Kennesaw State University
Mechanical Engineering Department

Name_____ ID# _____ Email _____

2019-2020 Catalog (Checklist) Requirements for the BSME Degree

Designation	Number	Course Title (or approved substitution)	Credit Hrs	Pre-requisites and {*Co-requisites*}	Grade
ENGL	1101	Composition I	3	None	
EDG	1211	Engineering Graphics I	3	None	
ME	1001	Introduction to Mechanical Engineering	2	None	
CHEM	1211	General Chemistry I	3	{*MATH 1112 or MATH 1113 or MATH 1190*}	
CHEM	1211L	General Chemistry I Laboratory	1	CHEM 1211	
MATH	1190	Calculus I	4	MATH 1112 or MATH 1113	
ENGL	1102	Composition II	3	ENGL 1101	
ECON	1000	Contemporary Economic Issues	2	None	
MATH	2202	Calculus II	4	MATH 1190	
PHYS	2211	Principles of Physics I	3	MATH 1190	
PHYS	2211L	Principles of Physics Laboratory I	1	{PHYS 2211}	
		Core C1 (Literature of the World)		ENGL 1102	
ME	1311	MATLAB for Engineers with Applications	3	Math 1190, *ME 1001*	
MATH	2203	Calculus III	4	MATH 2202	
ENGR	2214	Engineering Mechanics - Statics	3	PHYS 2211	
PHYS	2212	Principles of Physics II	3	MATH 2202, PHYS 2211	
PHYS	2212L	Principles of Physics Laboratory II	1	{PHYS 2212}	
COM	1100	Human Communication *(Recommended for Area **B2**)*	3	None	
MATH	2306	Ordinary Differential Equations	3	MATH 2202	
EE	2301 or 2305	Circuit Analysis I	4	PHYS 2211, PHYS 2211L For EE 2305: PHYS 2212, PHYS 2212L	
ENGR	3122	Engineering Mechanics - Dynamics	3	ENGR 2214, MATH 2202	
ENGR	3131	Strength of Materials	3	ENGR 2214, MATH 2202	
ENGR	3132	Strength of Materials Lab	1	{ENGR 3131}	
ME	3101	Materials Science and Engineering	3	PHYS 2211, CHEM 1211	
STS	1101	Science, Technology, and Society *(Recommended for Area **E4**)*	3	None	
POLS	1101	American Government	3	None	
		Area C2 (Arts and Cultures of the World)	3		
		Area E2 (U.S. History)	3		
		Area E3 (World History)	3		
		Math or Science Elective – see list	3		
Select one courses (3-credits) from the following list for Math or Science Elective:					
CHEM	1212	General Chemistry II	3	CHEM 1211	
BIOL	1107	Biological Principles I	3	CHEM 1211 and 1211L	
BIOL	2221	Human Anatomy & Physiology I	3	CHEM 1211 and 1211L	
MATH	2335	Numerical Methods for Engineers *(Rec.)*	3	MATH 2202 and CES 1311	
MATH	3260	Linear Algebra I *(Recommended)*	3	MATH 1190	
MATH	3261	Numerical Methods I	3	MATH 3260	
Engineering Standing is required for the following *ME* and *ENGR* courses:					
ENGR	3125	Machine Dynamics & Vibrations	3	ME 1311 or CSE 1311, ENGR 3122	
ENGR	3343	Fluid Mechanics	3	ENGR 2214	
ENGR	3345	Fluid Mechanics Laboratory	1	{ENGR 3343}	
ME	3410	Thermodynamics	3	ENGR 2214	
MATH	2332	Probability and Data Analysis	3	MATH 1190	

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ME	3201	Product Realization	2	ENGR 2214, EDG 1211 or SYE 2100	
ME	3701	Manufacturing Engineering	3	ENGR 3131, ME 3101	
ME	3501	Dynamic Systems & Control Theory	3	ENGR 3122, MATH 2306	
ME	4501	Vibrations & Controls Lab	1	ENGR 3125, {ME 3501}	
ME	4141	Machine Design I	3	ENGR 3131	
ME	4250	Computer Aided Engineering	3	ENGR 3131, ENGR 3343, EDG 1211	
ME	3440	Heat Transfer	3	ME 3410, ENGR 3343	
ENGR	4402	Engineering Ethics	1	None	
ENGR	3325	Engineering Economic Analysis	3	MATH 1190	
ME	4201	Senior Design I	1	ME 3201, ME 3440, ME 4250	
ME	4403	Heat Transfer and Thermodynamics Lab	1	ME 3440	
ME	4202	Senior Design II	3	ME 4201, ME 4141, ME 3701	
		Technical Elective – see list	3		
		Technical Elective – see list	3		
Select two courses (6-credits total) from the following list for Technical Electives					
ME	3133	Composite Mechanics	3	ENGR 3131	
ME	3398	Internship	1-4	90 credit hours and permission of the instructor	
ME	3705	Internal Combustion Engines	3	ME 3440	
ME	4301	Renewable Energy for Mechanical Engineering	3	ME 3440 (Concurrent)	
ME	4307	Design for X	3	ME 3201	
ME	4400	Directed Study	1-4	Approval of instructor and department chair	
ME	4490	Special Topics in Mechanical Engineering	1-4	Approval of the instructor and department chair	
ME	4520	Acoustics & Noise Control	3	ENGR 3125 and MATH 2306	
ENGR	3501	Fundamentals of Nuclear Engineering	3	MATH 2202, {*PHYS 2212, PHYS 2212L*}	
ENGR	3502	Radiation Detection & Measurement	3	ENGR 3501	
ENGR	4501	Nuclear Power Generation	3	ENGR 3501	
ENGR	4502	Radiation Protection & Health Physics	3	ENGR 3501	
ENGR	4503	Nuclear Fuel Cycle	3	ENGR 3501	
ENGR	4504	Nuclear Reactor Simulation	3	ENGR 4501	
MTRE	3710	Mechatronics Engineering Fundamentals	4	MATH 3260, ME 1311, (EE2301 or 2305)	
ISYE	3801	Aerodynamics	3	MATH 2202	
ISYE	3802	Aircraft Design & Performance	3	ISYE 3801	
ISYE	3803	Fundamentals of Avionics	3	ISYE 3801	
ISYE	4801	Aircraft Propulsion	3	ISYE 3801	
ISYE	4802	Helicopter Theory	3	ISYE 3801	
ISYE	4803	Aeronautics Senior Design Project	3	ISYE 3802, (ISYE 4801 or ISYE 4802)	
		Degree Program Total	**130**		

NOTES:

- Some MATH or PHYS classes may be approved for math or science elective by the department chair.
- Some ENGR, EE, MTRE, or ISYE courses may be approved for technical electives by the department chair.
- Program is exempt from WELL 1000 course requirement.
- Although we have made every effort for this checklist to be free of errors, it cannot be guaranteed correct for all students. See DegreeWorks for official degree requirements.