

Interdisciplinary Engineering (Renewable Energy Emphasis – Solar/All Track)

Grand Valley State University 2021-22 Catalog

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 209	Mechanics and Machines	4 credits
*EGR 214	Circuit Analysis 1	3 credits
*EGR 215	Circuit Analysis 1 Lab	1 credit
*EGR 289	EGR Professionalism	1 credit

4th Semester Winter: 14 credits

*MTH 302	Linear Algebra/Diff Eq	4 credits
*EGR 223	Prob. & Signal Analysis	3 credits
*EGR 257	Elec. Materials & Devices	4 credits
EGR 224	Intro to Digital System	3 credits

Spring/Summer Semester: 7 credits

EGR 290	Engineering Co-op 1	3 credits
*EGR 226	Microcontroller Program	3 credits
*EGR 227	Microcontroller Program Lab	1 credit

5th Semester Fall: 14-15 credits

EGR 314	Circuit Analysis 2	4 credits
EGR 326 or 345		4 credits
EGR 360 or IE Track Elec.	(See Notes)	3-4 credits
BIO 105	Environmental Science	3 credits

Winter Semester: 6 credits

EGR 390	Engineering Co-op 2	3 credits
GEO 360	Earth Res. Transition	3 credits

6th Semester Spring/Summer: 12-15 credits

EGR 330 or IE Track Elec.	(See Chart)	3-4 credits
EGR 323 or IE Track Elec.	(See Chart)	3-4 credits
EGR 362 or IE Track Elec.	(See Notes)	3-4 credits
HNR 200	C/C Engagement	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: 13-14 credits

EGR 485	Senior EGR Project 1	1 credits
EGR 406	Renewable Energy Sys.	3 credits
EGR 413	Materials:Energy Storage	3 credits
IE Track Elec.	(See Chart)	3-4 credits
HNR 201	Live. Learn. Lead.	3 credits

8th Semester Spring/Summer: 11-12 credits

EGR 486	Senior EGR Project 2	2 credits
IE Track Elec.	(See Chart)	3-4 credits
HNR 350	Integrative Seminar	3 credits
ECO 210 OR 211	Economics	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 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 – Renewable Energy Emphasis***.
 - c. Click “Submit” and then “Change to New Program.”
 - d. EGR 224, EGR 330 and EGR 323 are prerequisite courses for selected upper-level electives. Students are required to take **four** IE Track electives. **Please plan ahead!** Course descriptions are listed in the [GVSU Academic Catalog](#).
- 2) Students must complete **EITHER** EGR 360 **OR** 362. A track elective should be taken in the other semester.

<u>Electives</u>	<u>Credits</u>	<u>Title</u>	<u>Semester</u>	<u>Course Prerequisites</u>	<u>Energy Focus</u>
EGR 314	4	Circuit Analysis II	Fall	Only if not taken for required course, no double dipping	Solar
EGR 326	4	Embedded Systems	Fall		Solar
EGR 315	4	Electronic Circuits I	Fall		Solar
EGR 430	4	Electromechanics	Winter	EGR 330	All
EGR 455	4	Automatic Control	Summer	EGR 323	All
EGR 435	3	Mathematical Modeling of Physiologic Systems	Winter	MTH 302	All

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 take 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.

PCEC Advisors

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