Faculty and staff meeting
inaugurating AY 2012/13

August 17, 2012

SEAS Home Page: MY SEAS tab
SEAS faculty and staff meeting
August 17, 2012

Outline

1. Introductions

2. Highlights of AY 2011-12

3. SEAS priorities in AY 2012-13
School of Engineering and Applied Science

New Faculty and Staff
Jason Berberich

- BS in Chemical Engineering from the University of Kentucky
- PhD in Chemical Engineering from the University of Kentucky
- Jason comes to Miami from Pittsburgh where he was Manager of Enzyme Research for the Chem-Bio Detection Division

Assistant Professor
Chemical & Paper Engineering
Jessica Sparks

- BS Pre-medicine and Philosophy, University of Notre Dame
- MS Anatomy, The Ohio State University
- PhD Biomedical Engineering, The Ohio State University
- Jessica comes to Miami from Wake Forest School of Medicine where she was an assistant professor in the department of Biomedical Engineering

Associate Professor
Chemical & Paper Engineering
Mazyar Amin

Assistant Professor
Engineering Technology

- University of Washington, PhD, Aerospace Engineering
- University of Washington, MS, Aerospace Engineering
- University of Tehran, MS, Mechanical Engineering
- Isfahan University of Technology, BS, Mechanical Engineering
- Mazyar comes to Miami from Saint Louis University where he was an adjunct professor and postdoctoral fellow in biomedical engineering
D. J. Rao

- PhD in Computer Science and Engineering, University of Cincinnati
- MS in Computer Science and Engineering, University of Cincinnati
- BE in Computer Engineering, University of Madras, India
- D.J. comes to back to Miami from Elsevier where he was a Principle Software Engineer
- He was a visiting assistant professor in the CSE department from 2005-2009

Assistant Professor
Computer Science & Software Engineering
Stephanie Nicely

- EdDc, Doctoral of Educ. Leadership-Nurse Educator, NKU, anticipated graduation Spring 2014
- MSN, Ball State University
- BSN, Miami University
- ADN, Miami University
- Stephanie comes to Miami from Hondros College School of Nursing where she has been teaching since 2009

Assistant Professor
Nursing
Sharon Farra

- PhD in Nursing, Scholarship of Teaching and Learning, Univ. of Cincinnati
- MSN, Wright State University
- BSN, Wayne State University
- Sharon comes to Miami from Sinclair Community College where she has been teaching since 1998

Assistant Professor
Nursing
Donna Evans

- MBA from Miami University
- BS in Business from Miami University
- Donna has been in the CIT department since 2004 as an instructor and an advisor to BIS, CIT, and HIT students.
- She was instrumental the creation of the Health Information Technology program. She developed expertise in this area, provided marketing and recruitment assistance, and worked with other institutions to develop articulation agreements.

Lecturer
Computer & Information Technology
Harry Pierson

- PhD in Industrial & Systems Engineering, The Ohio State
- BS Mechanical Engineering & M.S. Engineering Management, University of Missouri – Rolla
- Harry comes to Miami from The Ohio State University where he was a lecturer in the Department of Integrated Systems Engineering
- He also has industrial experience in factory automation & computer integrated manufacturing

Visiting Assistant Professor
Mechanical & Manufacturing Engineering
John Lewis

- CompTIA A+: Technician certification
- CompTIA Network+ certification
- CompTIA Linux+ certification
- CompTIA Security+ certification
- John comes to SEAS from MU-IT where he was a Technical Support Analyst and has served as a SEAS Campus Partner during the 2011-12 academic year

Network Support Specialist
SEAS Dean’s Office
School of Engineering and Applied Science Highlights
Academic Year 2011-12

Undergraduate education
New programs

- BS in Information Technology with a major in Health Information Technology approved by the Ohio Board of Regents and available as a major in January 2012

- A proposal for a new +2 BS program in Electrical and Computer Engineering Technology developed and approved

