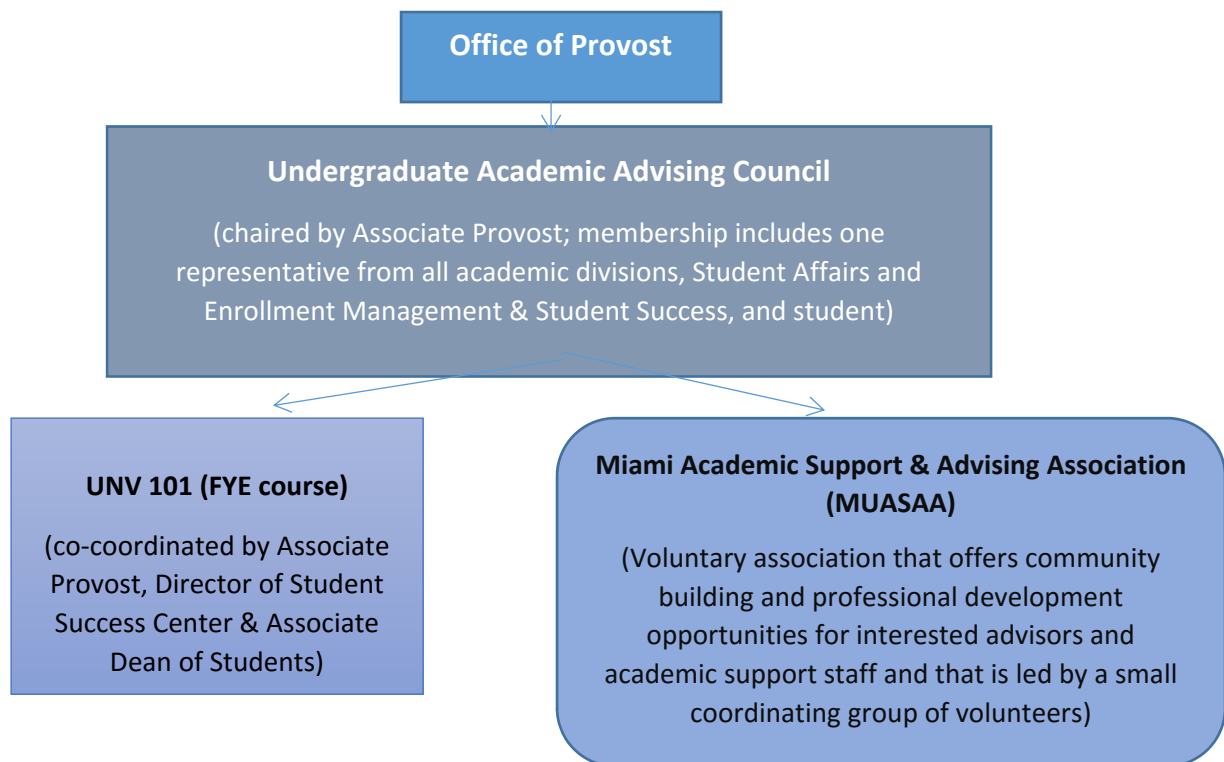
Introduction

This report provides a summary of the Undergraduate Academic Advising Council's (UAAC) activities during the 2017-2018 academic year. It outlines outcomes, measures, data related to assessment of undergraduate academic advising, First Year Experience (FYE) Courses, and academic interventions as well as recommendations for future improvement in these areas.

The UAAC believes that although assessment is often viewed as a means to accountability, assessment is actually intended to be a constructive, ongoing process focused on continuous feedback and improvement of services to students. Moreover, assessment is not the same as evaluation. Evaluation focuses on the performance of the individual academic advisor, while assessment is concerned with the academic advising program and system overall, primarily in relation to specific outcomes.

2017-2018 Organizational Structure & Membership

The following organizational structure for academic advising was in effect:



The 2017-2018 UAAC membership was Jeffrey Wanko (chair), Christina Carrubba-Whetstine, Kim Ernsting, Tonia Hyllengren, Brian Kirkmeyer, Marti Kyger, Ted Peters, Gretchen Radler, and Roxann Sommers, and Darsh Parthasarathy (student). The UAAC met 11 times during the academic year.

2017-2018 Action Steps

Below is a list of key improvement steps made in 2017-2018:

1. Advisor Development & Recognition

- a. Revised and offered six advising development modules
- b. Selected two winners for the Excellence in Academic Advising Award
- c. Offered second annual advising symposium (coordinated by the Miami University Academic Support & Advising Association) in September with over 70 participants, and held monthly workshops on advising-related topics
- d. Held the Advisor Recognition Reception honoring the award winners as well as master advisors and advisors achieving Level B and Level A status

2. Advising E-Tools

- a. Reviewed and revised modules 1-6 in online and face-to-face advisor training

3. Advising Communications

- a. Reviewed and revised letters for midterm interventions and explored options for revising timeline for midterm interventions
- b. Created 2018-2019 Guidebook for New Students
- c. Implemented many features of the new strategic communications plan that includes leveraging the Student Success Collaborative – Campus system and developing more consistent messaging

4. Advising Policies

- a. Developed, reviewed and/or revised the following advising-related policies: (1) requirements for graduation; (2) deactivation of degree programs; (3) academic action intervention steps (academic warning and academic probation); (4) course repeat; (5) Oxford nursing applicants; (6) FERPA; (7) Student Health Center notes; (8) master advisor application; (9) alternative suspension program

5. Advising Assessment

- a. Implemented optional advisor survey instrument for academic advisors, and posted on Canvas site

Academic Advising Assessment

Academic Advising Goals & Outcomes

In 2013-2014, the Undergraduate Academic Advising Council developed a set of outcomes for both advisors and advisees. Outcomes are aligned with the advising standards of the National Academic Advising Association (NACADA).

Advisor Outcomes	Student Outcomes
<ul style="list-style-type: none"> Advisors understand the Miami learner-centered advising philosophy, key advising concepts, and best practices for academic advising. Advisors understand how individual students learn and how social context affects the learner's understanding of their education. Advisors understand the advising system and critical resources for student success and provide a seamless advising process for students that validates their individual contexts and approaches to learning Advisors understand University and Miami Plan requirements, advising policies and protocols. Advisors leverage critical e-tools (EAB Student Success Collaborative, interactive DAR) to evaluate, monitor student progress and promote student success. 	<ul style="list-style-type: none"> Students know their requirements for graduation and use advising tools to proactively manage timely degree completion Students craft a coherent educational plan based on an understanding of their abilities, aspirations, interests and values, leading to realistic academic and professional goals. Students understand the advising system and how/where to find answers to questions Students understand the roles of advisors and academic support personnel and have a personal connection with at least one advisor Students discover and integrate co-and extra-curricular activities and programs that enhance their academic/collegiate experience and prepare them for their future in a global society.

