

Product Design and Manufacturing Engineering (Design Emphasis)

Grand Valley State University 2020-21 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

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| *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: 16 credits

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| *MTH 202 | Calculus 2 |
| *PHY 230 | Physics 1 |
| *EGR 113 | Introduction to CAD/CAM |
| HNR 153 | First Year Interdisciplinary Sequence 3 |
| HNR 154 | First Year Interdisciplinary Sequence 4 |

Spring/Summer Semester: 10 credits

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| *MTH 203 | Calculus 3 |
| *CHM 115 | Chemistry 1 |
| *EGR 185 | First-Year Engineering Design |

3rd Semester Fall: 16-17 credits

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| *STA 220 | Statistical Modeling for Engineers |
| *EGR 220 | Egr Measurement and Data Analysis |
| *PHY 234 or 231 | Physics 2 |
| *EGR 209 | Mechanics and Machines |
| *EGR 226 | Microcontroller Programming |
| *EGR 289 | Engineering Co-op Preparation |

4th Semester Winter: 16 credits

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| *MTH 302 | Linear Algebra and Differential Equations |
| *EGR 309 | Machine Design 1 |
| *EGR 250 | Materials Science and Engineering |
| *EGR 214 | Circuit Analysis 1 |

Spring/Summer Semester: 3 credits

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| EGR 290 | Engineering Co-op 1 |
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5th Semester Fall: 15 credits

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| EGR 301 | Analytical Tools for Product Design |
| EGR 345 | Dynamic System Modeling and Control |
| EGR 367 | Manufacturing Processes |
| HNR 201 | Live. Learn. Lead. |

Winter Semester: 3 credits

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| EGR 390 | Engineering Co-op 2 |
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6th Semester Spring/Summer: 13 credits

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| EGR 362 | Thermal and Fluid Systems |
| EGR 329 | Introduction to Finite Element Analysis |
| EGR 405 | Materials Failure Analysis and Selection |
| HNR 200 | Campus/Community Engagement |

Fall Semester: 3 credits

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| EGR 490 | Engineering Co-op 3 |
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7th Semester Winter: 14-15 credits

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| EGR 485 | Senior Engineering Project 1 |
| EGR 401 | Advanced Product Design |
| | Product Design and Manufacturing Elective |
| HNR 350 | Honors Integrative Seminar |
| ECO 210 OR 211 | Economics |

8th Semester Spring/Summer: 8-9 credits

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| EGR 486 | Senior Engineering Project 2 |
| EGR 440 | Introduction to Production |
| | Product Design and Manufacturing 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 Product Design and Manufacturing Engineering major. Emphasis areas include: Design, General, Manufacturing Systems, and Robotics and Controls

- 1) To declare this emphasis, login to MyBanner, select “Student Records” and then “Change Major.”
- 2) Click on “Change Major 1” and select **Product Design and Manufacturing Engineering – Design Emphasis**.
- 3) Click “Submit” and then “Change to New Program.”

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

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