Interdisciplinary Engineering (Environmental Engineering Emphasis)

Grand Valley State University 2021-22 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	4 credits
*WRT 150	Writing Strategies	4 credits
OR WRT 120/WRT 130 (may change timeline)		
*EGR 100	Intro to EGR	1 credit
*EGR 111	Intro to EGR Graphics	1 credit
*EGR 112	Appl Program for EGR	2 credits
*CHM 115	Chemistry 1	4 credits

2nd Semester Winter: 15 credits

*MTH 202	Calculus 2	4 credits
*PHY 230	Physics 1	5 credits
*EGR 113	Intro to CAD/CAM	1 credit
*EGR 185	First-Year EGR Design	2 credits
*STA 220	Stat Modeling for EGR	2 credits
*EGR 220	EGR Measure & Data	1 credit

3rd Semester Fall: 17-18 credits

*MTH 203	Calculus 3	4 credits
*PHY 234 or 231	Physics 2	4/5 credits
*EGR 226	Microcontroller Program	3 credits
*EGR 227	Microcontroller Program Lab	1 credit
*EGR 209	Mechanics and Machines	4 credits
*EGR 289	EGR Professionalism	1 credit

4th Semester Winter: 16 credits

*MTH 302	Linear Algebra/Diff Eq	4 credits
*EGR 309	Machine Design I	3 credits
*EGR 310	Machine Design I Lab	1 credit
*EGR 250	Materials Science & EGR	3 credits
*EGR 251	Materials Science & EGR Lab	1 credit
*EGR 214	Circuit Analysis 1	3 credits
*EGR 215	Circuit Analysis 1 Lab	1 credit

Spring/Summer Semester: 6 credits

EGR 290	Engineering Co-op 1	3 credits
EGR 312	Dynamics (see notes)	3 credits

5th Semester Fall: 15 credits

EGR 345 **OR** 346	Dyn. Sys./Mechatronics	4 credits
EGR 360	Thermodynamics	4 credits
BIO 120	General Biology 1	4 credits
General Education Course		3 credits

Winter Semester: 6 credits

EGR 390	Engineering Co-op 2	3 credits
General Education Course		3 credits

6th Semester Spring/Summer: 14 credits

BIO 105	Environmental Science	3 credits
BIO 215	Ecology	4 credits
EGR 365	Fluid Mechanics	4 credits
ECO 210 **OR** 211	Economics	3 credits

Fall Semester: 7 credits

EGR 490	Engineering Co-op 3	3 credits
EGR 463	Alt Energy Sys & Appl.	4 credits

7th Semester Winter: 15 credits

EGR 485	Senior EGR Project 1	1 credit
EGR 437	**Environmental Egr (CU)**	**4 credits**
CHM 230	Intro Organic & Biochem	4 credits
GEO 360	Earth Res. Transition	3 credits
General Education Course		3 credits

8th Semester Spring/Summer: 14 credits

EGR 486	Senior EGR Project 2	2 credits
General Education Courses (Select 4)		12 credits

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 B-3-241 Mackinac Hall and 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

1) 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.
    a. To declare this emphasis, login to MyBanner, select "Student Records" and then "Change Major."
    b. Click on "Change Major 1" and select ***Interdisciplinary Engineering – Environmental Engineering Emphasis***.
    c. Click "Submit" and then "Change to New Program."
2) EGR 312 is a required prerequisite for EGR 365. Students need to plan to take this course with EGR 290 **OR** EGR 390.

General Education

Category	Completed?	Category	Completed?	Category	Completed?	Category	Completed?
Physical Sciences (CHM 115)		Mathematical Sciences (MTH 201)		Global Perspectives		Writing (WRT 130 or 150)	
Life Sciences (BIO 120)		Social & Behavioral Sciences (ECO 210/211)		U.S. Diversity		SWS #1	
Philosophy & Literature		Social & Behavioral Sciences		Issues (GEO 360)		SWS #2	
Arts		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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