Mapping

Mapping is the process of determining when, where, and through what experiences the desired outcomes for academic advising will be achieved. Below is the map for Miami's advising outcomes:

Outcomes	Guidebook & Orientation	UNV 101	Advising Session	Advisor Training Intro & Module 1	Module 2	Module 3	Module 4	Modules 5 & 6
Students know their requirements for graduation and use advising tools to proactively manage timely degree completion.		√	√					
Students craft a coherent educational plan based on an understanding of their abilities, aspirations, interests and values, leading to realistic academic and professional goals.		√	√					
Students understand the advising system and how/where to find answers to questions.	√	√	√					
Students understand the roles of advisors and academic support personnel and have a personal connection with at least one advisor.	√	√	√					

Students discover and integrate co-and extra-curricular activities and programs that enhance their academic/collegiate experience and prepare them for their future in a global society.		√	√					
Advisors understand the Miami learner-centered advising philosophy, key advising concepts, and best practices for academic advising.				√				
Advisors understand how individual students learn and how social context affects the learner's understanding of their education.							√	√
Advisors understand the advising system and critical resources for student success and provide a seamless advising process for students that validates their individual contexts and approaches to learning.				√	√			
Advisors understand University and Miami Plan requirements, advising policies and protocols.				√	√			
Advisors leverage critical e-tools (e.g., EAB Student Success Collaborative, interactive DAR) to evaluate, monitor student progress and promote student success.			√		√	√		

Methods and Data

The UAAC employs multiple methods of measurement, including retention rates, college completion rates, national surveys such as NSSE and YFCY, advisor usage of Student Success Collaborative - Campus, and advisor training completion rates.

Below is a summary of the most recent data collected for each measure.

National Survey of Student Engagement (Oxford)

Note: 640 Miami first-year students were captured in the data below:

1. Indicate the quality of your interactions with the academic advisors at your institution (1-7 scale with 1 being poor and 7 being excellent).

Year	Characteristic	7 (excellent)	6	5	4	3	2	1 (poor)	n/a	mean
2015	Miami First-Year Students	21%	21%	20%	15%	9%	7%	6%	1%	4.9
	Carnegie Class First-Year Students	25%	20%	19%	14%	9%	5%	5%	3%	5.0
	Miami Seniors	15%	18%	19%	17%	10%	11%	9%	1%	4.4
	Carnegie Class Seniors	26%	21%	18%	13%	8%	6%	6%	2%	5.0

2. In your experience at your institution during the current school year, about how often have you talked about career plans with a faculty member? (never = 1, sometimes = 2, often = 3, very often = 4)

Year	Characteristic	4 (very often)	3 (often)	2 (sometimes)	1 (never)	Mean
2015	Miami First-Year Students	9%	19%	50%	22%	2.1
	Carnegie Class First-Year Students	10%	20%	45%	24%	2.2
	Miami Seniors	19%	26%	43%	11%	2.5
	Carnegie Class Seniors	16%	23%	40%	21%	2.2

3. How much does your institution emphasize providing support to help students succeed academically?

Year	Characteristic	4 (very much)	3 (quite a bit)	2 (some)	1 (very little)	Mean
2015	Miami First-Year Students	32%	44%	22%	2%	3.1
	Carnegie Class First-Year Students	36%	40%	20%	4%	3.1
	Miami Seniors	30%	46%	20%	4%	3.0
	Carnegie Class Seniors	28%	41%	20%	6%	2.9

Your First College Year Survey

Note:

1. Since entering college, how often have you interacted with academic advisors?

Year	Characteristic	Daily	2-3 times a week	Once a week	1-2 times per month	1-2 times per term	Never	Mean
2014	Miami	0.5%	2.0%	3.1%	18.3%	70.7%	5.3%	0.74
	Public Universities	0.4%	2.0%	3.3%	16.9%	65.5%	11.9%	0.79
	Public/Private Universities and Public 4yr Colleges	1.2%	2.9%	5.3%	21.0%	61.2%	8.4%	0.90

2. Please rate your satisfaction with this institution on academic advising.

Year	Characteristic	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied	Mean
2014	Miami	20.8%	37.9%	19.8%	14.5%	6.9%	3.51
	Public Universities	22.4%	39.3%	22.9%	11.3%	4.1%	3.65
	Public/Private Universities and Public 4yr Colleges	27.6%	37.6%	21.8%	9.7%	3.5%	3.76

3. Since entering this college, indicate how often you have utilized academic advising.

Year	Characteristic	Frequently	Occasionally	Not at all	Mean
2014	Miami	14.4%	76.3%	9.3%	2.05
	Public Universities	15.0%	72.0%	13.1%	2.02
	Public/Private Universities and Public 4 Yr Colleges	18.7%	69%	12.3%	2.06

College Senior Survey

1. Please rate your satisfaction with academic advising.

Year	Characteristic	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied	Mean
2014	Miami	16.5%	30.1%	21.3%	20.4%	11.7%	3.19
	Public Universities	24.7%	33.9%	20.2%	13.8%	7.5%	3.55
	Public/Private Universities and Public 4yr Colleges	23.3%	34.8%	21.9%	13.6%	6.4%	3.55

2. How often have professors at your college provided you with advice and guidance related to your educational program?

Year	Characteristic	Frequently	Occasionally	Not at all	Mean
2014	Miami	42.6%	49.6%	7.8%	2.35
	Public Universities	44.3%	47.9%	7.8%	2.37
	Public/Private Universities and Public 4yr Colleges	40.4%	50.9%	8.6%	2.32

First- to Second-Year Retention Rates

Retention rates reflect the number of first-time, full-time degree-seeking undergraduates who are enrolled at Miami one year later (first year to sophomore year). Note: Only students with a declared major are included in the figures here.

Overall Rates

- 2011 – 88.9%
- 2012 – 89.6%
- 2013 – 90.5%
- 2014 – 90.3%
- 2015 – 91.8%
- 2016 – 90.9%

Oxford Campus Divisions

	CAS	CCA	CEC	EHS	FSB
2011	86.8%	90.8%	89.1%	91.2%	91.7%
2012	89.4%	90.1%	88.3%	89.7%	93.6%
2013	89.6%	94.5%	91.3%	90.1%	92.5%
2014	89.4%	90.2%	91.6%	90.5%	93.3%
2015	92.2%	92.9%	90.2%	90.4%	93.9%
2016	90.7%	94.6%	90.3%	90.2%	93.8%

Four- and Six-Year Graduation Rates

Graduation rates refer to the percentage of cohorts of first-time, full-time degree-seeking undergraduates who complete a degree within six years.

