

Associate in Science

2018-2019 Catalog

Concentration in Pre-Engineering

Award Granted Upon Completion: Associate in Science

Credits/Contacts Required: **63/67**

Major code: 02/225

CIP Code: 240101

Description

The Pre-Engineering Degree is designed for students who wish to transfer to a four-year college or university to obtain a degree in engineering. In addition to preparation for transfer, this program provides students with a strong general education background. By satisfying the program requirements listed below, a student also satisfies the Michigan Transfer Agreement requirements listed in the catalog. ☼

General Education Requirements – Min 33 credits

		<u>Cr</u>
ENGL-101	Rhetoric & Composition	3
XXXX-xxx	Communication Elective	3
	ENGL-102 or 145; COMM-103, 104, or 120	
MATH-141	Analytical Geometry & Calc I	5
CHEM-110	General Chemistry I * -OR-	5
CHEM-108	Technical Chemistry *	
PHYS-205	Engineering Physics I	5
XXXX-xxx	Social & Behavioral Science Electives **	6
XXXX-xxx	Humanities Electives **	6

☼ This degree requires fulfillment of the Michigan Transfer Agreement General Education requirements. All courses used to fulfill the MTA must have a grade of "C" or higher.

Requirements – Min 30 credits

		<u>Cr</u>
MATH-142	Analytical Geometry & Calculus II	5
MATH-243	Analytical Geometry & Calculus III	5
MATH-244	Differential Equations	3
MATH-250	Linear Algebra	3
PHYS-206	Engineering Physics II @ -OR-	5
CHEM-112	General Chemistry II @	
XXXX-xxx	Natural Science Elective #	3-5
XXXX-xxx	Computer Science -OR- Engineering Course ##	3-4
XXXX-xxx	Approved Electives ###	3-4

Suggested Sequences Per Semester

		<u>Cr / Ct</u>
First Semester		
CHEM-110	General Chemistry * -OR-	
CHEM-108	Technical Chemistry I *	5/7
ENGL-101	Rhetoric & Composition	3/3
MATH-141	Analytical Geometry & Calculus I	5/5
XXXX-xxx	Computer Science -OR- Engineering Course ##	3-4/3-4
16-17/18-19		
Second Semester		
CHEM-112	General Chemistry II @ -OR-	
XXXX-xxx	Approved Elective ###	3-5/3-7
MATH-142	Analytical Geometry & Calculus II	5/5
PHYS-205	Engineering Physics I	5/6
XXXX-xxx	Communication Elective	3/3
16-18/17-21		
Third Semester		
MATH-243	Analytical Geometry & Calculus III	5/5
PHYS-206	Engineering Physics II @ -OR-	
XXXX-xxx	Natural Science Elective #	3-5/3-7
XXXX-xxx	Social/Behavioral Science**	3/3
XXXX-xxx	Humanities **	3/3
14-16/14-18		
Fourth Semester		
MATH-244	Differential Equations	3/3
MATH-250	Linear Algebra	3/3
XXXX-xxx	Social/Behavioral Science **	3/3
XXXX-xxx	Humanities **	3/3
XXXX-xxx	Natural Science Elective # -OR- Approved Elective ###	3-5/3-7
15-17/15-19		

* Students should contact their transfer institution to determine which chemistry course is required for their engineering degree.

** Students must choose courses in Social & Behavioral Sciences and Humanities, each from two different subject areas to meet MTA. See advisor for details.

Choose one natural science from BIOL-110, 112, 213, 214, 255, 256; CHEM-112, 201, 202; PHYS-206, 260, or 261.

Select a computer science or engineering course from the following: CSCI-121, CSCI-122, CADD-115, or CADD-120.

Students should contact their transfer institution to determine an appropriate approved elective for their degree.

@ Students should contact their transfer institution to determine if PHYS-206 or CHEM-112 is required for their engineering degree. Some engineering degrees will require both PHYS-206 and CHEM-112.