

The Associate in Engineering Degree

Associate in Engineering.....74 Credits

The Associate in Engineering degree is a preprofessional program that prepares students to transfer to a four-year college or university offering a Bachelor of Science degree in Engineering. Most MCC students transfer to the University of Missouri-Columbia, the University of Missouri-Kansas City or the Missouri University of Science and Technology. Students should check the catalog of the school they plan to transfer to or speak with an engineering program advisor or counselor to make sure they're taking the right classes.

Associate in Engineering

100201 Revised 12/2018 (Fall 2019)

General Education Requirements	Credits	Semester Taken	Prerequisites
Communications (Choose two of the following):			
ENGL 101 Composition and Reading I	6		ENGL 90 with a minimum grade of S or appropriate placement score
ENGL 102 Composition and Reading II			ENGL 101
ENGL 215 Technical Writing			ENGL 101
COMM 100 Fundamentals of Speech			ENGL 90 with S or appropriate placement score
History and Social Sciences (Choose one of the following):			
HIST 120 United States History to 1865 or	3		
HIST 121 United States History Since 1865 or			
POLS 136 Introduction to U.S. National Politics or			
POLS 137 Introduction to State and Local Politics			
Mathematics (Take all four):			
MATH 180 Analytic Geometry and Calculus I	5		MATH 130 or 150
MATH 190 Analytic Geometry and Calculus II	5		MATH 180
MATH 210 Analytic Geometry and Calculus III	5		MATH 190
MATH 230 Differential Equations	3		MATH 190
Science (Take all three):			
CHEM 111 General College Chemistry I	5		MATH 120 (or appropriate placement test score) or two units of high school algebra and CHEM 107 or high school chemistry
PHYS 220 Engineering Physics I	5		Enrollment in or completion of MATH 190
PHYS 221 Engineering Physics II	5		PHYS 220 and enrollment in or completion of MATH 210
Required Engineering (take both):			
ENGR 101 Intro to the Profession	1		
ENGR 229 Statics	3		MATH 190 and PHYS 220 (ENGR 229)
Additional elective classes: (Twenty eight hours from the approved list)	28		
One (at most) additional Communications from above list,	3		
One (at most) additional History or Science Course with a different designator from the first course. Select from the following: HIST 120, HIST 121, ECON 210, ECON 211, POLS 136, POLS 137	3		
One (at most) Humanities course from the following: ART 100, ART 103, ART 108, ART 138, ART 150, ART 151; ECED 217; EDUC 215; ENGL 202, ENGL 214, ENGL 216, ENGL 240, ENGL 254, ENGL 262, ENGL 268; HIST 133, HIST 134, HIST 145; HUMN 133, HUMN 134, HUMN 145; MUSI 108, MUSI 160; PHIL 100; THEA 106, THEA 114	3		

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Associate in Engineering (cont)

Additional electives classes:		Credits	Semester Taken	Prerequisites
CHEM 112	General Chemistry II	5		CHEM 111
CHEM 221	Organic Chemistry I	5		CHEM 112
CHEM 222	Organic Chemistry II	5		CHEM 221
CIMM 101	Machine Shop Safety	1		
CIMM 102	Basic Lathe Operation	1		CIMM 101 or concurrent enrollment
CIMM 103	Basic Mill Operation	1		CIMM 101 or concurrent enrollment
CSIS 123	Programming Fundamentals	3		MATH 31 with S or higher or placement score
CSIS 223	Object-Oriented Programming	3		CSIS 123 and MATH 95 with a grade of C or higher or appropriate placement
CSIS 271	Data Structures and Algorithm Analysis	3		MATH 141, CSIS 223
ENGR 113	Engr. Design and Microcomputer Applications	3		MATH 95 with a grade of C or higher or appropriate placement
ENGR 204	Programming for Engineers and Scientists	3		MATH 180
ENGR 215	Engineering Statistics and Computation	3		MATH 190
ENGR 223	Thermodynamics and Heat Transfer	4		MATH 190, PHYS 220
ENGR 230	Dynamics	3		ENGR 229
ENGR 233	Circuit Analysis I	4		PHYS 221 or concurrent enrollment
ENGR 234	Circuit Analysis Lab	1		Corequisite ENGR 233 If you withdraw from ENGR 233, you must withdraw from ENGR 234
ENGR 240	Mechanics of Materials	3		ENGR 229
ETEC 130	Digital Electronics	4		Completion or concurrent enrollment in ETEC 110 or INTE 110
ETEC 152	Engineering Graphics and CADD I	5		MATH 95 with C or appropriate placement score
ETEC 271	Parametric Modeling, Solidworks	3		ETEC 152 or concurrent enrollment
GEOL 101	Introduction to Geology	5		
MATH 141	Discrete Structures for Computer Science I	3		MATH 120 or MATH 150
SRVY 135	Elementary Surveying	3		MATH 130 or 150 with a minimum grade of C or appropriate placement score
WELD 100	Introduction to Welding/Cutting Processes	1		
Total Credit Hours Required		74		