Oxford Campus Totals

- 2006 Cohort: 79.8%
- 2007 Cohort: 80.8%
- 2008 Cohort: 79.0%
- 2009 Cohort: 79.9%
- 2010 Cohort: 78.4%
- 2011 Cohort: 79.1%

By Divisions on Oxford Campus (2011 Cohort)

- CAS: 77.0%
- CCA: 63.2%
- CEC: 73.3%
- EHS: 81.2%
- FSB: 82.2%

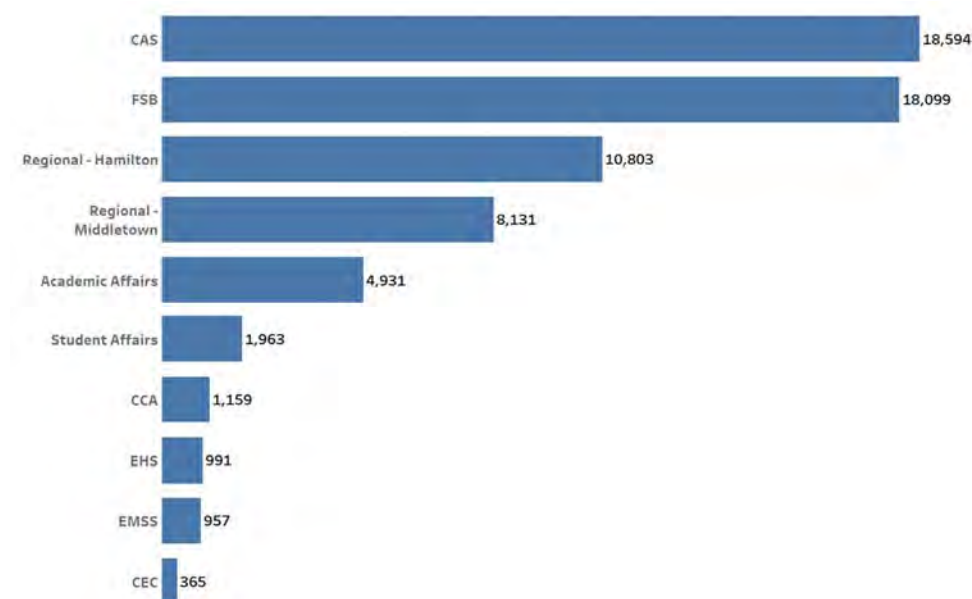
Advisor Training Completion Rates

Year	Total # Advisors	Module 1 (% Complete)	Module 2 (% Complete)	Module 3 (% Complete)	Module 4 (% Complete)	Module 5 (% Complete)	Module 6 (% Complete)
2015-2016	687	80.35%	78.46%	74.24%	60.84%	4.5%	2.5%
2016-2017	850	73.39%	69.75%	Part A (online): 67.41% Part B (workshop): 37.63%*	57.33%	15.59%	12.19%
2017-2018	953	73.58%	70.05%	Part A (online): 65.58% Part B (workshop): 49.84%	54.76%	21.78%	15.63%

Student Success Collaborative - Campus Data (All Divisions)

Implemented across the University in 2016-2017, the Student Success Collaborative – Campus (SSC Campus) serves as the comprehensive advising software for all academic advisors at Miami. To date, there have been 475 advisors trained in the platform (via Module 3 workshop portion). One key feature of the SSC Campus is the ability to use the system for scheduling and keeping track of academic advising appointments. Over the past two academic years, (from August 1, 2016 through April 30, 2018) there have been 65,993 academic advising appointments logged through the system.

Figure 1: SSC Appointments by Division



UNV 101 and First Year Experience Courses

UNV 101 was developed in response to multiple resolutions made by the Associated Student Government to develop a first-year experience course to assist students in transitioning into the Miami undergraduate experience. It also was created in response to the first metric of the Miami 2020 Plan to **“achieve a 6-year graduation rate of 85% (4-year graduation rate of 75%).”** *Fall 2017 represents the fourth year that UNV 101 has been offered.*

The learning outcomes of UNV 101 are to ensure that students are able to:

- Understand what a liberal arts education is and its role in their academic experience and success;
- Demonstrate active participation and engaged learning in class discussions and activities;
- Integrate their personal, academic and career goals in relation to their values, interests and skills;
- Utilize campus resources and e-tools in pursuit of academic and co-curricular goals;
- Demonstrate an awareness of the relationship between culture and identity within themselves and others;
- Examine how their behavior and decisions have an impact on their personal well-being and on their communities;
- Outline an intentional, integrated plan of curricular and co-curricular learning.

To assess the effectiveness of UNV 101, we have utilized multiple methods:

- 1) Pre- and Post-Test on the course learning outcomes of UNV 101 that is administered to Oxford students who enrolled in UNV 101 and other first-year experience courses
- 2) Grade point average and retention rates of UNV 101 students versus other first-year students on Oxford and regional campuses;
- 3) Results of the Oxford and regional student evaluations of the UNV 101 course

The table below shows the number of students who completed UNV 101 or another first-year experience (FYE) course in Oxford or on a regional campus in fall 2017. The table also shows the number of first-year students who were not enrolled in an FYE course on the Ohio campuses. In all, 78% of Oxford first-year students and 61% of regional first-year students were enrolled in an FYE course—combined, 75% of Miami’s first-year students were enrolled in an FYE course.

Oxford	
FYE Courses	Number of Students
UNV 101	1672
BIO 147	313
CEC 101	471
CHM 147	97
EDL 151	180
GLG 147	19
MBI 147	32
MTH 190	38
THE 107	17
PSY 112M	126
TOTAL	2985
No FYE Course	837

Regionals	
FYE Courses	Number of Students
UNV 101	569
CEC 101	22
TOTAL	581
No FYE Course	370

In some cases, UNV 101 enrolls students who are at have risk indicators that place them at a higher risk for attrition than those who do not enroll in UNV 101 or a FYE course. With the assistance of the Division of Enrollment Management & Student Success, students who have key risk factors are auto-enrolled in UNV 101. These factors include: first-generation status, undecided majors (University Studies), conditionally admitted students, and students from families of low socio-economic status. A total of twenty-two sections of UNV 101 (525 students) were dedicated to University Studies students.

Careful efforts were made to enroll students in sections by some common or shared characteristic, such as major or undecided major status, division, residence hall, etc.

GPA & Retention Comparison

In Oxford, completion of UNV 101 or other FYE course resulted in a first semester GPA that was statistically not significantly different compared with those who did not complete an FYE course (3.26 and 3.31). In addition, there was no statistically significant difference between the retention rates for those who completed an FYE course relative to those who were not enrolled in an FYE course (90.9% and 91.2%).

There was, however, a stronger impact of the FYE courses on the regional campuses. Students on the regional campuses who took UNV 101 had a first-semester cumulative grade point average of 2.74, while incoming regional campus students who did not enroll in UNV 101 earned an average cumulative GPA of 2.59. In addition, FYE completion relates to a higher retention to the second year (64.8% compared to 57.8%).

