SEYMOUR AND ESTHER PADNOS COLLEGE OF ENGINEERING
GRAND VALLEY STATE UNIVERSITY

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

Mechanical Engineering

MTH 124 Start, 5 Year Plan

Secondary Admission Required

2025 – 2026 Catalog Year

1st Year					
Fall		**Winter**		**Spring/Summer**	
MTH 124: Precalculus: F & M	5	*MTH 201: Calculus 1	4		
*WRT 150: Strategies in Writing or WRT 120 and WRT 130	4	*CHM 125 + 126: Chemistry 1	4		
*EGR 100: Intro to EGR	1	*EGR 108: Appl Program for EGR 2	2		
*EGR 111: Intro to EGR Graphics	1	*EGR 113: Intro to CAD/CAM	1		
*EGR 104: Appl Program for EGR 1	2	General Education Course	3		
Total	**13**	**Total**	**14**		
2nd Year					
Fall		**Winter**		**Spring/Summer**	
*MTH 202: Calculus 2	4	*MTH 203: Calculus 3	4		
*EGR 185: First-Year EGR Design	2	*EGR 209: Mechanics and Machines	4		
*PHY 230: Physics 1	5	*EGR 226: Microcontroller Program	3		
General Education Course	3	*EGR 227: Microcontroller Program Lab	1		
		General Education Course	3		
Total	**14**	**Total**	**15**		
3rd Year					
Fall		**Winter**		**Spring/Summer**	
*MTH 302: Linear Algebra/Differential Eq	4	*PHY 231: Physics 2	5	EGR 290: Engineering Co-op 1	3
*EGR 214: Circuit Analysis 1	3	*STA 220: Statistical Modeling for EGR	2		
*EGR 215: Circuit Analysis 1 Lab	1	*EGR 220: EGR Measure & Data	1		
*EGR 309: Machine Design 1	3	*EGR 312: Dynamics	3		
*EGR 310: Machine Design 1 Lab	1	General Education Course	3		
*EGR 289: EGR Professionalism	1				
Total	**13**	**Total**	**14**	**Total**	**3**
4th Year ~ Admission Required					
Fall		**Winter**		**Spring/Summer**	
EGR 250: Materials Science & EGR	3	EGR 390: Engineering Co-op 2	3	EGR 329: Intro to FEA	3
EGR 251: Materials Science & EGR Lab	1	General Education Course	3	EGR 365: Fluid Mechanics	4
EGR 346: Mechatronics & Control	4			EGR 409: Machine Design 2	4
EGR 360: Thermodynamics	4			ECO 210 or 211: Economics	3
Total	**12**	**Total**	**6**	**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
General Education Course	3	EGR 468: Heat Transfer	4	Mechanical Engineering Elective	3-4
		Mechanical Engineering Elective	3-4	Mechanical Engineering Elective	3-4
		General Education Course	3	General Education Course	3
Total	**6**	**Total**	**11 -12**	**Total**	**11 -13**

- 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 Undergraduate Advising Center
Innovation Design Center, Suite 212
(616) 331-6025 or online at www.gvsu.edu/pce/advising

1/9/2026

Mechanical Engineering Foundation Requirements			
MTH 201	MTH 202	MTH 203	MTH 302
WRT 150 or WRT 130	CHM 125 + 126	PHY 230	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

General Education Requirements	
WRT 150: Strategies in Writing (grade of "C" or higher required) **or** WRT 120 and WRT 130 (grade of "C" or higher required in both)	Life Sciences (consider BIO 105)
Physical Sciences (CHM 125 + 126)	Philosophy and Literature
Arts	Mathematical Sciences (MTH 201)
2 Social Behavioral Sciences (one must be ECO 210 or 211)	Global Perspectives
Historical Analysis (consider HSC 202)	U.S. Diversity
2 Issues Courses (prerequisite: must have 55+ credits. Consider EGR 302, ART 373 or ART 394)	2 Supplemental Writing Skills Courses (prerequisite: WRT 130 or WRT 150)

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) It is recommended that anyone on a 5-year EGR plan complete the EGR 104+108 stretch option in place of EGR 112. Please speak with an advisor if you have questions about which option is best for you.
2) Consider taking a course that fulfills both the U.S. Diversity category and one non-ECO Social and Behavioral Science course.
3) Consider taking a course that fulfills both the Global Perspectives category and one Issues course.
4) An ethics course is required in the engineering program. It is recommended to take **ONE** of the following:
    a. EGR 302 (Engineering Decision-Making in Society), BIO 328, BIO 338, COM 438, MGT 340, MGT 438, MKT 375, PHI 325 or PLS 338 in the Issues category
    b. PHI 102 in the Philosophy and Literature category
    c. For Honors College students, the ethics requirement is fulfilled by completion of the Honors Curriculum
5) ECO 210 or 211 is required for the engineering major AND fulfills one Social and Behavioral Sciences course.
6) Two Supplemental Writing Skills (SWS) courses are required for graduation. These can be fulfilled via other general education categories. ***For example, EGR 302 will fulfill ONE SWS requirement, one Issues requirement AND the engineering ethics requirement***.
7) STA 215 can substitute for the STA 220 requirement.
8) MTH 302, Linear Algebra and Differential Equations = MTH 204, Linear Algebra **+** MTH 304, Analysis of Differential Equations
    a. Completing the split (2 class) version can be advantageous to students completing a math minor. See your advisor for additional information.

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.