

**Bachelor of Science in Engineering (B.S.E.)  
Product Design & Manufacturing Engineering:  
Design Emphasis**

**Honors College: MTH 201 Start, 5 Year Plan**  
Secondary Admission Required

<b>1st Year</b>			
<b>Fall</b>		<b>Winter</b>	<b>Spring/Summer</b>
*MTH 201: Calculus 1	4	*MTH 202: Calculus 2	4
*EGR 100: Intro to EGR	1	*EGR 113: Intro to CAD/CAM	1
*EGR 111: Intro to EGR Graphics	1	*EGR 185: First-Year EGR Design	2
*EGR 112: Applied Programing for EGR	2	HNR 153: Interdisciplinary Sequence 3	3
HNR 151: Interdisciplinary Sequence I	3	HNR 154: Interdisciplinary Sequence 4	3
HNR 152: Interdisciplinary Sequence 2	3		
<b>Total</b>	<b>14</b>	<b>Total</b>	<b>13</b>
<b>2nd Year</b>			
<b>Fall</b>		<b>Winter</b>	<b>Spring/Summer</b>
*MTH 203: Calculus 3	4	*MTH 302: Linear Algebra/Differential EQ	4
*CHM 115: Chemistry 1	4	*PHY 230: Physics 1	5
*STA 220: Stat Modeling for Engineering	2	ECO 210 or 211: Economics	3
*EGR 220: EGR Measure & Data	1		
HNR 201: Live. Learn. Lead.	3		
<b>Total</b>	<b>14</b>	<b>Total</b>	<b>12</b>
<b>3rd Year</b>			
<b>Fall</b>		<b>Winter</b>	<b>Spring/Summer</b>
*PHY 234 or 231 Physics 2	4-5	*EGR 309: Machine Design 1	3
*EGR 209: Mechanics and Machines	4	*EGR 310: Machine Design 1 Lab	1
*EGR 226: Microcontroller Program	3	*EGR 214: Circuit Analysis 1	3
*EGR 227: Microcontroller Program Lab	1	*EGR 215: Circuit Analysis 1 Lab	4
*EGR 289: EGR Professionalism	3	*EGR 250: Materials Science & EGR	3
		*EGR 251: Materials Science & EGR Lab	1
<b>Total</b>	<b>15-16</b>	<b>Total</b>	<b>15</b>
EGR 290: Engineering Co-Op 1			3
			<b>Total 3</b>
<b>4<sup>th</sup> Year ~ Admission Required</b>			
<b>Fall</b>		<b>Winter</b>	<b>Spring/Summer</b>
EGR 301: Analytical Tools for PDM	4	EGR 390: Engineering Co-Op 2	3
EGR 345: Dynamic System Model	4		
EGR 367: Mfg Processes	3		
EGR 368: Mfg Processes Lab	1		
<b>Total</b>	<b>12</b>	<b>Total</b>	<b>3</b>
EGR 362: Thermal & Fluid Sys			4
			3
			3
			3
			<b>Total 13</b>
<b>5<sup>th</sup> Year ~ Admission Required</b>			
<b>Fall</b>		<b>Winter</b>	<b>Spring/Summer</b>
EGR 490: Engineering Co-Op 3	3	EGR 485: Senior EGR Project 1	1
		EGR 401: Advanced Product Design	4
		PDM Elective (Select 2)	6-8
		Supplemental Writing Skills	3
<b>Total</b>	<b>3</b>	<b>Total</b>	<b>14-16</b>
		EGR 486: Senior EGR Project 2	2
		EGR 440: Intro to Production	3
			<b>Total 5</b>

- This is a suggested curriculum guide that might not be applicable to every student
- Foundation courses are required for secondary admission and are designated by an asterisk (\*) on this guide
- Student must have a **minimum of 120 credits** to graduate, with **58 of the 120 credits** being from a senior level institution and the **final 30 of the 120 credits** completed at GVSU

## Mechanical Engineering Foundation Requirements

MTH 201	MTH 202	MTH 203	MTH 302
WRT 150 or WRT 130	CHM 115	PHY 230	PHY 234 or PHY 231
EGR 100	EGR 111	EGR 112 (or EGR 104+ EGR 108)	EGR 113
EGR 185	EGR 289	EGR 220 + STA 220	EGR 214+215
EGR 226+227	EGR 209	EGR 309 + 310	EGR 312

## Honors Requirements

HNR 151	HNR 152
HNR 153	HNR 154
HNR 300 (fulfilled by EGR 290, EGR 390, and EGR 490)	HNR 201
HNR 251 (fulfilled by EGR 100 + EGR 185)	HNR 350
HNR 401/499 (fulfilled by EGR 485 + EGR 486)	

### Secondary Admission Requirements:

Detailed application and admission requirements available at <https://www.gvsu.edu/engineering/secondary-admission-to-engineering-majors-44.htm>

- ✓ A GPA of 2.7 or above in Engineering Foundation courses. Foundation courses are designated by an asterisk (\*) on this guide.
- ✓ Completion of each course in the Engineering Foundation with a grade of C (2.0) or above, with no more than one repeat.
- ✓ Completion of preparation for placement in the cooperative engineering education course, EGR 289.

### Major Declaration Steps:

- 1) An emphasis area is required for the Biomedical Engineering major. A list of major elective options is listed in the GVSU Academic Catalog.
- 2) To declare this emphasis, login to MyBanner, select "Student Records" and then "Change Major."
  - a. Click on "Change Major 1" and select Product Design and Manufacturing Engineering - Design Emphasis.
  - b. 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 290, EGR 390, and EGR 490 fulfill the HNR 300 requirement. Students are encouraged to plan ahead and submit a [proposal form](#) for the HNR 300 substitution.
- 3) EGR 485 fulfills the HNR 401 requirement.
- 4) EGR 486 fulfills the HNR 499 requirement.
- 5) The completion of the honors curriculum will fulfill the engineering ethics requirement.
- 6) All GVSU students must earn credit for two Supplemental Writing Skills (SWS) courses. Honors students can earn credit for one SWS course by completing HNR 154 (the winter semester of a first-year sequence) with a grade of C or better. They must earn their second SWS course credit outside of the Honors requirements.

### 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.