It should be noted, however, that UNV 101 and other FYE courses have a number of learning outcomes, were designed to meet the needs of first-year students, and were implemented to help with a number of issues at Miami University—only one of which is the issue of retention. As we review and revise our FYE courses, we need to keep in mind that retention is not a primary goal for these courses—but it is an important issue that all aspects of the university needs to stay attentive to.

Pre- and Post-Tests

Pre-Test

A total of 1,816 first-year students on the Oxford campus enrolled in a first year experience course received an invitation to complete the course pre-test in August/September 2017. Additionally, instructors provided the survey link to the students in their classes for completion. The questions on the assessment focused primarily on the UNV 101 learning outcomes articulated in the introduction of this document.

- A maximum of 1,456 usable pre-test responses from students enrolled in the course were obtained.

The pre-test asked 30 questions using a 5-point likert scale. The questions directly measured the students' sense of agreement to their ability/knowledge regarding the specified learning outcomes of the course. An additional series of direct measures were included for specific questions related to academic integrity and bystander behavior.

Post-Test

- UNV 101 students were administered the post-test during the final week of the semester in December. Students were provided the link to the survey by their instructor as well as through a mass mailing. A maximum of 1,022 usable post-test responses from students enrolled in the course were obtained.

For enrolled students: Compared to the pre-test mean, the post-test mean was:

- Significantly higher for 28 questions
- Significantly lower for 1 question
- Not significantly different for 1 question.

General Post-Test Questions Relating to UNV 101

Students enrolled in the course responded to the post-test questions listed below (0-5 scale with "5" as the highest mark):

Question	Average Score
This course helped me become more familiar with campus resources and services that will help me be successful.	4.53
This course helped me identify ways in which I can engage at the university.	4.4
This course helped me develop a sense of belonging at Miami.	4.13
I am confident in my ability to succeed at Miami.	4.65
I would recommend this course to other first-year students at Miami.	4.05

Student Evaluations of Course

Summary of Quantitative Questions

All sections of the UNV 101 course and other FYE courses on both the Oxford and regional campuses were evaluated using the *What Do You Think?* course instrument with the standard university level questions.

Summary of Quantitative Items (0-4 scale, with 4 as highest mark)

Item	UNV 101 and other FYE courses	University Mean for all Courses
Organization of Course	3.10	3.17
Clear Presentation of Content	3.34	3.14
Fair Grading	3.26	3.12
Intellectually Challenging Course	2.03	3.27
Effective Instructor	3.25	3.29
Welcomed Questions	3.62	3.56
Opportunities for Participation	3.49	3.45
Demonstration of Concern	3.45	3.42
Analyze Complex Problems	2.63	3.25
Topic Appreciation	2.65	3.16
Understanding of Material	3.12	3.30

Summary of Qualitative Comments

Students' Most Commonly Cited Benefits

- Enthusiastic and caring instructors
- Assists with transition to college
- Understanding campus resources, especially advising and DAR resources
- Guest speakers
- Opportunity to build community with other students in my major

Students' Most Commonly Cited Concerns & Suggestions

- Some portions (particularly related to personal responsibility) were too similar to Summer Orientation activities
- The course seemed too elementary—not challenging enough
- Too many assignments – some of which were redundant or seemed like “busy” work
- Focus less on career exploration and more on how to succeed at Miami (finding a major, study/academic skills)

Summary and Recommendations for Improvement

The data gathered on UNV 101/FYE courses indicate that transition courses have significant benefits for students, including their understanding of the campus resources and sense of belonging. They also have a positive impact on student's academic success and retention during the first semester of college. UNV 101 on the regional campuses and FYE courses on the Oxford campus align with higher second-year retention rates. Additional longitudinal analysis will be needed to determine whether the course has long-term impact such as increasing college completion rates and overall level of satisfaction with college.

The data also reveal clear areas for course improvement. Here are our proposed suggestions for improvement:

1. Continue encouraging FYE and UNV courses, particularly when sections are arranged by major and include involvement of faculty in that discipline in the design and implementation of the course. See Appendix A (bottom of page) for proposed auto-enrollment protocol.
2. Consider allowing for students to self-select into the course as opposed to pre-enrolling students.
3. Reorganize the Canvas site that has been created to support course instructors in such a way that required material and concepts are more evident. This clarification will assist instructors in meeting course learning outcomes and provide greater understanding of where flexibility exists for providing students in individual sections with course material that may be specific to that particular class.
4. Continue to enhance and expand instructor development/training, including ways to utilize Undergraduate Associates more effectively.
5. Revise the Bystander portion of the course.
6. Evaluate the current assessment practices connected to this course, specifically the pre-post model for assessing learning outcomes. Continue to identify ways in which direct measurement of learning can occur as well as how assessment could be aligned/connected to the University course evaluation process.

2017-18 Action Steps

Category	Action Step	Current Status
Academic Advising	Continue to increase the completion rates for the six advisor development modules and the percentage of advisors attaining Level B, Level A and Master Advisor status.	Completed
	Revise all modules for Advisor Development to incorporate new policies, procedures and input from assessment.	Completed
	Market the optional survey instrument that advisors can use to evaluate their advising of students.	Limited usage – will review this next year
	Create and pilot the Pre-Orientation Advising Canvas site for incoming students in summer 2018. Revise the <i>Guidebook for New Students</i> to align with site.	Discussed and determined not to be advisable at this time.
	Finalize and implement the Strategic Communication Plan for Academic Advising.	In progress
	Hold the Second Annual Advising Symposium focused on the theme of Inclusive Advising.	Completed

Academic Interventions	Increase the number of academic intervention students who connect with their advisor or academic support person.	Completed
	Increase the percentage of midterm intervention students who connect with their academic advisor after receiving the communication.	Completed
	Collaborate with the Student Success Committee to implement the recommendations from its working group reports.	In progress

MIAMI REGIONALS

College of Liberal Arts & Applied Science

May 2018 • Board of Trustees

Bob Fairchild

- » **Class of 1970**
A.S. in Engineering Technology
- » **Co-founder of Ample Industries**
- » **Multiple patents:**
 - » Clamshell Sandwich Box
 - » Starbucks Teavana Heat Sleeve









