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

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

Interdisciplinary Engineering

Renewable Energy Emphasis- Solar/All Track

Honors College: MTH 201 Start, 4 Year Plan

Secondary Admission Required

2023 – 2024 Catalog Year

1st Year

Fall		Winter		Spring/Summer	
*MTH 201: Calculus 1	4	*MTH 202: Calculus 2	4	*MTH 203: Calculus 3	4
*EGR 100: Intro to EGR	1	*PHY 230: Physics 1	5	*CHM 115: Chemistry 1	4
*EGR 111: Intro to EGR Graphics	1	*EGR 113: Intro to CAD/CAM	1	*EGR 185: First-Year EGR Design	2
*EGR 112: Applied Programming for EGR	2	HNR 153: Interdisciplinary Seq. 3	3		
HNR 151: Interdisciplinary Seq. 1	3	HNR 154: Interdisciplinary Seq. 4	3		
HNR 152: Interdisciplinary Seq. 2	3				
Total	**14**	**Total**	**16**	**Total**	**10**

2nd Year

Fall		Winter		Spring/Summer	
*PHY 234 or 231 Physics 2	4	*MTH 302: Linear Algebra/Diff Eq	4	EGR 290: Engineering Co-op 1	3
* STA 220: Stat Modeling for EGR	2	*EGR 223: Prob. & Signal Analysis	3	*EGR 226: Microcontroller Program	3
*EGR 220: EGR Measure & Data	1	*EGR 257: Elec. Materials & Devices	4	*EGR 227: Microcontroller Prog. Lab	1
*EGR 214: Circuit Analysis 1	3	EGR 224: Intro to Digital System	3		
*EGR 215: Circuit Analysis 1 Lab	1				
*EGR 209: Mechanics and Machines	4				
*EGR 289: EGR Professionalism	1				
Total	**16/17**	**Total**	**14**	**Total**	**7**

3rd Year ~ Admission Required

Fall		Winter		Spring/Summer	
EGR 314: Circuit Analysis 2	4	EGR 390: Engineering Co-op 2	3	EGR 330 or IE Track Elec. (See Chart)	3/4
EGR 326 or 345:	4	GEO 360: Earth Res. Transition	3	EGR 323 or IE Track Elec. (See Chart)	3/4
EGR 360 or IE Track Elec. (See Notes)	3/4			EGR 362 or IE Track Elec. (See Notes)	3/4
BIO 105: Environmental Science	3			Supplemental Writing Skill	3
Total	**14/15**	**Total**	**6**	**Total**	**12/15**

4th 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 463: Alt Energy Sys & Appl.	4	EGR 406: Renewable Energy Sys.	3	IE Track Elec. (See Chart)	3-4
		EGR 413: Mater. Energy Storage	3	HNR 350: Integrative Seminar	3
		IE Track Elec. (See Chart)	3/4	ECO 210 or 211: Economics	3
		HNR 201: Live. Learn. Lead.	3		
Total	**7**	**Total**	**13 /14**	**Total**	**11/12**

- 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

√	IE-Renewable Energy Foundation Requirements	√	Honors Requirements
	MTH 201		HNR 151
	MTH 202		HNR 152
	MTH 203		HNR 153
	MTH 302		HNR 154
	CHM 115		HNR 300 (fulfilled by EGR 290, EGR 390, and EGR 490)
	PHY 230		HNR 201
	PHY 234 or 231		HNR 251 (fulfilled by EGR 100 + EGR 185)
	WRT 150		HNR 350
	EGR 100		HNR 401/499 (fulfilled by EGR 485 + EGR 486_
	EGR 111		
	EGR 112 (EGR 104+108)		
	EGR 113		
	EGR 185		
	EGR 289		
	EGR 220+STA 220		
	EGR 214+215		
	EGR 226+227		
	EGR 209		
	EGR 223		
	EGR 257		

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 Notes:

1) 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.
   a. To declare this emphasis, login to MyBanner, select "Student Records" and then "Change Major."
   b. Click on "Change Major 1" and select ***Interdisciplinary Engineering – Renewable Energy Emphasis***.
   c. Click "Submit" and then "Change to New Program."
   d. EGR 224, EGR 330 and EGR 323 are prerequisite courses for selected upper-level electives. Students are required to take **four** IE Track electives. **Please plan ahead!** Course descriptions are listed in the GVSU Academic Catalog.
2) Students must complete **EITHER** EGR 360 **OR** 362. A track elective should be taken in the other semester.

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.

Electives	Credits	Title	Semester	Course Prerequisites	Energy Focus
EGR 314	4	Circuit Analysis II	Fall	Only if not taken for required course, no double dipping	Solar
EGR 326	4	Embedded Systems	Fall		Solar
EGR 315	4	Electronic Circuits I	Fall		Solar
EGR 430	4	Electromechanics	Winter	EGR 330	All
EGR 455	4	Automatic Control	Summer	EGR 323	All
EGR 435	3	Mathematical Modeling of Physiologic Systems	Winter	MTH 302	All