- Bioengineering minor created

- Certificate program in Paper Science and Engineering developed
Curriculum

• Bioengineering Major in its 2nd year – significant revision of the curriculum undertaken

• 16 new courses created and five significantly modified

• First–year experience of SEAS students: successful launch of revised EAS 101 and transition to department-based EAS 102

• NSG Associate Degree curriculum offered for the last time
Accreditation and Assessment

• BSN program – full five year accreditation by Ohio Board of Nursing
• ABET accreditation - clean bill of health (six year accreditation) for all CPE, CSE and MME programs seeking accreditation
• ABET interim review report submitted in June by ECE department
• Assessment plan for all CIT majors created
• ABET outcomes and objectives defined for the new Bioengineering major
School of Engineering and Applied Science Highlights
Academic Year 2011-12

Graduate programs and faculty scholarship
Graduate curriculum

- All SEAS MS programs: non-thesis tracks created; 4+1 BS/MS programs developed and approved

- Graduate Council undertook work on revising MS in CS&E core requirements and significant curriculum changes

- Assessment plans developed for all SEAS MS programs
# Graduate Enrollment

<table>
<thead>
<tr>
<th></th>
<th>Fall 2007</th>
<th>Fall 2009</th>
<th>Fall 2011</th>
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<tbody>
<tr>
<td>Enrollment</td>
<td>33</td>
<td>44</td>
<td>50</td>
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<tr>
<td>Research Assistants</td>
<td>5</td>
<td>n/a</td>
<td>16</td>
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<tr>
<td>Credit Hours</td>
<td>356</td>
<td>426</td>
<td>515</td>
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<tr>
<td></td>
<td>Peer-reviewed journals</td>
<td>Peer-reviewed conference proceedings</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>------------------------</td>
<td>--------------------------------------</td>
<td></td>
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<tr>
<td>CSE</td>
<td>4</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>CPE</td>
<td>10</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>ECE</td>
<td>14</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>MME</td>
<td>15</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>43</td>
<td>72</td>
<td></td>
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</table>
### Publications

#### Calendar year 2011 – regionals

<table>
<thead>
<tr>
<th></th>
<th>Peer-reviewed journals</th>
<th>Peer-reviewed Conference proceedings</th>
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<tbody>
<tr>
<td>CIT</td>
<td>5</td>
<td>11</td>
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<tr>
<td>ENT</td>
<td>1</td>
<td>4</td>
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<tr>
<td>NSG</td>
<td>4</td>
<td>19</td>
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<tr>
<td>Total</td>
<td>10</td>
<td>34</td>
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Grants - Oxford only
July 1, 2012 – May 31, 2013

<table>
<thead>
<tr>
<th>Funding</th>
<th>Amount ($)</th>
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<tbody>
<tr>
<td>CSE</td>
<td>178,000</td>
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<tr>
<td>CPE</td>
<td>654,000</td>
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<tr>
<td>ECE</td>
<td>454,000</td>
</tr>
<tr>
<td>MME</td>
<td>384,000</td>
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<tr>
<td>Total</td>
<td>1,670,000</td>
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School of Engineering and Applied Science Highlights

Academic Year 2011-12

Implementation of SEAS 2009-2013 strategic plan
SEAS 2009-13 strategic priorities

Focus on:

• Recruitment
• Experiential learning
• Undergraduate research
• Global presence
Undergraduate Enrollment (Oxford)

<table>
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<tr>
<th>Term</th>
<th>Number of confirmations as of May 5</th>
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<tbody>
<tr>
<td>Fall 2007</td>
<td>214</td>
</tr>
<tr>
<td>Fall 2008</td>
<td>283</td>
</tr>
<tr>
<td>Fall 2009</td>
<td>236</td>
</tr>
<tr>
<td>Fall 2010</td>
<td>395</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>362</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>425</td>
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</table>
## CIT Enrollment