Middletown: 1966

Hamilton: 1968





CLAS

College of Liberal Arts & Applied Science

BIO

CMR

CIT

EDS

ENT

HCA

ICS

JCS

LLW

MPS

NSG

SBS

Increased Bachelor's degrees by 33%

Applied Social Research

 Commerce

Communication Studies

Community Arts

Criminal Justice

English Studies

Engineering Technology

Forensic Investigation

Forensic Science

17½
Degrees

 Health Communication

Health Information Technology

Information Technology

Integrative Studies

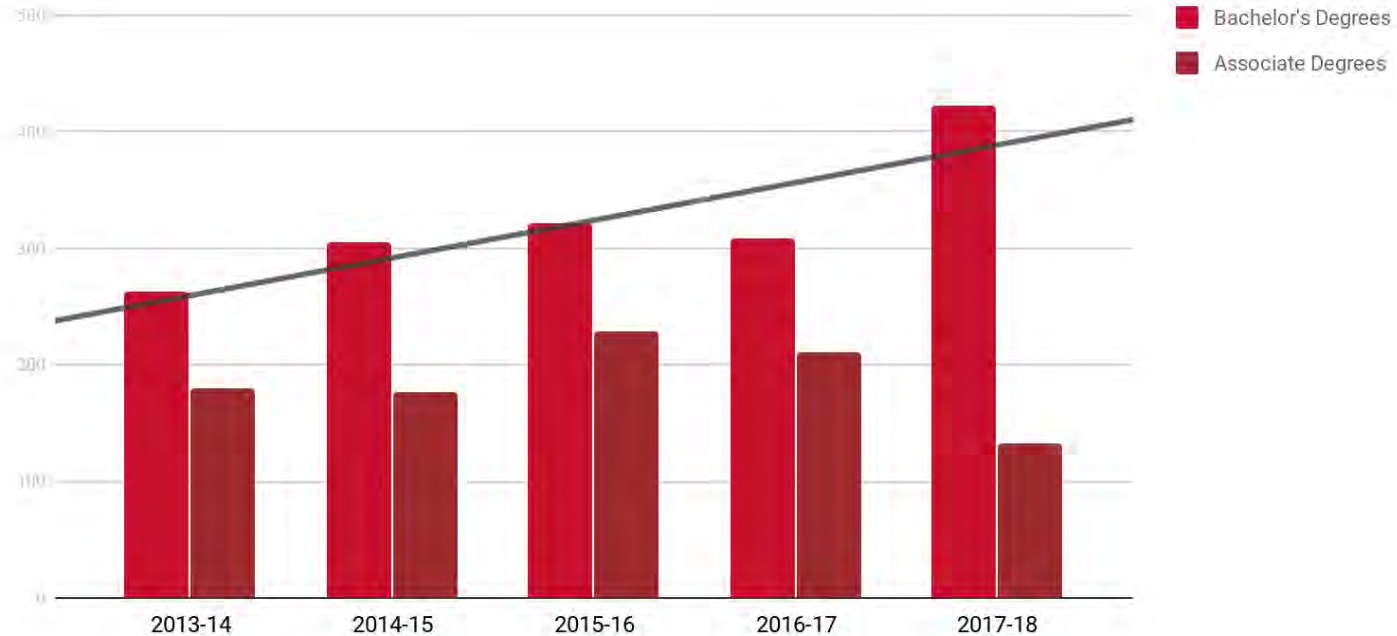
Liberal Studies

Non-profit & Community Studies

 Nursing BSN & RN to BSN

Psychological Science

Increased Bachelor's Degree Graduates



2nd Recognition Ceremony

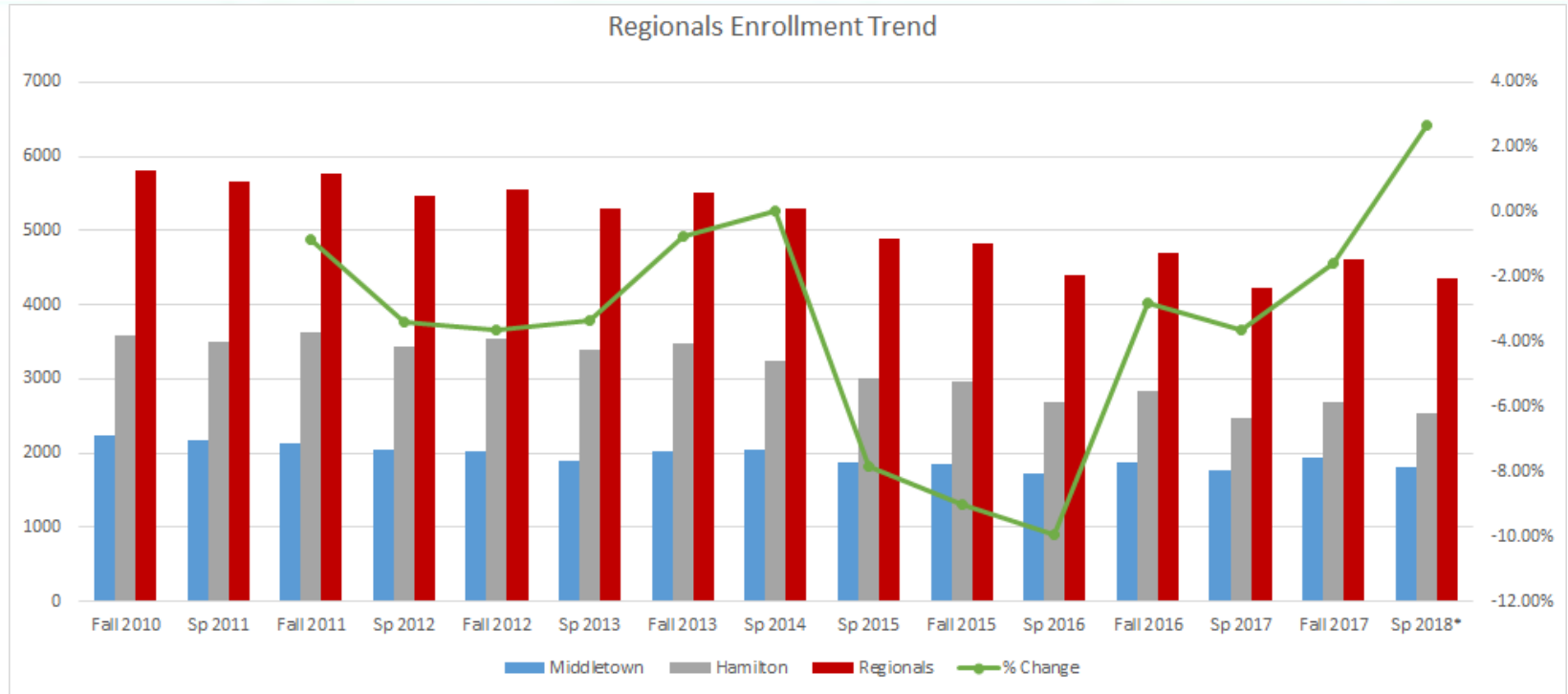
May 20th, 2018 • 2:00 p.m.

