Interdisciplinary Engineering (Design & Innovation 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: 14-15 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 289	EGR Professionalism	1 credit
IDS 101	**Creativity (CU)**	**2 credits**

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: 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: 15 credits

EGR 301	Analytical Tools for PDM	4 credits
EGR 345	Dynamic System Model	4 credits
EGR 367	Mfg Processes	3 credits
EGR 368	Mfg Processes Lab	1 credit
MDA 112	**Design Drawing 1 (CU)**	**3 credits**

Winter Semester: 6 credits

EGR 390	Engineering Co-op 2	3 credits
INT 323	Design Thinking	3 credits

6th Semester Spring/Summer: 13 credits

EGR 362	Thermal & Fluid Systems	4 credits
ECO 210 **OR** 211	Economics	3 credits
INT 310	Creativity	3 credits
HNR 200	C/C Engagement	3 credits

Fall Semester: 6 credits

EGR 490	Engineering Co-op 3	3 credits
IDS 313	**Thought & Design 2 (CU)**	**3 credits**

7th Semester Winter: 13-14 credits

EGR 485	Senior Egr Project 1	1 credit
IDS 413	**Thought & Design 3 (CU)**	**3 credits**
IDS 312	**Human Innovation (CU)**	**3 credits**
IE Elective		3-4 credits
HNR 201	Live. Learn. Lead.	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 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 – Design and Innovation Emphasis***.
3) Click "Submit" and then "Change to New Program."
4) For the IE Elective, students may enroll in EGR 401 (Winter), EGR 403 (Winter) or EGR 405 (Spring/Summer). Course descriptions are listed in the GVSU Academic Catalog.

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.

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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