

BSME - MECHANICAL ENGINEERING DEGREE PLAN
(2024-2025 Catalog Total 126 hours) CHECK LIST

STUDENT NAME _____

UIN _____

ADVISOR _____

Pre-requisites marked in red may be taken concurrently.

YEAR 1		First Semester	Hrs	Sem. Passed	Second Semester		Hrs	Sem. Passed
MATH 2413	Calculus I (Pre-req: (MATH 1314 & MATH 1316) OR MATH 1511)		4		CHEM 1403	Chemistry for Engineers (Pre-req: CHEM 1303 OR CHEM 1311)	4	
ELEG 1304	Computer Applications in Engineering (Pre-req: MATH 1314 OR MATH 1511 OR MATH 1316 OR MATH 2413 OR MATH 2414)		3		CHEM 1112	General Chemistry Lab II (Pre-Req: (MATH 1314 OR MATH 1511) & (CHEM 1403 OR CHEM 1304)	1	
MCEG 1101	Intro Engr Cs Tech (Co-requisite: MCEG 1102)		1		PHYS 2325	University Physics I (Pre-Req: MATH 2413)	3	
MCEG 1102	Intro to Mech Engr Drawing & Design Lab 1		1		PHYS 2125	University Physics Lab I (Pre-req: PHYS 2325)	1	
ENGL 1301	Freshman Composition I (Communication Core)		3		MATH 2414	Calculus II (Pre-req: MATH 2413)	4	
	Component Area Option Two Core		3		ENGL 1311 or ENGL 1302	Technical & Business Writing or Freshman Composition II (Communication Core)	3	
Total			15		Total		16	
YEAR 2		First Semester	Hrs	Sem. Passed	Second Semester		Hrs	Sem. Passed
	American History Core		3		MATH 2320	Differential Equations (Pre-req: MATH 2414)	3	
CVEG 2301	Engineering Mechanics 1 (Pre-req: PHYS 2325)		3		MCEG 2301	Thermodynamics I (Pre-req: MATH 2414 & PHYS 2325)	3	
POSC 2305	American Government		3		MCEG 2302	Engineering Mechanics II (Pre-req: CVEG 2301)	3	
MCEG 2303	Material Science and Engineering (Pre-Req: CHEM 1303 OR CHEM 1403 or CHEM 1304)		3		CVEG 2332	Mechanics of Materials (Pre-req: (CVEG 2301 or CVEG 2400) & MATH 2414)	3	
PHYS 2326	University Physics II (Pre-req: PHYS 2325 & MATH 2414)		3		MATH 3302	Probability and Statistics (Pre-req: MATH 2414)	3	
PHYS 2126	University Physics Lab II (Pre-req: PHYS 2326)		1		CHEG 2308	Eco Anal Technical Application (Social & Behavioral Science Core)	3	
Total			16		Total		18	
YEAR 3		First Semester	Hrs	Sem. Passed	Second Semester		Hrs	Sem. Passed
MCEG 3304	Machine Design I (Pre-Req: CVEG 2332 & MCEG 1102)		3		MCEG 3302	Thermodynamics II (Pre-req: MCEG 2301 & MATH 2414)	3	
MCEG 3101	Measurement and Instrumentation Lab. (Pre-req: PHYS 2325 & PHYS 2125 & PHYS 2126)		1		ELEG 2315	Introduction to Electrical Engr. (Pre-req: MATH 2320 & PHYS 2326)	3	
MATH 4317	Advanced Math for Engineers (Pre-req: MATH 2320)		3		MCEG 3303	Manufacturing Processes (Pre-req: MCEG 2303)	3	
MCEG 3305	Kinematic Design and Analysis (Pre-req: MCEG 1102 & MCEG 2302)		3		MCEG 3103	Manufacturing Processes Lab I (Co-req: MCEG 3303)	1	
MCEG 3306	Fluid Mechanics (Pre-req: MCEG 2301 & MATH 2320 & MCEG 2302)		3		MCEG 4304	Machine Design II (Pre-req: MCEG 3304 & MCEG 3305)	3	
	Creative Arts Core		3		POSC 2306	Texas Government	3	
Total			16		Total		16	
YEAR 4		First Semester	Hrs	Sem. Passed	Second Semester		Hrs	Sem. Passed
MCEG 4309	Finite Element Analysis and Design (Pre-req: CVEG 2332 & MCEG 3301)		3		MCEG 4306	Dynamic Systems and Controls (Pre-req: MCEG 2302 & MATH 2320)	3	
MCEG 4247	Senior Design and Professionalism I (Pre-req: MCEG 3304 & MCEG 3101 & MCEG 3302 & MCEG 3301)		2		MCEG 4248	Senior Design & Professionalism II (Pre-req: MCEG 4247)	2	
MCEG 3102	Thermal Science Lab I (Pre-req: MCEG 3101 & MCEG 3301 & ELEG 1304)		1			American History Core	3	
MCEG 3301	Heat Transfer (Pre-req: MATH 2320 & MCEG 3306)		3			Language, Philosophy, and Culture Core	3	
CVEG 2304	Global Development Issues (Component Area Option One Core)		3			Technical Elective	3	
MCEG 3XXX or MCEG 4XXX	MCEG Technical Elective		3					
Total			15		Total		14	