- » **387 May graduates**
- » **121 December graduates**
- » **First Graduates**
 - » Community Arts
 - » Communication Studies
 - » English Studies
 - » Psychological Science
 - » Forensic Science
 - » Forensic Investigation



MIAMI
REGIONALS

Spring 18: First Increase in Enrollment



Created the first CLAAS Advisory Council



WHO: Alumni & Business Professionals

WHY: Improve connections, support departments, build industry connections

WHEN: Spring 2018

Strategic Enrollment Management Initiatives Since 2015

- » Strategic Enrollment Management Council formed 2016
- » Investments in recruitment, enrollment communication, transfer, retention
- » Increased attention on data analytics
- » New Miami Regionals brand, strategic advertising
- » E-Campus programs, increase in online offerings



FULLY DEVELOPED E-CAMPUS

Entirely Online. On Your Time.

- » Bachelor of Science in Commerce
- » RN-BSN Completion Program
- » Bachelor of Science in Health Communication **NEW!**
- » Associate in Prekindergarten Education **NEW!**
- » Associate of Applied Business



Over 100 Community Events



Going



Forward



STRATEGIC PLAN

» Vision Statement

- » Empowering minds, strengthening communities

» Mission Statement

- » Miami University Regionals provides open access for diverse learners to high-quality applied education grounded in the liberal arts.

» Values

- » Access
- » Teaching Excellence
- » Student Success
- » Community
- » Diversity

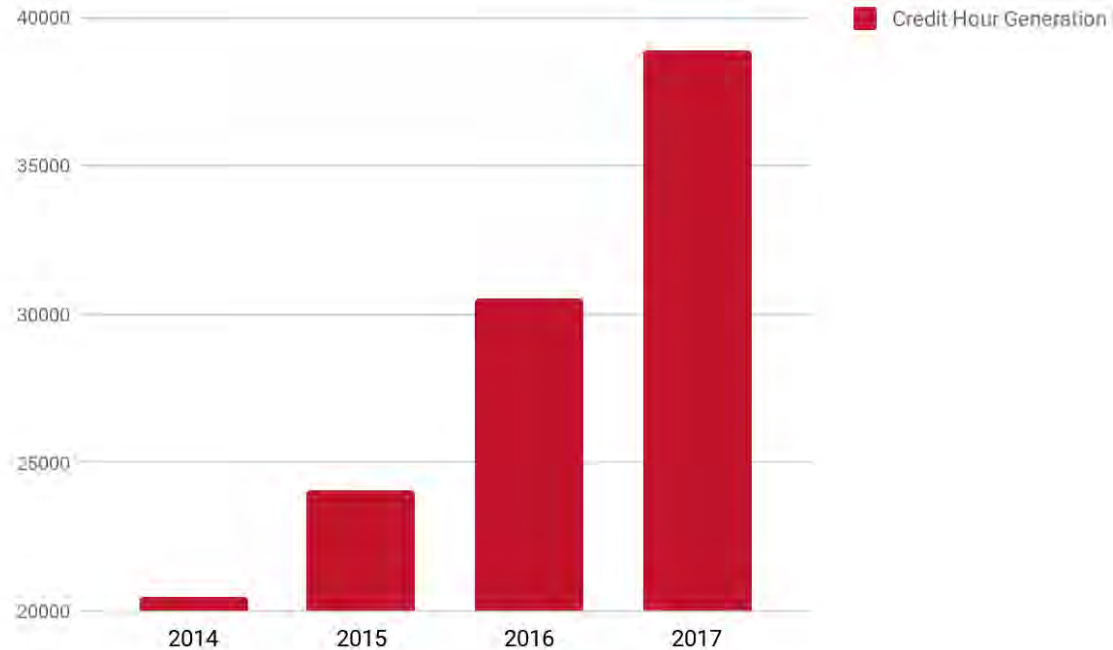


STRATEGIC PRIORITIES

- » Academic Excellence
- » The Student Experience
- » Community
- » Facilities
- » Faculty and Staff



Expanding E-Campus



Growing Existing Bachelor's Degrees

Nursing

Commerce

**Psychological
Studies**

**Health Information
Technology**

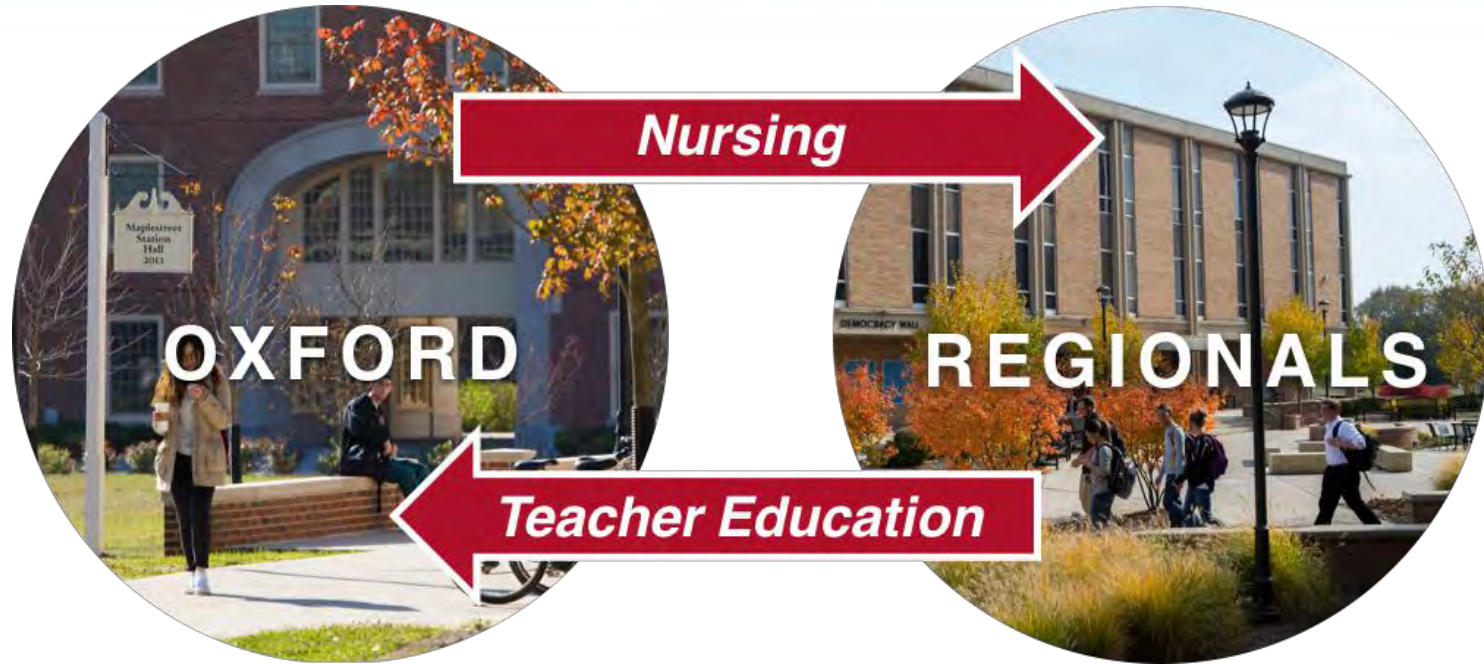
Biological Sciences



Building New, Relevant & High-Demand Learning Opportunities



Continuing Oxford Relationship



Working with our Cities





Samy Broyles

- » Hamilton native Samy Broyles, Class of 2015, Integrative Studies, focus on Cross-Cultural Leadership
- » Grew up in Hamilton, served at the Booker T. Washington Center
- » Now leads the BTW facility