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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<tbody>
<tr>
<td>CIT</td>
<td>43</td>
<td>65</td>
<td>76</td>
<td>86</td>
<td>100</td>
</tr>
<tr>
<td>CT</td>
<td>19</td>
<td>16</td>
<td>28</td>
<td>23</td>
<td>19</td>
</tr>
<tr>
<td>HIT</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>80</td>
</tr>
<tr>
<td>Total</td>
<td>62</td>
<td>81</td>
<td>104</td>
<td>109</td>
<td>199</td>
</tr>
</tbody>
</table>
## Experiential learning

### Exit interviews (April 2012)

<table>
<thead>
<tr>
<th>Category</th>
<th># of students reporting experience</th>
<th># of students responding</th>
<th>% of students reporting experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internships/co-ops</td>
<td>58</td>
<td>98</td>
<td>59</td>
</tr>
<tr>
<td>Undergraduate research</td>
<td>29</td>
<td>74</td>
<td>39</td>
</tr>
<tr>
<td>Service learning</td>
<td>21</td>
<td>74</td>
<td>28</td>
</tr>
<tr>
<td>Professional organizations</td>
<td>31</td>
<td>74</td>
<td>42</td>
</tr>
<tr>
<td>Professional training</td>
<td>26</td>
<td>74</td>
<td>35</td>
</tr>
</tbody>
</table>
# Global experience (Oxford)

<table>
<thead>
<tr>
<th>Study abroad</th>
<th>2005</th>
<th>2007</th>
<th>2009</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEAS</td>
<td>7%</td>
<td>24%</td>
<td>27%</td>
<td>28%</td>
</tr>
<tr>
<td>MU</td>
<td>32%</td>
<td>37%</td>
<td>42%</td>
<td>41%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Study abroad</th>
<th>MU</th>
<th>CAS</th>
<th>SEAS</th>
<th>SEHS</th>
<th>FSB</th>
<th>SCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>41%</td>
<td>42%</td>
<td>28%</td>
<td>28%</td>
<td>55%</td>
<td>46%</td>
</tr>
</tbody>
</table>
Global experience at regionals: CIT in the spotlight

- **CIT/CSE 262**: *Technology, Ethics and Global Society* includes discussion of global implications.

- **CIT 358** has a weekly “current events in computer security” component, frequently global in nature.

- **Lizz Howard** spent the fall 2011 semester in Luxembourg and will incorporate her experiences into the entire curriculum as well as into CIT 448 *Global and Strategic Issues in Information Technology*. 
Interdisciplinary endeavors
A sampling of our faculty involvement

- Huge Immersive Virtual Environment (HIVE) – a joint project between CSE (Eric Bachman) and the Department of Psychology (supported by a $1.2M NSF grant)

- Mobile Learning Center led by Jerry Gannod (CSE) – a joint venture between SEAS, AIMS, IT ($156k in funding)
A sampling of our faculty involvement

• Michael Bailey–Van Kuren (MME) – versatile involvement in AIMS and Miami Design Collaborative

• Cathy Almquist (CPE) – faculty affiliate in the Institute for the Environment & Sustainability

• Continued research collaborations with Math, Physics, Chemistry, Psychology, Speech Pathology involving a dozen or so SEAS faculty
School of Engineering and Applied Science Highlights
Academic Year 2011-12

External activities
Development and alumni relations

- SEAS Director of Development hired in January after a 14-month long hiatus
- SEAS Corporate Advancement Team convened with the goal of developing corporate advancement strategy
- Stronger ties with GE Aviation, NASA Glenn, American Axle and Manufacturing established
- A major gift on its way!

- Increased presence on Facebook, LinkedIn, Twitter, Flickr, and Vimeo
- Successful CSE Alumni Conference and CIT Forum
School of Engineering & Applied Science
Highlights
Academic Year 2011-12

Lockheed Martin Leadership Institute
Lockheed Martin Leadership Institute

Off to a great start!

