Interdisciplinary Engineering (Mechatronics Emphasis)
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: 14-16 credits

*MTH 302	Linear Algebra/Diff Eq	4 credits
*EGR 250	Materials Science & EGR	3 credits
*EGR 251	Materials Science & EGR Lab	1 credit
IE Track	(See Chart for Courses)	3-4 credits
IE Track	(See Chart for Courses)	3-4 credits

Spring/Summer Semester: 6-7 credits

EGR 290	Engineering Co-op 1	3 credits
IE Track	(See Chart for Courses)	3-4 credits

5th Semester Fall: 15 credits

EGR 314	Circuit Analysis 2	4 credits
EGR 315	Electronic Circuits 1	4 credits
IE Track	(See Chart for Courses)	4 credits
HNR 201	Live. Learn. Lead.	3 credits

Winter Semester: 6 credits

EGR 390	Engineering Co-op 2	3 credits
EGR 312	Dynamics (Sensor Track)	3 credits

6th Semester Spring/Summer: 15 credits

EGR 445	Robotics Systems EGR	4 credits
EGR 455	Automatic Control	4 credits
IE Track	(See Chart for Courses)	4 credits
ECO 210 **OR** 211	Economics	3 credits

Fall Semester: 7 credits

EGR 490	Engineering Co-op 3	3 credits
EGR 352	Kin. & Dyn. (Mech. Track)	4 credits

7th Semester Winter: 11-12 credits

EGR 485	Senior EGR Project 1	1 credit
IE Track	(See Chart for Courses)	4 credits
IE Track Elec.	(See Chart for Courses)	3-4 credits
HNR 200	C/C Engagement	3 credits

8th Semester Spring/Summer: 8-9 credits

EGR 486	Senior EGR Project 2	2 credits
IE Track Elec.	(See Chart for Courses)	3-4 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.

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 – Mechatronics Emphasis***.
3) Click "Submit" and then "Change to New Program."
4) Students are required to complete one IE Track Elective. Please plan ahead! Course descriptions are listed in the GVSU Academic Catalog.

Mechanical Track	
EGR 226/227	4th Semester Winter (foundation course)
EGR 309/310	4th Semester Winter
EGR 312	Spring/Summer Co-op
EGR 346	5th Semester Fall
EGR 409	6th Semester Spring/Summer
EGR 352	Fall Co-op
EGR 450	7th Semester Winter
Mechanical Track Electives	
EGR 224	Introduction to Digital System Design
EGR 436	Embedded Systems Interface
EGR 424	Design of Microcontroller Applications
EGR 350	Vibrations

Sensor- Controls Track	
EGR 224	4th Semester Winter
EGR 223	4th Semester Winter
EGR 226/227	Spring/Summer Co-op (Foundation Course)
EGR 326	5th Semester Fall
EGR 312	Winter Co-op
EGR 309/310	6th Semester Spring/Summer
EGR 436	7th Semester Winter
Sensor-Controls Track Electives	
EGR 409	Machine Design 2
EGR 450	Manufacturing Controls
EGR 352	Kinematics and Dynamics of Machinery
EGR 424	Design of Microcontroller Applications

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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