Core Electives

COMMUNICATION

ENGL 1301 Freshman Composition I	ENGL 1302 Freshman Composition II	ENGL 2311 Technical and Business Writing
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LANGUAGE, PHILOSOPHY, AND CULTURE

ARCH 1301 Architectural History I	ENGL 2334 Studies in Literature	PHIL 2306 Ethics
ARCH 1302 History of Architecture II	ENGL 2341 Introduction to Literature	SPAN 2311 Intermediate Spanish I
ARTS 1303 Art History I	HUMA 1301 Introduction to Humanities	SPAN 2312 Intermediate Spanish II
ARTS 1304 Art History II	HUMA 1305 Survey of Mexican-American Culture	
ENGL 2331 Survey of World Literature	PHIL 2303 Critical Thinking	

CREATIVE ARTS

ARCH 1303 Architectural Design I	DRAM 1310 Introduction to Theatre	MUSC 1306 Music in Contemporary Life
ARTS 1301 Art Appreciation	DRAM 2322 African American Theatre II	MUSC 2333 Afro-American Music
ARTS 2328 African American Art	HCOL 1321 Honors Colloquium II	MUSC 2334 Survey of World Music
COMM 2300 Media Literacy	MUSC 1303 Fundamentals of Music	

AMERICAN HISTORY

HIST 1301 United States History I	HIST 1302 United States History II	HIST 2301 Texas History
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SOCIAL AND BEHVIORAL SCIENCES

AFAM 1301 Race Class and Gender in America	FINA 2313 Financial Planning from a Global Perspective	POSC 2321 Blacks and the American Political System
AGRI 1330 Land Grand System and Global Food Security	GEOG 1302 Introduction to Human Geography	POSC 2350 Global Issues
CHEG 2308 Eco Anal Technical Application	HDFM 2351 Childhood Disorders	PSYC General Psychology
CRIJ 1301 Introduction to Criminal Justice	HDFM 2353 The Contemporary Family in Cross-Cultural Perspective	PSYC Child Psychology
CRIJ 1307 Crime in America	HDFM 2353 Human Development: Life Span	PSYC Psychology of Personality
ECON 1301 Fundamental of Economics in a Global Society	HIST 2321 World Civilizations I	SOCG 1301 General Sociology
ECON 2301 Principles of Macroeconomics	HIST 2322 World Civilizations II	SOCG 1306 Social Problems
ECON 2302 Principles of Microeconomics	MGMT 2326 Leadership in a Global Environment	SOCG 2319 Sociology of Minorities

COMPONENT AREA OPTION ONE

AGRI 1330 Land Grand System and Global Food Security	FINA 2313 Financial Planning from a Global Perspective	MISY 1305 Business Computer Applications
CHEG 2316 Ethical Engineering in a Global Society	HIST 2321 World Civilizations I	POSC 2350 Global Issues
CURR 2300 Global Influences on Teacher Education	HIST 2322 World Civilizations II	SOCG 1306 Social Problems
ECON 1301 Fundamentals of Economics in Global Society	MGMT 2326 Leadership in a Global Environment	

COMPONENT AREA OPTION TWO

ARCH 1327 Multimedia Digital Application	COMP 1300 Digital Communication	MISY 1305 Business Computer Applications
COMM 1311 Introduction to Speech Communication	CURR 1300 Principles of Effective Learning	
COMM 1318 Interpersonal Communication	HLTH 1304 Personal Health and Wellness	

SUGGESTED TECHNICAL ELECTIVES

MCEG 3307 Automatic Controls	CHEG 4313 Process Modeling and Simulation	CVEG 4304 Systems Engineering
MCEG 3319 Introduction to Robotics	CHEG 4315 Bioengineering	ELEG 3303 Physical Principles of Solid State Devices
MCEG 4308 Design Thinking and Device Development	CVEG 3304 Structural Analysis	MATH 3307 Linear Algebra
MCEG 4316 Special Topics	CVEG 3301 Environmental Engineering	MATH 4306 Numerical Analysis
MCEG 4318 Gas Dynamics	CVEG 4303 Water Resources Engineering	