- Successful launch event with Lockheed Martin Execs
- Keynote presentation by Dr. Ray O Johnson
- Student discussion session with Dr. Johnson and Mr. Wilcox
- Louise Morman selected as Executive Director
Lockheed Martin Leadership Institute

Accomplishments

- Cohort #1 recruited and completed EAS 291
- Lockheed Martin Center for Innovation visit
- Cohort #2 recruited
- LeaderShape: sponsored SEAS students in 2011 and 2012
- EAS 291 and EAS 391 courses temporarily approved
- Faculty Leadership Reading Group
- Jeff Wilcox, Recognition Ceremony speaker
Difficult discussions

• Decentralized SEAS IT support in place despite attempts to the contrary

• SEAS modus operandi: “One school on three campuses” under intense discussions in light of University-wide discussions on the future of regional campuses and the Board’s decision to establish a new regional division
School of Engineering and Applied Science Highlights
Academic Year 2011-12

Faculty awards and recognitions
Arthur Olson Generational Teaching Excellence Award

Andrew Sommers
Assistant Professor
Mechanical and Manufacturing Engineering
Tenure and Promotion

Deborah Beyer, granted tenure and promoted to Associate Professor of Nursing

Kumar Singh, granted tenure and promoted to Associate Professor of Mechanical & Manufacturing Engineering

Keith Frikken, granted tenure and promoted to Associate Professor of Computer Science & Software Engineering

Jerome Luczaj, granted tenure and promoted to Associate Professor of Computer & Information Technology

Steven Keller, Associate Professor of Chemical & Paper Engineering, granted tenure
SEAS Outstanding Researcher

- Recognized expert in nonlinear dynamics and its application to natural and engineered systems

- Work has ranged from hypersonic aircraft structures to biomedical devices

- Sustained record of innovative research, high impact scholarly publications, service to the profession, grant funding, and student involvement
SEAS Outstanding Researcher

Amit Shukla
Associate Professor
Mechanical and Manufacturing Engineering
The Division Technical Award and Harry J. Bettendorf Prize

Awarded by Corrugated Packaging Division of the Technical Association of the Pulp and Paper Industry (TAPPI) for outstanding contributions that have advanced the industry’s technology

Doug received the award at the September 26, 2011 TAPPI CorrExpo2011 in Fort Worth, Texas

Doug Coffin, Professor
Chemical and Paper Engineering
Distinguished Teaching Award for Excellence in Graduate Instruction & Mentoring

This award will be presented by the Miami University Graduate School at the Graduate Research Forum in November 2012.

Her letter of notice of the award from Jim Oris reads “Your work with graduate students has been remarkable and serves as an inspiration to all graduate faculty at Miami University”.

Valerie Cross, Associate Professor
Computer Science & Software Engineering
Faculty Professional Leadership

Anna Dollar, Professor MME
Chair, Mechanics Division of ASEE

Ann Sobel, Associate Professor CSE
Associate Editor for IEEE Computer

Vipul Ranatunga, Assoc. Professor, ENT
Chair, Emerging Technologies Division, American Society for Composites
School of Engineering and Applied Science Highlights
Academic Year 2011-12

Alumnus in the spotlight
C. Michael Gooden, chairman of the board and CEO of Integrated Systems Analysts, Inc. (ISA), was named a new national trustee by Miami University's board of trustees for a three-year term beginning July 1, 2012.

Gooden, of Alexandria, Va., received a BS from Miami University in 1972 and an MS in engineering from the University of Pennsylvania. In 1993, he was awarded an honorary doctor of science degree from Miami.
School of Engineering and Applied Science Highlights
Academic Year 2011-12

Our students in the spotlight
Provost’s Student Academic Achievement Award

The selection committee selected 15 students, two of whom are SEAS Students

Choolwe M. Mandona, Chemical Engineering major

Jamie T. Morton, Computer Science & Mathematics major

In the last five years, 13 awards for SEAS students (out of 57 at Miami University)
Louis Nicholson, 2012, Nursing and Sociology

Louis received the Award for his local, regional, and national contributions to the Sexually Transmitted Infections and Pregnancy Prevention program in Butler, Warren, Montgomery, and Hamilton county teens.
MS CSE Student – 2nd place paper at IEEE international conference

“Target Scene Reconstruction in Indoor Environment with Cognitive OFDM Radar”

- Brian presented his paper at the IEEE International Waveform Density and Design Conference.
- The paper was about his research with an imaging tool that has real-life application of locating bodies buried in rubble.
- All of his competitors were PhD students and first place went to a 5th year doctoral candidate.
- Dmitriy Garmatyuk is Brian’s graduate advisor.

