

Interdisciplinary Engineering (Data Science Emphasis)

Grand Valley State University 2020-21 Catalog

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: 14 credits

*MTH 203	Calculus 3
*CHM 115	Chemistry 1
*STA 220	Statistical Modeling for Engineers
*EGR 220	Egr Measurement and Data Analysis
HNR 201	Live. Learn. Lead.

4th Semester Winter: 12 credits

*MTH 302	Linear Algebra and Differential Equations
*PHY 230	Physics 1
HNR 200	Campus/Community Engagement

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
STA 216	Intermediate Applied Statistics

Spring/Summer Semester: 3 credits

EGR 290	Engineering Co-op 1
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7th Semester Fall: 14-15 credits

EGR 345	Dynamic System Modeling and Control
EGR 367	Manufacturing Processes
STA 321	Applied Regression Analysis
OR EGR 435	Math. Model of Phys. Sys. (Winter Only)
CIS 161	Computational Science
OR CIS 162	Computer Science 1

Winter Semester: 3 credits

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

EGR 362	Thermal and Fluid Systems
EGR 440	Introduction to Production
EGR 441	Egr Econ, Quality Control, & Mfg Oper.
ECO 210 OR 211	Economics

Fall Semester: 3 credits

EGR 490	Engineering Co-op 3
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9th Semester Winter: 13 credits

EGR 485	Senior Engineering Project 1
CIS 335	Data Mining
CIS 360	Information Management and Science
STA 426	Multivariate Data Analysis
IE Elective or HNR 350	

10th Semester Spring/Summer: 5-8 credits

EGR 486	Senior Engineering Project 2
IE Elective and/or HNR 350	

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 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 – Data Science Emphasis**.
- 3) Click “Submit” and then “Change to New Program.”
- 4) Students are required to complete one IE Elective, students may enroll in STA 314, EGR 641 or EGR 642. Please plan ahead! 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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