Thank You

		FY2018							FY2019						
	Agenda Item	Sep	Dec	Feb	Apr/May	Jun	Retreat	Sep	Dec	Feb	Apr/May	Jun	Retreat		
Public Business Session - Announcements															
	Chair	x	x	x	x	x		x	x	x	x	x			
	ASG Updates	x	x	x	x	x		x	x	x	x	x			
	Graduate Student Update	x	x	x	x	x		x	x	x	x	x			
	University Senate Updates - Executive Committee Chair	x	x	x	x	x		x	x	x	x	x			
Interdisciplinary Presentation															
	Presentation - Multiple Departments/Divisions, HLC Framework	x	x	x	x	x		x	x	x	x	x			
		Diversity & Inclusion	Student Success & Support	Public & Community Engagement	University Degrees, Programs, & Services	Moved to September		University Staffing & Planning	Diversity & Inclusion	TBD	TBD	TBD			
Student Affairs Reports - Vice President for Student Affairs															
	Presentations and Reports:														
	VP Update - As Necessary	x	x	x	x	x		x	x	x	x	x			
	Student Counseling and Mental Health (every two years, report every year)				x						Report				
	Student Wellness and High Risk Alcohol (every two years, report every year)		Report						x						
	Written Report Only:														
	Student Affairs "Good News"	x	x	x	x	x		x	x	x	x	x			
	Sexual Assault Prevention				x						x				
	Campus Safety Data (Office of Ethics and Student Conflict Resolution)				x						x				
	Student Housing Occupancy Update (HOME Office Update)	x		x				x		x					
	Integrity (Joint with Academic Affairs)					x						x			
	Residence Life/Living Learning Communities			x						x					
	Office of Diversity Affairs	x						x							
	Student Activities and Programming to include Greek Affairs			x						x					
	Orientation and New School Year Activities (every two years)	x													
	Rinella Learning Center (every two years)														
	Student Disability Services (every two years)		x						x						
	Community Engagement and Service (every two years)										x				
	Off-Campus Outreach and Communications (every two years)								x						
	Leadership Initiatives (every two years)									x					
Enrollment Management and Student Success - VP for EMSS															
	Presentations and Reports:														
	VP Update - As Necessary	x	x	x	x	x		x	x	x	x	x			
	Enrollment Update	x	x	x	x	x		x	x		x	x			
	Financial Aid and Student Debt (every two years, report every year)		x							Report					
	Career Services and Placement (every two years, report every year)		Report							x					
	Written Report Only:														
	EMSS "Good News"	x	x	x	x	x		x	x	x	x	x			
	Retention Update		x						x						
Academic Affairs Reports - Provost															
	Presentations and Reports:														
	Provost Update As Necessary	x	x	x	x	x		x	x	x	x	x			
	Academic Center/Program	x	x	x	x			x	x	x	x				
	Written Report Only:														
	Academic Affairs "Good News"	x	x	x	x	x		x	x	x	x	x			
	E-learning				x						x				
	International Education and Study Abroad/Away	x						x							
	Academic Advising		x		x							x			
	Honors Program					x						x			
	Winter Term Update (EMSS, with Academic Affairs)					x					x				
	Integrity (Joint with Student Affairs)					x						x			
	Accreditation Updates (as applicable)														
Academic Dean's- All (except MUDEC) typically include a tour															
	College of Liberal Arts and Applied Sciences				x										
	College of Engineering and Computing		x												
	College of Arts and Science			x											
	Graduate School					x									
	Libraries							x							
	College of Education, Health & Society								x						
	College of Creative Arts									x					
	Farmer School of Business										x				
	Luxembourg Campus (based on Dean's availability)														
Other Areas															
	Presentations and Report:														
	Forward agenda	x	x	x	x	x		x	x	x	x	x			
Executive Sessions															
	Appropriate topics, as required	x	x	x	x	x		x	x	x	x	x			



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**BOARD OF TRUSTEES
MIAMI UNIVERSITY
Minutes of the Academic and Student Affairs Committee Meeting
February 15, 2018, 8:00 a.m.
Hughes Hall, Room 142/144
Miami University, Oxford Campus**

The Academic and Student Affairs Committee of the Miami University Board of Trustees met on February 15, 2018 in Hughes Hall, on the Miami University, Oxford Campus. The meeting was called to order at 8:00 a.m. by Committee Chair Terry Hershey, a majority of members were present constituting a quorum. Attending with Chair Hershey were committee members; Trustees, Thomas Gunlock, Dennis Lieberman, John Pascoe, Mark Ridenour, and Robert Shroder, National Trustee Diane Perlmutter, and Student Trustees Alex Boster, and Hallie Jankura; along with non-committee members; Trustees Jagdish Bhati, Sandra Collins and Rod Robinson, along with National Trustees John Altman, Michael Armstrong and Robert Coletti.

In addition to the Trustees, Phyllis Callahan, Provost and Executive Vice President for Academic Affairs; Michael Kabbaz, Senior Vice President for Enrollment Management and Student Success, Jayne Brownell, Vice President for Student Affairs; Robin Parker, General Counsel; Ron Scott, Associate Vice President for Institutional Diversity; and Ted Pickerill, Executive assistant to the President and Secretary to the Board of Trustees, were in attendance. Also present to address or assist the Committee were: Chris Makaroff, Dean of the College of Arts and Science; Susan Schaurer, Assistant Vice President and Director of Admission; Mike Crowder, Chair, the Department of Chemistry and Biochemistry; Jeff Carr, President, Graduate Student Association; and Anika Fowler, Academic Secretary, Associated Student Government; along with many members of the Miami University community, present to observe.

Executive Session

Trustee Pascoe moved, Trustee Gunlock seconded and by unanimous roll call vote, the Committee convened to Executive Session to consult with counsel, to discuss personnel matters, the promotion of public employees, and matters required to be kept confidential by law.

At 8:15 a.m. the Committee returned to public session.

Public Business Session

Chair Hershey opened the public session, welcomed everyone to the meeting, and recognized departing members, Alex Boster, and Dennis Lieberman.

Reports

The Committee received written reports from the University Senate, and Associated Student Government.

