

**Pathway for Associate of Science at Sinclair Community College
to
Bachelor of Science in Engineering (Chemical Engineering) at Miami University**

Catalog Year: 2026-2027

Description

Miami University and Sinclair Community College are parties to an agreement titled **INSTITUTIONAL ARTICULATION AGREEMENT BETWEEN MIAMI UNIVERSITY AND SINCLAIR COMMUNITY COLLEGE** entered into on August 7, 2026 (the "[Agreement](#)"). This Pathway is entered into pursuant to the terms and conditions of the Agreement and is hereby incorporated into the Agreement by this reference. Except as otherwise set forth, the Agreement is unaffected and shall continue in full force and effect in accordance with its terms.

The Associate of Science degree (with a major in Engineering and Engineering Technology University Transfer) at Sinclair Community College partners well with the Bachelor of Science in Engineering degree (Chemical Engineering major) at Miami University.

To graduate with the Bachelor of Science in Engineering degree with a major in Chemical Engineering students must first meet all Miami University admission requirements noted on this [website](#). Students must also meet Miami's [general requirements for graduation](#), including: (1) completion of 124 credit hours; (2) completion of a minimum of 30 credit hours at Miami of which the final 12 credit hours must be taken at Miami; and (3) attainment of a minimum of a 2.00 cumulative grade point average at the time of graduation.

The plan of study below illustrates: (1) how a student can complete an Associate of Science degree at Sinclair Community College and how those courses transfer to Miami University, and (2) what courses the student needs to complete at Miami to earn the Bachelor of Science in Engineering degree with a major in Chemical Engineering. Please note the matches in this document indicate specific courses you may be awarded after successfully completing those courses and transferring to Miami University.

Students completing the OT36 through their General Education credits will have completed most requirements for Miami Plan Perspectives Areas and Signature Inquiries. Students entering Miami having completed the OT36 must complete 9 credits of Signature Inquiry, however this may be met by matching equivalent Perspectives courses that have a Signature Inquiry designation, meaning that students who enter Miami with the OT36 completed will have also met the 9 credit Signature Inquiry requirement. Students will need to complete coursework in Global Citizenship (Intercultural Consciousness or Global Inquiry for 3 credits), Knowledge in Action: Experiential Learning (0 credits), and a Senior Capstone (3 credits).

Courses that do not have a Miami University equivalent will be recorded as "T" courses on the student's Miami University academic record. With the assistance of an academic advisor, students can petition for some "T" courses to count toward Miami University degree requirements.

FIRST YEAR

Sinclair College				Transfer Equivalent			
SUBJECT CODE	COURSE NUMBER	COURSE TITLE	CREDIT HOURS	SUBJECT CODE	COURSE NUMBER	COURSE TITLE	CREDIT HOURS
FALL SEMESTER							
ENG	1101	English Composition I (OT36 Composition)	3	ENG	111	Composition & Rhetoric	
MAT	2270	Calculus I (OT36 Mathematics)	5	MTH	151	Calculus I	
CHE	1211/ 1251	Chemistry I with lab (OT36 Natural Science)	5	CHM	141/144	Chemistry I with lab	
TBD	TBD	OT36 Social/Behavioral Science	3				
Total Hours:			16				
SPRING SEMESTER							
COM	2211	Public Speaking	3	STC	135	Principles of Public Speaking	
CHE	1221/ 1261	Chemistry II with lab (OT36 Natural Science)	5	CHM	142/145	Chemistry II with lab	
MAT	2280	Calculus II	5	MTH	251	Calculus II	
TBD	TBD	OT36 Arts/Humanities	3				
Total Hours:			16				

