

**Interdisciplinary Engineering:
Environmental Engineering Emphasis**

Honors College: MTH 201 Start, 4 Year Plan

Secondary Admission Required

1st Year					
Fall		Winter		Spring/Summer	
*MTH 201: Calculus 1	4	*MTH 202: Calculus 2	4	*EGR 185: First-Year EGR Design	2
*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	*MTH 203: Calculus 3	4
*EGR 112: Appl Program for EGR	2	HNR 153: Interdisciplinary Sequence 3	3		
HNR 151: Interdisciplinary Sequence 1	3	HNR 154: Interdisciplinary Sequence 4	3		
HNR 152: Interdisciplinary Sequence 2	3				
Total	14	Total	16	Total	10
2nd Year					
Fall		Winter		Spring/Summer	
*PHY 234 or 231: Physics 2	4-5	*MTH 302: Linear Algebra/Diff Eq	4	EGR 290: Engineering Co-op 1	3
*STA 220: Stat Modeling for EGR	2	*EGR 214: Circuit Analysis 1	3	EGR 312: Dynamics (see notes)	3
*EGR 220: EGR Measurement and Data	1	*EGR 215: Circuit Analysis 1 Lab	1		
*EGR 209: Mechanics and Machines	4	*EGR 309: Machine Design 1	3		
*EGR 226: Microcontroller Program	3	*EGR 310: Machine Design 1 Lab	1		
*EGR 227: Microcontroller Program Lab	1	*EGR 250: Materials Sci & EGR	3		
*EGR 289: EGR Professionalism	1	*EGR 251: Materials Sci & EGR Lab	1		
Total	16-17	Total	16	Total	6
3rd Year ~ Admission Required					
Fall		Winter		Spring/Summer	
EGR 345: Dynamic System Modeling or EGR 346: Mechatronics	4	EGR 390: Engineering Co-op 2	3	EGR 365: Fluid Mechanics	4
EGR 360: Thermodynamics	4			BIO 105: Enviro Science	3
BIO 121: General Biology 2	4			BIO 215: Ecology	4
HNR 201: Live. Learn. Lead	3			ECO 210 or 211: Economics	3
Total	15	Total	3	Total	14
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 & Application	3	EGR 437: Environmental EGR (CU)	4	HNR 350: Integrative Seminar	3
		CHM 230: Intro to Orgo & Biochem	4		
		GEO 360: Earth Res. Transition	3		
		Supplemental Writing Skills	3		
Total	6	Total	15	Total	5

- 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
- Courses to be completed at Cornerstone University are designated by a (CU) 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

IE – Environmental 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 250+251

Honors Requirements

HNR 151	HNR 152
HNR 153	HNR 154
HNR 300 (fulfilled by EGR 290)	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:

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.

- 1) To declare this emphasis, login to MyBanner, select "Student Records" and then "Change Major."
- 2) Click on "Change Major 1" and select **Interdisciplinary Engineering – Environmental Engineering Emphasis**.
- 3) Click "Submit" and then "Change to New Program."

Major Notes:

- 1) This emphasis is offered in cooperation with Cornerstone University (CU). Students pursuing this emphasis will be required to take some of their coursework at CU. Those courses are designated by a (CU) on this guide.
- 2) EGR 312 is a required prerequisite for EGR 365. Students need to plan to take this course with EGR 290 OR EGR 390.
 - a. Students are strongly encouraged to take EGR 312 with EGR 290. EGR 312 is a challenging course and EGR 365 is only offered in Spring/Summer. If a student waits to take EGR 312 with EGR 390, they will only get one attempt at EGR 312 before needing to take EGR 365.

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 fulfills the HNR 300 requirement.
- 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.