

# Interdisciplinary Engineering (Environmental Engineering Emphasis)

Grand Valley State University 2021-22 Catalog in cooperation with Cornerstone University

MTH 201 Placement – 4 year Honors 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: 14 credits

*MTH 201	Calculus 1	4 credits
*EGR 100	Intro to EGR	1 credit
*EGR 111	Intro to EGR Graphics	1 credit
*EGR 112	Appl Program for EGR	2 credits
HNR 151	Interdisciplinary Seq. 1	3 credits
HNR 152	Interdisciplinary Seq. 2	3 credits

## 2nd Semester Winter: 16 credits

*MTH 202	Calculus 2	4 credits
*PHY 230	Physics 1	5 credits
*EGR 113	Intro to CAD/CAM	1 credit
HNR 153	Interdisciplinary Seq. 3	3 credits
HNR 154	Interdisciplinary Seq. 4	3 credits

## Spring/Summer Semester: 10 credits

*MTH 203	Calculus 3	4 credits
*CHM 115	Chemistry I	4 credits
*EGR 185	First-Year EGR Design	2 credits

## 3rd Semester Fall: 16-17 credits

*PHY 234 or 231	Physics 2	4/5 credits
*STA 220	Stat Modeling for EGR	2 credits
*EGR 220	EGR Measure & Data	1 credit
*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 <b>OR</b> 346	Dyn. Sys./Mechatronics	4 credits
EGR 360	Thermodynamics	4 credits
BIO 120	General Biology 1	4 credits
HNR 201	Live. Learn. Lead.	3 credits

## Winter Semester: 3 credits

EGR 390	Engineering Co-op 2	3 credits
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## 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 <b>OR</b> 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
<b>EGR 437</b>	<b>Environmental Egr (CU)</b>	<b>4 credits</b>
CHM 230	Intro Organic & Biochem	4 credits
GEO 360	Earth Res. Transition	3 credits
HNR 200	C/C Engagement	3 credits

## 8th Semester Spring/Summer: 5 credits

EGR 486	Senior EGR Project 2	2 credits
HNR 350	Integrative Seminar	3 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](http://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.

## Honors

The Frederik Meijer Honors College and the School of Engineering have approved the following substitutions for the honors curriculum:

- 1) Together, EGR 100 and EGR 185 fulfill the HNR 251 requirement.
- 2) EGR 485 fulfills the HNR 401 requirement.
- 3) EGR 486 fulfills the HNR 499 requirement.
- 4) The completion of the honors curriculum will fulfill the engineering ethics requirement.

Students are encouraged to plan ahead and submit a proposal for how they plan to fulfill the HNR 200 requirement. All students must complete 3 credits of HNR 200 before graduation. It can be taken as a 1-credit, 2-credit, or 3-credit course. There are three options for fulfilling this honors requirement: **pre-approved activity**, **pre-approved course substitution**, or **an activity or course**. Please work with an honors advisor to determine the best fit for you.

## 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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