Grand Valley State University
Seymour and Esther Padnos College of Engineering and Computing

Bachelor of Science in Engineering (B.S.E.)

Biomedical Engineering: Electrical Emphasis

Honors College: MTH 201 Start, 5 Year Plan

Secondary Admission Required

2022 – 2023 Catalog Year

1st Year

Fall		Winter		Spring/Summer	
*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 108: Appl Program for EGR II	2		
*EGR 104: Applied Programing for EGR I	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				
Total	**14**	**Total**	**13**		

2nd Year

Fall		Winter		Spring/Summer	
*MTH 203: Calculus 3	4	*MTH 302: Linear Algebra/Differential EQ	4		
*CHM 115: Chemistry 1	4	*PHY 230: Physics 1	5		
*EGR 224: Intro to Digital Systems	3	*EGR 226: Microcontroller Program	3		
*EGR 185: First-Year EGR Design	2	*EGR 227: Microcontroller Program Lab	1		
		HNR 201: Live. Learn. Lead.	3		
Total	**13**	**Total**	**16**		

3rd Year

Fall		Winter		Spring/Summer	
*PHY 234 or 231 Physics 2	4-5	*EGR 214: Circuit Analysis 1	3	EGR 290: Engineering Co-Op 1	3
*STA 220: Stat Modeling for Engineering	2	*EGR 215: Circuit Analysis 1 Lab	1		
*EGR 220: EGR Measure & Data	1	*EGR 223: Probability & Signal Analysis	3		
*EGR 289: EGR Professionalism	1	*EGR 357: Electronic Materials & Devices	4		
Supplemental Writing Skills	3	ECO 210 or 211: Economics	3		
Total	**11-12**	**Total**	**14**		

4th Year ~ Admission Required

Fall		Winter		Spring/Summer	
EGR 314: Circuit Analysis 2	4	EGR 390: Engineering Co-Op 2	3	EGR 323: Signals & Sys Analysis	3
EGR 315: Electronic Circuits I	4			BMS 202: Anatomy & Physiology	4
EGR 326: Embedded System Design	4			CHM 230: Intro Orgo/Biochem	4
				HNR 350: Integrative Seminar	3
Total	**12**	**Total**	**3**	**Total**	**14**

5th Year ~ Admission Required

Fall		Winter		Spring/Summer	
EGR 490: Engineering Co-Op 3	3	EGR 485: Senior EGR Project 1	1	EGR 486: Senior EGR Project 2	2
EGR 434: Bioelectric Materials	3	EGR 403: Medical Device Design	4	BME Elective	3-4
		EGR 435: Math Modeling Physiologic Sys	3	BME Elective	3-4
		BME Elective	3-4		
Total	**6**	**Total**	**10-11**	**Total**	**8-10**

- 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

Padnos College of Engineering and Computing ~ Student Services Office
B-3-241 Mackinac Hall and 101 Eberhard Center
(616) 331-6025 or online at www.gvsu.edu/pcec/advising

√	BME-EE Foundation Course Requirements	√	Honors Requirements
	WRT 150 (fulfilled by completing the Honors Curriculum)		HNR 151
	MTH 201		HNR 152
	MTH 202		HNR 153
	MTH 203		HNR 154
	MTH 302		HNR 200 (fulfilled by EGR 290, EGR 390, and EGR 490)
	CHM 115		HNR 201
	PHY 230		HNR 251 (fulfilled by EGR 100 + EGR 185)
	PHY 231 or PHY 234		HNR 350
	STA 220 + EGR 220		HNR 401/499 (fulfilled by EGR 485 + EGR 486)
	EGR 100		
	EGR 111		
	EGR 112		
	EGR 113		
	EGR 185		
	EGR 224		
	EGR 226 + 227		
	EGR 289		
	EGR 223		
	EGR 257		
	EGR 214 + 215		

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."
3) Click on "Change Major 1" and select Biomedical Engineering – Electrical Emphasis.
4) Click "Submit" and then "Change to New Program."
5) Other emphasis areas within Biomedical Engineering include Mechanical and Product Design and Manufacturing.

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 200 requirement. Students are encouraged to plan ahead and submit a proposal form for the HNR 200 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 153 and HNR 154 (the winter semester of a first-year sequence) with an averaged grade of B 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.