Biomedical Engineering (Product Design & Manufacturing 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

ECO 210 **OR** 211 Economics

4th Semester Winter: 13 credits

*MTH 302	Linear Algebra and Differential Equations
*PHY 230	Physics 1
BMS 202	Anatomy & Physiology

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 Winter Semester: 15 credits

*EGR 309	Machine Design I
*EGR 250	Materials Science and Engineering
*EGR 214	Circuit Analysis 1
HNR 201	Live. Learn. Lead.

Spring/Summer Semester: 3 credits

EGR 290	Engineering Co-op 1

7th Fall Semester: 12 credits

EGR 301	Analytical Tools for Product Design
EGR 345	Dynamic System Modeling and Control
EGR 367	Manufacturing Processes

Winter Semester: 3 credits

EGR 390	Engineering Co-op 2

8th Semester Spring/Summer: 14 credits

EGR 362	Thermal & Fluid Systems
CHM 230	Intro to Organic and Biochemistry
HNR 200	Campus/Community Engagement
HNR 350	Honors Integrative Seminar

Fall Semester: 6 credits

EGR 490	Engineering Co-op 3
EGR 453	Biomedical Materials

9th Semester Winter: 10-11 credits

EGR 485	Senior Engineering Project 1
EGR 435	Mathematical Model of Phys Systems
EGR 403	Medical Device Design

Biomedical Engineering Elective

10th Semester Spring/Summer: 5-6 credits

EGR 486 Senior Engineering Project 2

Biomedical Engineering Elective

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 Biomedical Engineering major. A list of major elective options is listed in the GVSU Academic Catalog.

1) To declare this emphasis, login to MyBanner, select "Student Records" and then "Change Major."
2) Click on "Change Major 1" and select ***Biomedical Engineering – Product Design and Manufacturing Emphasis***.
3) Click "Submit" and then "Change to New Program."
4) Other emphasis areas within Biomedical Engineering include Mechanical and Electrical.

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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