

Interdisciplinary Engineering (Environmental Engineering Emphasis)

Grand Valley State University 2020-21 Catalog in cooperation with Cornerstone University

MTH 201 Placement – 4 year program

Secondary Admission Criteria

1) A GPA of 2.7 or above in the Engineering Foundation courses. Engineering Foundation courses are designated by an asterisk (*) on this guide.

2) Completion of each course in the Engineering Foundation with a grade of C (2.0) or above, with no more than one repeat.

3) Completion of preparation for placement in the cooperative engineering education course, EGR 289.

1st Semester Fall: 16 credits

*MTH 201	Calculus 1
*WRT 150	Writing Strategies
OR WRT 120/WRT 130 (may change timeline)	
*EGR 100	Introduction to Engineering
*EGR 111	Introduction to Engineering Graphics
*EGR 112	Applied Programming for Engineers
*CHM 115	Chemistry 1

2nd Semester Winter: 15 credits

*MTH 202	Calculus 2
*PHY 230	Physics 1
*EGR 113	Introduction to CAD/CAM
*EGR 185	First-Year Engineering Design
*STA 220	Statistical Modeling for Engineers
*EGR 220	Egr Measurement and Data Analysis

3rd Semester Fall: 17-18 credits

*MTH 203	Calculus 3
*PHY 234 or 231	Physics 2
*EGR 209	Mechanics and Machines
*EGR 226	Microcontroller Programming
*EGR 289	Engineering Co-op Preparation

4th Semester Winter: 16 credits

*MTH 302	Linear Algebra and Differential Equations
*EGR 309	Machine Design 1
*EGR 250	Materials Science and Engineering
*EGR 214	Circuit Analysis 1

Spring/Summer Semester: 3 credits

EGR 290	Engineering Co-op 1
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5th Semester Fall: 15 credits

EGR 346	Mechatronic Systems Dynamics and Control
EGR 360	Thermodynamics
BIO 120	General Biology 1
General Education Course	

Winter Semester: 3 credits

EGR 390	Engineering Co-op 2
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6th Semester Spring/Summer: 14 credits

BIO 105	Environmental Science
BIO 215	Ecology
EGR 365	Fluid Mechanics
ECO 210 OR 211	Economics

Fall Semester: 7 credits

EGR 490	Engineering Co-op 3
EGR 463	Alternative Energy Systems and Applications

7th Semester Winter: 17 credits

EGR 485	Senior Engineering Project 1
EGR 437	Environmental Engineering (Cornerstone University)
CHM 230	Introduction to Organic and Biochemistry
GEO 360	Earth Resources in Transition: Conventional to Sustainable
General Education Courses (Select 2)	

8th Semester Spring/Summer: 14 credits

EGR 486	Senior Engineering Project 2
General Education Courses (Select 4)	

It is important to meet with a professional advisor in the PCEC Advising Center on a regular basis. The PCEC Advising Center is located in 101 Eberhard Center. Please call 616-331-6025 or go online at www.gvsu.edu/pcec/advising to schedule an appointment.

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Major Notes

An emphasis area is required for the Interdisciplinary Engineering major. Emphasis areas include: Data Science, Design & Innovation, Engineering Management, Environmental Engineering, Mechatronics and Renewable Energy.

- 1) To declare this emphasis, login to MyBanner, select “Student Records” and then “Change Major.”
- 2) Click on “Change Major 1” and select ***Interdisciplinary Engineering – Environmental Engineering Emphasis***.
- 3) Click “Submit” and then “Change to New Program.”

General Education

<u>Category</u>	<u>Completed?</u>	<u>Category</u>	<u>Completed?</u>	<u>Category</u>	<u>Completed?</u>
Physical Sciences (CHM 115)		Mathematical Sciences (MTH 201)		Global Perspectives	
Life Sciences (BIO 120)		Social & Behavioral Sciences (ECO 210/211)		U.S. Diversity	
Arts		Social & Behavioral Sciences		Issues (GEO 360)	
Philosophy & Literature		Historical Perspectives		Issues	

- 1) Consider taking a course that fulfills the U.S. Diversity category and one non-ECO Social and Behavioral Science course.
- 2) Consider taking a course that fulfills the Global Perspectives category and one Issues course.
- 3) An ethics course is required in the engineering program. It is recommended to take **ONE** of the following:
 - a. PHI 102 in the Philosophy and Literature category
 - b. BIO 328, BIO 338, COM 438, EGR 302, MGT 340, MGT 438, MKT 375, PHI 325 OR PLS 338 in the Issues category
 - c. For Honors College students, the ethics requirement is fulfilled by completion of the Honors Curriculum
- 4) ECO 210 or 211 is required for the engineering major AND fulfills one Social and Behavioral Science course.
- 5) Two Supplemental Writing Skills (SWS) courses are required for graduation. These can be fulfilled via other general education categories. ***For example, EGR 302 will fulfill ONE SWS requirement, one Issues requirement AND the engineering ethics requirement.***

Recommendations

It is strongly encouraged that students do not begin or break curriculum thread by taking courses at other institutions.

For example:

Taking MTH 201 equivalent elsewhere, then return to Grand Valley and continuing in the math thread with MTH 202.

PCEC Advisors

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