These reports are included in Attachment A.

Interdisciplinary Dialogue

Public and Community Engagement

Provost Callahan introduced the topic and began the discussion. She was joined by Senior Vice President Kabbaz and Vice President Brownell. The group facilitated discussion surrounding three questions:

-How do we instill the value of service in students through both curricular and co-curricular activities?

-As a state, public institution what is our responsibility to the state and our involvement in contributing to public issues in the state, the nation and the world?

- How do we assess and evaluate our progress in terms of community and public engagement?

There was discussion on the need to blend learning, academics with unique service opportunities, to make service a way of life. It was reported that Miami is working to integrate service into areas of student interest and development, and considering making it part of a cocurricular transcript.

There were questions as to whether Miami is offering too many organizations and alternatives for students, and if we should be more focused. Students present offered that perhaps fewer, but more meaningful opportunities might be preferable. It was observed that perhaps more students in a common organization can have greater impact than fewer students in many smaller organizations.

It was discussed that some other universities are creating service records for students and that some universities tie service to graduation requirements. It was also discussed that the revisioning of residential life could create opportunities in the service area.

Associated materials are included as Attachment B.

Approval of the Prior Meeting's Minutes

Trustee Ridenour moved, Trustee Pascoe seconded, and by unanimous voice vote, the minutes of the previous meeting were approved.

Student Affairs Reports

Vice President Brownell updated the Committee on the strategic initiative to re-envision Student Affairs. She discussed how the division and campus partners have considered changes in society, technology, and in student needs and behavior; the shifting expectations of stakeholders, including parents and employers; changes in funding; and the purpose and contribution of residential life to the Miami experience.

The goal is to help students extract the maximum benefit from Miami – to live a special, rewarding, and beneficial Miami Experience. To reflect this philosophy, the name of Student Affairs will be changed to the Division of Student Life.

Vice President Brownell then provided an overview of the changes in organization and infrastructure. She discussed quad themes, academic neighborhoods, and affinity communities,

There was a question about students returning early to residence halls for the Spring semester, and she explained that validation is now required for each request, with many being denied. The reason is because all residence halls are not staffed to support the return of students and the new standard is to enhance student safety.

Vice President Brownell's presentation is included as Attachment C.

HB1219

Students disenrolled per HB 1219, may request readmission after one year. Vice President Brownell relayed there was a request to consider. She stated the proposed readmission would include probation terms, and she recommended approval. National Trustee Perlmutter then moved, Trustee Shroder seconded, and by unanimous voice vote the Committee approved the readmission request.

Student Affairs Written Reports

The following written reports were provided:

- Student Affairs "Good News," Attachment D
- Housing Occupancy Update, Attachment E
- Residence Life Report, Attachment F
- Student Activities, and Fraternity and Sorority Update, Attachment G

Enrollment Management and Student Success Reports

Admission Update

Susan Schaurer, Assistant Vice President, and Director of Admission, updated the Committee on enrollment. She stated there is a slight overall decrease in applications to date, and Admission is continuing to accept international student applications. When compared to 2012, applications are up 50%.

For the new Oxford-start nursing program, there are 902 applications for 40 positions. The College of Creative Arts has seen an increase in applications, with the other divisions near steady or decreased. There are 600 fewer applications from Chinese students, contributing to the decline in applications for the Farmer School of Business. The number one factor for international applicants is the business school ranking.

The academic quality of the applicant pool is near steady, and diversity has increased, from 16.3 to 18.3%.

Domestically, the number of recruiters has been increased from 3 to 7. For Fall 2019, there will be increased marketing and changes to the timeline, with a November 1 deadline for early notice, which will occur by December 15.

Ms. Schaurer's presentation is included as Attachment H.

Enrollment Planning 2018 and beyond

Senior Vice President Kabbaz reviewed opportunities for enhancement. Some possibilities include 3+1 and 4+1 bachelor/master programs, defined pathways to careers, and a premier scholarship program.

The Committee observed that a combined engineering and business program and facility could provide opportunities for sought-after interdisciplinary students and could enhance enrollment.

Enrollment Management and Student Success Written Reports

In addition to the presentation, the following written reports were provided:

- Enrollment Management and Student Success “Good News”, Attachment I

Academic Affairs Reports

Provost Update

Provost Callahan highlighted the student finalists for Fulbright Scholarships, with fourteen nominated, it is a near doubly from eight in the prior year. She also informed

them of the Chinese Gala held in Cincinnati and Miami's significant representation at the event. Another highlight was the Women's Basketball Love, Honor, Care game which recognized faculty researching cancer, and the award of two \$5,000 scholarships to undergraduates to aid in this research.

Promotion and Tenure

Provost Callahan then presented the faculty and librarians for promotion and tenure/continuing contract, recommending approval. Trustee Shroder then moved, Trustee Pascoe second, and by unanimous voice vote the Committee recommended approval by the full Board of Trustees.

The Promotion and Tenure Resolution is included as Attachment J.

Center for Structural Biology

Professor Mike Crowder, Chair, Department of Chemistry and Biochemistry, provided an overview of structural biology which examines the structure of proteins, with results applicable to many areas, such as drug development. He highlighted engaged faculty and the opportunities available to students, including undergraduate students.

He also informed the Committee of the Center's exceptional equipment, which, unlike most universities, undergraduates are able to directly operate. He also emphasized that much of the Center's work is performed for organizations outside of Miami.

Associated materials are included as Attachment K.

Academic Affairs Written Reports

In addition to the presentations, the following written reports were provided:

- Academic Affairs "Good News", Attachment L

College of Arts and Science

College of Arts and Science Dean, Chris Makaroff, provided an overview and update, beginning by emphasizing the value of Miami's liberal education core. He reviewed the College's profile, which houses the majority of Miami's graduate programs, however, their overall size, in comparison to the undergraduate population, is much smaller than other similar sized universities. He explained that the small graduate footprint places Miami at a disadvantage to compete for research grants. He next highlighted faculty achievement and student success.

Dean Makaroff addressed several questions. About the pre-medical co-major he explained that the program accommodates all interested students. He also explained that Miami has no MCAT preparatory course because it is important to ensure that any such

course would deliver the required quality, taking a person of unique qualifications to create and lead it. He emphasized that any program must be as good as, or better than, the existing alternative programs.

He informed the Committee that in 2016-2017 the College invested \$16.5M in scholarships, research, international student recruiting, and many other areas. Currently, there is a significant need for facilities renovation.

Associated Materials are included as Attachment M.

Adjournment and Tour

With no additional business to come before the Committee Trustee Shroder moved, National Trustee Perlmutter seconded, and by unanimous voice vote, the Board adjourned at 11:30 a.m. to tour Hughes Hall.



Theodore O. Pickerill II
Secretary to the Board of Trustees