Brian Jameson, ECE graduate, first-year MSCSE grad student
Team Red Blade

- Team Red Blade, led by Jade Morton, competed in Miami’s 2011-2012 Interdisciplinary Technology Development Challenge.
- Team Red Blade placed 1st in the MUITDC competition and was awarded $5,000 for their achievement.
- The team consisted of electrical engineering, computer engineering, computer science, and entrepreneurship undergraduates.

Also, a $10K 2nd place win at ION’s Robotic lawn mower competition.

And, a $1500 2nd place win at ION’s Robotic snow plow competition.
MME Students at NASA

MME students placed sixth out of 57 U.S. and international undergraduate and graduate teams

• The competition was in the on-site mining category of the third annual Lunabotics Mining Competition at the Kennedy Space Center in Florida. Michael Bailey-Van Kuren was their advisor.

• The competition challenges university students to build machines that can collect soil such as the material found on the moon.

The machines were judged by their abilities to collect the soil and their design, operation, dust tolerance and level of autonomy.
School of Engineering & Applied Science
Highlights
Academic Year 2011-12

A sampling of undergraduate student research and projects
Augmented Reality Research

**ShelvAR – Faculty & UG working together**

The purpose of this App is to assist in the sorting of library books by indicating which books are not in the correct position, and which direction on the shelf they need to be moved. **Bo Brinkman** and Matt attended “Posters on the Hill” in Washington, DC where they spoke about their research.

Matt Hodges demonstrates the ShelvAR Android App.

Bo talked with senior US Senator Sherrod Brown about augmented reality research.
Solar Cell Research

Lyndsey McMillon – NASA Intern

- She helped to develop a “small scale working semi-transparent solar cell,” which will automatically change the tinting of the window throughout the day.
- Her time was spent at the Glenn Research Center in Cleveland with the Photovoltaic and Power Technologies Branch.
- An article about her research was published in the OSPE “Ohio Engineer” in October 2011.
Miami Mobile Center

• New apps created this year
• Miami University’s Mobile Learning Center, directed by Jerry Gannod, collaborated with the Air Force Research Laboratory (AFRL) to offer 11 Miami students $6,500 stipend and to conduct research at the AFRL Discovery Lab at the Tec^Edge Innovation Center in Dayton
The team installed a Fanuc M710i robot into the assembly process at the Duramax diesel engine manufacturing facility, DMAX Ltd in Moraine, OH.

The solution they provided to DMAX Ltd will be used for many years in their production of their “World Class Diesel Engine”.

Students: Todd Wright, Miguel Rojo, and Timothy Bulcher. Gary Drigel was the team advisor.
American Red Cross Nurse Badge project

• In cooperation with the American Red Cross (ARC) Chief Nurse, a group of CSE majors created a badge database and web portal application (Doug Troy – adviser)

• From Dr. Sharon Stanley, Chief Nurse, ARC:
  “THANK YOU so much for your efforts to reinstate tracking for Red Cross nurse badges. This project is near and dear to every Red Cross nurse’s heart and you have made a real difference in saving a part of the Red Cross Nurse legacy”

Capstone team members present their poster at Speed Geeking 2012, during the CSE alumni conference
Engineers without Borders

MU EWB team

• Travelled to Ecuador in March to begin a program to improve the quantity and quality of the community’s water

• Identified problems relating to contamination, shortage and transportation of water

• Will return to Ecuador in December for the implementation phase of their proposed solution
Project High Flight

NASA – RockOn workshop

• Bob Setlock and four students from varying SEAS disciplines traveled to Wallops Island, Virginia this summer for NASA’s RockOn workshop.

