

# Interdisciplinary Engineering (Design & Innovation Emphasis)

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

MTH 201 Placement – 5 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
*EGR 100	Introduction to Engineering
*EGR 111	Introduction to Engineering Graphics
*EGR 112	Applied Programming for Engineers
HNR 151	First Year Interdisciplinary Sequence 1
HNR 152	First Year Interdisciplinary Sequence 2

## 2nd Semester Winter: 13 credits

*MTH 202	Calculus 2
*EGR 113	Introduction to CAD/CAM
*EGR 185	First-Year Engineering Design
HNR 153	First Year Interdisciplinary Sequence 3
HNR 154	First Year Interdisciplinary Sequence 4

## 3rd Semester Fall: 13 credits

*MTH 203	Calculus 3
*CHM 115	Chemistry 1
*STA 220	Statistical Modeling for Engineers
*EGR 220	Egr Measurement and Data Analysis
<b>IDS 101</b>	<b>Creativity, Innov. &amp; Prob Sol. (Cornerstone)</b>

## 4th Semester Winter: 12 credits

*MTH 302	Linear Algebra and Differential Equations
*PHY 230	Physics 1
HNR 201	Live. Learn. Lead.

## 5th Semester Fall: 13-14 credits

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

## 6th Semester Winter: 15 credits

*EGR 309	Machine Design 1
*EGR 250	Materials Science and Engineering
*EGR 214	Circuit Analysis 1
HNR 200	Campus/Community Engagement

## Spring/Summer Semester: 3 credits

EGR 290	Engineering Co-op 1
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## 7th Semester Fall: 15 credits

EGR 301	Analytical Tools for Product Design
EGR 345	Dynamic System Modeling and Control
EGR 367	Manufacturing Processes
<b>MDA 112</b>	<b>Design Drawing 1 (Cornerstone)</b>

## Winter Semester: 3 credits

EGR 390	Engineering Co-op 2
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## 8th Semester Spring/Summer: 13-14 credits

EGR 362	Thermal and Fluid Systems
IE Elective	
INT 310	Creativity
ECO 210 OR 211	Economics

## Fall Semester: 6 credits

EGR 490	Engineering Co-op 3
<b>IDS 313</b>	<b>Thought &amp; Design 2 (Cornerstone)</b>

## 9th Semester Winter: 13 credits

EGR 485	Senior Engineering Project 1
<b>IDS 413</b>	<b>Thought &amp; Design 3 (Cornerstone)</b>
<b>IDS 312</b>	<b>Human Innovation (Cornerstone)</b>
HNR 350	Honors Integrative Seminar
INT 323	Design Thinking

## 10th Semester Spring/Summer: 2 credits

EGR 486	Senior Engineering Project 2
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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](http://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 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

Elizabeth Brand, [brandeli@gvsu.edu](mailto:brandeli@gvsu.edu)  
Jessica Noble, [noblejes@gvsu.edu](mailto:noblejes@gvsu.edu)  
Audra Pretty-Smith, [prettyau@gvsu.edu](mailto:prettyau@gvsu.edu)

Colin DeKuiper, [dekuippec@gvsu.edu](mailto:dekuippec@gvsu.edu)  
Mary Nuznov, [nuznovma@gvsu.edu](mailto:nuznovma@gvsu.edu)  
Sara Wheeler, [wheeleesa@gvsu.edu](mailto:wheeleesa@gvsu.edu)