

Mechanical Engineering Concentration Outline

()=Pre-requisites, Co=Co-requisites

	Fall Semester		Spring Semester	
Freshman				
ENGR120 Intro to Engineering & Design	2		ENGR181 Material Properties and Processes	3
ENGR125 Engineering Graphics	3		MATH192 Calculus II (MATH191 or MATH195)	4
Math191 Calculus I (P5 or MATH167 or MATH168 with grade no lower than C)	4		ENGR185 Engineering Statics (MATH191)	3
CHEM131 General Chemistry I (P3, MATH165 , MATH166 , MATH168, or MATH191 , MATH195)	4		RELT100 God & Human Life	3
ENGL115 College Writing I	<u>3</u>		COMM104 Communication Skills	<u>3</u>
	16			16
Sophomore				
ENGR225 Circuit Analysis (MATH191)	3		ENGR275 Electronics I (ENGR225)	3
PHYS241/ Physics for Scientists I (MATH192, Co: PHYS271)	4		ENGR285 Engineering Dynamics (ENGR185, PHYS241 , and MATH192; Co: MATH286)	3
PHYS271 Physics for Scientists Lab I (Co: PHYS2	1		PHYS242/ Physics for Scientists II (MATH 192 and PHYS 241, Co: PHYS272)	4
MATH240 Calculus III (MATH192)	4		PHYS272 Physics for Scientists Lab II (Co: PHYS242)	1
HLED135 Well-Being 360 Degrees	3		CPTR151 Computer Science I	3
ENGL215 College Writing II	3		MATH286 Differential equations (MATH192)	3
	<u>18</u>			<u>17</u>
Junior				
ENGR365 Numerical Methods for Engineers	3		ENGR310 Linear Systems Analysis (MATH215, MATH286, CPTR151)	3
ENGR320 Manufacturing Processes (ENGR180)	3		ENGR360 Fluid Dynamics (ENGR285, ENGR330, MATH286)	3
ENGR 330 Thermodynamics (PHYS241)	3		ENGR390 Engineering Measurements (ENGR330, ENGR340)	3
ENGR340 Mechanics of Materials (ENGR185)	3		ENGR391 Electric Motors (ENGR275)	1
GEN ED Social Sciences	3		INEN221 Intro to Innovation and Entrepreneurship	3
HIST110 Worldviews, Cultures, and God	<u>3</u>		REL Religion	<u>3</u>
Senior	18			16
ENGR410 Feedback Control Systems	4		ENGR440 Heat & Mass Transfer	3

ENGR420	Machine Design (ENGR320, ENGR390)	3	ENGR492	Senior Design Project (ENGR491)	3
ENGR491	Review of Engineering Design (ENGR355, 385 or 390)	1	ENGR	ENGR Elective	3
ENGR450	Engineering Economy (MATH145 or MATH191)	2	REL	Religion (RELB, RELG, RELT)	3
STAT340	Probability/Statistical Ap (MATH191 or MATH195)	3	GEN ED	Arts/Humanities	3
REL	Religion (RELB, RELG, RELT)	<u>3</u>			<u>15</u>
		16			
Suggested 4-year course outline per Bulletin 2023-2024			Total Credits for Graduation		132