

East Central College — Missouri S&T

Applied Math BS with Secondary Education Teacher Certification Transfer Guide

Effective as of Fall 2020

East Central College

Missouri S&T

Communication Skills (Take all courses)

ENG 101	English Composition I	3	ENGLISH 1120	Exposition and Argumentation	3
ENG 102	English Composition II	3	ENGLISH 1160	Writing and Research	3
COM 110	Public Speaking	3	SPMS 1185	Principles of Speech	3
Total Hours			Total Hours		
9			9		

Mathematics and Science (Take all courses)

MTH 183	College Algebra	3	MATH 1140*	College Algebra*	3
				<small>*Required for teacher certification; not a Mathematics BS requirement.</small>	
MTH 171	Trigonometry	2	MATH 1160*	Trigonometry*	2
				<small>*Required for teacher certification; not a Mathematics BS requirement.</small>	
MTH 190	Analytic Geometry & Calculus I	5	MATH 1214	Calculus for Engineers I	4
MTH 210	Analytic Geometry & Calculus II	5	MATH 1215	Calculus for Engineers II	4
MTH 220	Analytical Geometry & Calculus III	5	MATH 2222	Calculus with Analytic Geometry III	4
PHY 211, 212	General Physics I and Lab	5	PHYSICS 1135	Engineering Physics I	4
PHY 221, 222	General Physics II and Lab	5	PHYSICS 2135	Engineering Physics II	4
Total Hours			Total Hours		
30			25		

Social Sciences (Take all courses)

CIV 202 or HST 101 or HST 102	European Civilization II or US History to 1865 or US History 1865-1945	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310	Modern Western Civilization or American History to 1877 or American History Since 1877	3
PSC 102	US Government: National and State	3	POL SCI 1200	American Government	3
PSY 101	General Psychology	3	PSYCH 1101	General Psychology	3
ECO 102 or ECO 101	Principles of Microeconomics or Principles of Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3
Total Hours			Total Hours		
12			12		

Humanities (Take all courses)

ART 101 or MUS 101 or THE 101 or PHL 101	Art Appreciation or Music Appreciation or Theatre Appreciation or Introduction to Philosophy	3	ART 1180 or MUSIC 1150 or THEATRE 1190 or PHILOS 1105	Art Appreciation or Music Appreciation or Theatre Appreciation or Introduction to Philosophy	3
ENG 210 or ENG 221 or ENG 124 or ENG 214 or ENG 215	Survey British Lit: Beginnings to 1784 or Survey American Lit: Colonial to 1865 or World Literature I or Women's Literature or African-American Literature (or other literature elective)	3	ENGLISH 1211 or ENGLISH 1221 or ENGLISH 1231 or ENGLISH 2242 or ENGLISH 2245 or	British Literature I: The Beginnings to 1800 or American Literature: 1600 to 1865 or World Literature I or Literature by Women or African American Literature (or other literature elective)	3
Total Hours			Total Hours		
6			6		

Additional Degree Requirements (Select up to 5 hours)

MTH 245	Differential Equations	3	MATH 3304	Elementary Differential Equations	3
MTH 241	Linear Algebra	3	MATH 3108	Linear Algebra	3
CHEM 111 or BIO 111	General Chemistry I and Lab or General Biology I and Lab	5	CHEM 1310, 1319 or BIO SCI 1113, 1219	General Chemistry I and Lab or General Biology and Lab	5
EGR 251 or EGR 221,222	Data Structures or C++ Program Engineers and Lab	3-4	CS 1500 or CS 1971,1981	Computational Problem Solving or Intro to Programming Methodology and Lab (C++)	3
MTH 242	Engineering Statistics	3	STAT 3115	Engineering Statistics	3
Total Hours			Total Hours		
5			5		

Additional Courses for Teacher Certification Option (Take all courses)

EDU 201 or EDU 214	Foundations of Education or Multicultural Education	3	EDUC 1040	Perspectives in Education	2
EDU 241	Educational Psychology	3	PSYCH 2300 (EDUC 2102)	Educational Psychology	3
PSY 250	Human Development	3	PSYCH 3310	Developmental Psychology	3
EDU 244	Education of the Exceptional Learner	3	PSYCH 4310	Psychology of the Exceptional Child	3
Total Hours			Total Hours		
12			11		

***Teacher certification notes:** An ACT of 22 or a 220 on the MoGEA is required for professional standing in the department. Students must pass the MoCA, maintain a 2.75 cumulative GPA, and a 3.0 content GPA to qualify for student teaching. Students completing this program will earn a BS in Applied Mathematics.

Maximum credit hours to be transferred to Missouri S&T degree requirements.

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Missouri S&T residency requirements: The last 60 hours of any Missouri S&T degree must be completed at Missouri S&T.
Students must receive special permission from Missouri S&T to apply more than the maximum credit hours listed above toward the Missouri S&T degree.
Students are not required to complete all courses on this guide before transferring to Missouri S&T.