• Over the course of four days, these students constructed two scientific payloads from scratch.

• On June 21, 2012, these payloads were launched into space on a NASA sounding rocket to take measurements during sub-orbital flights.
School of Engineering and Applied Science

SEAS priorities in AY 2012 - 13
Undergraduate curriculum

• +2 BS program in Electrical and Computer Engineering Technology - seek SEAS and university approval, prepare for implementation

• Bioengineering – mentor new faculty, enhance laboratory infrastructure, implement curricular changes, nurture new student chapter of BMES, engage new CPE Advisory Council

• SEAS First Year Experience - finalize transition to the new model of student engagement

• Engineering Management - develop a long-term plan to retain, enhance, and coordinate viable EGM tracks
Accreditation and assessment

• Data collection and preparation for 2013-14 cycle Miami Program Review in five SEAS departments: CIT, CPE, CSE, ECE and MME

• Complete preparations for ABET Fall 2013 site visit in ENT

• Develop comprehensive and unified SEAS assessment plan
Graduate programs

- Implement and market non-thesis tracks and 4+1 programs

- Revise and implement core requirements and course offerings in MS in CS&E

- Develop MS in NSG program with clinical and non-clinical tracks
# Oxford recruitment and retention

## Three-year projection

<table>
<thead>
<tr>
<th>Goal</th>
<th>2011/12</th>
<th>2014/15</th>
</tr>
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<tbody>
<tr>
<td>Increase the number of applications</td>
<td>2,269</td>
<td>2,650</td>
</tr>
<tr>
<td>Increase the academic profile of student body by lowering the admission rate</td>
<td>1,727 (76%)</td>
<td>1,650 (62%)</td>
</tr>
<tr>
<td>Increase the yield rate – the number of first year students</td>
<td>352 (20%)</td>
<td>395 (24%)</td>
</tr>
<tr>
<td>Increase the 1st to 2nd year retention rate</td>
<td>90%</td>
<td>93%</td>
</tr>
<tr>
<td>Increase the six-year graduation rate</td>
<td>77%</td>
<td>80%</td>
</tr>
<tr>
<td>Increase the number of students</td>
<td>1,125 (Fall)</td>
<td>1,275 (Fall)</td>
</tr>
</tbody>
</table>
Other priorities

- Enhance collaboration between Oxford and regional departments

- Public relation issues - increase SEAS visibility by capitalizing on the establishment of the Leadership Institute and M-Learning Center

- University Scholars incentive - develop a program aimed at attracting more high-achieving students to SEAS

- Interdisciplinary undertakings - support M-Learning Center, Energy Initiative, multidisciplinary research, etc.
Other priorities

• SEAS Corporate Advancement Team - finalize and implement corporate advancement strategy

• University-wide dialogue on Global Miami Plan – advocate changes in math, formal reasoning and technology area

• Global presence – develop and implement an aggressive international agenda; increase the number of students studying abroad: from 28% in 2010/11 to 40% in 2014/15

• New university calendar - prepare for implementation
Lockheed Martin Leadership Institute

Plans for 2012-13

- Fall/Spring --- EAS 291 and EAS 391
- Spring 2013 --- New seminar class open to all SEAS Sophomores/Juniors/Seniors that qualifies for honors (1 credit hour)
- LeaderShape
- Faculty Reading Group
Budgetary matters

- Execute permanent cut of SEAS FY ‘14 budget to the tune of $283,000
- Prepare for implementation of responsibility-center management financial model in FY ‘14
- New revenue opportunities: finalize SEAS revenue enhancing initiatives planning and start implementation phase in the summer of 2013 and, particularly, during the winter session in 2014
- Finalize SEAS fee proposal and seek Board of Trustees’ approval
SEAS priorities in 2012-13

to be further discussed
in divisional and departmental meetings
in Oxford and on regional campuses

Have a fruitful and rewarding academic year!