SECOND YEAR

Sinclair College				Transfer Equivalent			
SUBJECT CODE	COURSE NUMBER	COURSE TITLE	CREDIT HOURS	SUBJECT CODE	COURSE NUMBER	COURSE TITLE	CREDIT HOURS
FALL SEMESTER							
CHE	2151/2111	Organic Chemistry I with lab (OT36 Natural Science)	5	CHM	241/244	Organic Chemistry I with lab	
MAT	2310	Differential Equations	4	MTH	245	Differential Equations	
PHY	2201/2207	General Physics I with Lab	5	PHY	181/183	General Physics I/Lab	
TBD	TBD	OT36 Arts/Humanities	3				
Total Hours:			17				
SPRING SEMESTER							
PHY	2202/2208	General Physics II with Lab	5	PHY	182/184	General Physics II/Lab	
CHE	2161/2121	Organic Chemistry II with lab	5	CHM	242/245	Organic Chemistry II with lab	
TBD	TBD	OT36 Social/Behavioral Science	3				
Total Hours:			13				
COURSES OUTSIDE OF DEGREE							
MAT	1450	Statistics	4	STA	261	Statistics	
MEE	2101	Statics for Engineers	3	MME	211	Static Modeling/Mech Systems	
Total Hours:			7				

Sinclair Community College degree awarded – 62 credit hours
Sinclair courses outside of degree – 7 credit hours

The following is a suggested academic plan for requirements at Miami University; students should meet with advisors to plan courses to meet their needs.

THIRD YEAR			
Miami University			
SUBJECT CODE	COURSE NUMBER	COURSE TITLE	CREDIT HOURS
SUMMER SEMESTER			
CPB	204	Mass and Energy Balances I	2
Total Hours:			2
FALL SEMESTER			
CEC	111	Imagination, Ingenuity and Impact I	2
CEC	190	Career Foundations	0
CPB	314	Engineering Thermodynamics	3
CPB	318	Transport Phenomena I	4
CPB	341	Engineering Economics	3
TBD	TBD	Approved Global/Intercultural Course	3
Total Hours:			15
SPRING SEMESTER			
CEC	112	Imagination, Ingenuity and Impact II ¹	2
CEC	190	Career Foundations	0
CPB	205	Mass and Energy Balances II	2
CPB	311	Transport Phenomena Laboratory	2
CPB	324	Chemical and Bio- Engineering Computation and Statistics	3
CPB	414	Mass Transfer and Unit Operations ²	4
TBD	TBD	Technical Elective 1 ³	3
Total Hours:			16

FOURTH YEAR			
Miami University			
SUBJECT CODE	COURSE NUMBER	COURSE TITLE	CREDIT HOURS
FALL SEMESTER			
CEC	190	Career Foundations	0
CPB	412	Chemical Engineering Thermodynamics	3
CPB	451	Unit Operations Laboratory	2
CPB	471	Chemical Process Design I	2
CPB	482	Process Control	3
CPB	483	Chemical Process Safety	1
CHM	432	Fundamental of Biochemistry ⁴	4
Total Hours:			15
SPRING SEMESTER			
CEC	190	Career Foundations	0
CPB	415	Chemical Kinetics and Reactor Design	3
CPB	419	Biomaterials ⁵	3

CPB	473	Chemical Process Design II	3
TBD	TBD	Technical Elective 2 ³	3
TBD	TBD	Technical Elective 3 ³	3
Total Hours:			15

¹The course sequence of CEC 112, CPB 311, and CPB 451 fulfills the Advanced Writing requirement. Students who do not complete this 3-course sequence are required to take ENG 313 Technical Writing (3 credit hours).

²Students may file a petition to take CPB 414 concurrently with CPB 205.

³Technical Electives 1, 2, and 3 (9 credit hours total) may be selected from the approved Chemical Engineering technical elective list, which includes options such as: CPB 244 Introduction to Environmental Engineering, CPB 301 Pulp and Paper Chemistry, CPB 416 Biochemical Engineering, CPB 423 Biomechanics, CPB 442 Air Pollution Control, and ECE 205 Electric Circuit Analysis I, among others. Students should work with their academic advisor to select electives that align with their interests.

⁴Students may substitute any of the following courses for CHM 432 Fundamentals of Biochemistry: CHM 332/332L Outlines of Biochemistry and Outlines of Biochemistry Lab, CHM 363 Analytical Chemistry, CHM 375 Analytical Chemistry for Majors, or CHM 471 Biophysical Chemistry I.

⁵Students may substitute CPB 202 Pulp and Paper Physics or MME 223 Engineering Materials for CPB 419 Biomaterials.

Miami University Degree Awarded – 124 credit hours minimum