

**Associate in Arts to BA/BS in Mathematics**

**Students will complete the following courses through their Associate in Arts Degree at Metropolitan:**

**American Institutions—6 credits**

HIST 120	American History I <b>OR</b>
HIST 121	American History II <b>AND</b>
POLS 135	Introduction to Political Science <b>OR</b>
POLS 136	Introduction to American National Politics <b>OR</b>
POLS 137	Introduction to State and Local Politics

**Communications—9 credits**

ENGL 101	Composition and Reading I <b>AND</b>
ENGL 102	Composition and Reading II <b>AND</b>
SPDR 100	Fundamentals of Speech <b>OR</b>
SPDR 102	Fundamentals of Human Communication

**Mathematics—5 credits**

MATH 180	Analytic Geometry and Calculus I
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**Humanities—9 credits**

*Complete one 3-credit course in three different areas. One of the courses must be in literature or philosophy.*

**Art, Music, or Theatre**

ART 108	Survey of Art <b>OR</b>
ART 150	History of Art I <b>OR</b>
ART 151	History of Art II <b>OR</b>
MUSI 108	Music Appreciation <b>OR</b>
SPKD 114	Theatre of the Western World

**Literature**

ENGL 124	Introduction to Literature <b>OR</b>
ENGL 130	Shakespeare <b>OR</b>
ENGL 150	World Literature I <b>OR</b>
ENGL 151	World Literature II <b>OR</b>
ENGL 165	Masterpieces of American Literature <b>OR</b>
ENGL 220	British Literature to 1750 <b>OR</b>
ENGL 221	British Literature 1750 to Present <b>OR</b>

ENGL 222 American Literature to 1860 **OR**  
ENGL 223 American Literature 1860 to Present

**Philosophy**

PHIL 100 Introduction to Philosophy **OR**  
PHIL 101 Philosophy of Religion **OR**  
PHIL 200 Logic **OR**  
PHIL 201 History of Philosophy I **OR**  
PHIL 203 Ethics

**Foreign Language**

Foreign Language 101 **OR**  
Foreign Language 102 **OR**  
Foreign Language 103

**Natural Sciences –9 credits**

BIOL 101 General Biology **OR**  
BIOL 104 General Botany **OR**  
BIOL 106 General Zoology **AND**

CHEM 111 General College Chemistry I **OR**  
PHYS 220 Engineering Physics I

**Social Sciences—6 credits**

*Complete two 3-credit courses in two different areas:*

**Anthropology**

ANTH 100 General Anthropology

**Economics**

ECON 110 Introduction to Economics **OR**  
ECON 210 Macroeconomics **OR**  
ECON 211 Principles of Economics II - Microeconomics

**Geography**

GEOG 105 World Geography **OR**  
GEOG 114 Introduction to Geography

**Political Science**

POLS 135 Introduction to Political Science

**Psychology**

PSYC 140 General Psychology

**Sociology**

SOCI 160      Sociology **OR**  
SOCI 170      General Anthropology

**Learning Enhancements from the above courses:**

One course designated as Writing Intensive and a course designated as a Learning community or Human Diversity.

*The 44 hours listed above will comprise Metropolitan's 42 Hour General Education Block.*

**Computer – 3 credits**

CSIS 101 or higher number CSIS course – 3 credits (Required by MCC)

**Electives – 15-17 credits**

MATH 190      Analytic Geometry and Calculus II – 5 credits  
MATH 210      Analytic Geometry and Calculus III – 5 credits

From the following courses, choose courses to total **a maximum of 64** credits for the degree.

MATH 230      Differential Equations – 3 credits

Satisfactorily complete the first year of a single foreign language (FL 101 and 102), or demonstrate elementary proficiency as determined by a CLEP examination, or successfully complete an intermediate or higher level foreign language course.

Foreign Language 101 – 5 credits

Foreign Language 102 – 5 credits

Foreign Language 203 – 5 credits

**Total credits required for the Associate of Arts degree: 62**

**Total credits transferable to Truman: 64**

**After completing the Associate of Arts degree at Metropolitan, students will then complete the following courses at Truman State University to earn the Bachelor of Science or Bachelor of Arts degree in Mathematics.**

**Interdisciplinary, Writing-Enhanced Junior Seminar (JINS) – 3 credit hours**

**Bachelor of Arts or Bachelor of Science Requirements (Choose One) – 6-8 credit hours**

**BA Requirements**

Complete the second year of a single foreign language, or demonstrate proficiency as determined by a proficiency examination, or successfully complete a higher level foreign

language course. Students who completed FL 103 at MCC have fulfilled this requirement.

### **BS Requirements**

*Complete two courses from the following:*

STAT 374	Statistical Quality Control – 3 hours
STAT 375	ANOVA/Experimental Design – 3 hours
STAT 376	Nonparametric Statistics – 3 hours
STAT 378	Linear Regression/Time Series – 3 hours
PHRE 342	Symbolic Logic – 3 hours
PHRE 382	Philosophy of Mathematics – 3 hours
NASC 400	History of Science to 1700 – 3 hours
NASC 401	History of Science since 1700 – 3 hours
ECON 300	Intermediate Microeconomics – 3 hours
ECON 303	Intermediate Macroeconomics – 3 hours
ECON 304	Mathematical Economics – 3 hours
ECON 406	Econometrics – 3 hours

### **Required Support – 6 hours**

CS 180	Foundations of Computer Science I - 3 hours
STAT 290	Statistics – 3 hours

### **Major Requirements – 25-28 hours**

MATH 200	Foundations of Mathematics (WE) – 3 hours
MATH 357	Linear Algebra – 3 hours
MATH 451	Algebraic Structures I – 3 hours
MATH 461	Advanced Calculus I – 3 hours
MATH 498	Senior Seminar – 1 hour

Mathematics Electives:

Chose courses totaling 15 credit hours from the following lists, with at least one course from List A:

List A:

MATH 363	College Geometry – 3 hours
MATH 440	Topology – 3 hours
MATH 447	Combinatorial Analysis – 3 hours
MATH 452	Algebraic Structures II – 3 hours
MATH 454	Theory of Numbers – 3 hours
MATH 462	Advanced Calculus II – 3 hours
MATH 465	Differential Geometry – 3 hours
MATH 467	Logic and Set Theory – 3 hours
MATH 515	Complex Variables I – 3 hours
STAT 570	Mathematical Probability and Statistics I – 3 hours

List B:

MATH 300	Introduction to Numerical Analysis – 3 hours
MATH 325	Introduction to Operations Research – 3 hours
MATH 347	Discrete Mathematics – 3 hours
MATH 365	Ordinary Differential Equations – 3 hours ( <i>may be completed at MCC</i> )
MATH 400	Methods of Optimization – 3 hours
MATH 455	History of Mathematics I – 3 hours
MATH 456	History of Mathematics II – 3 hours
MATH 464	Higher Geometry – 3 hours
MATH 511	Numerical Analysis – 3 hours
MATH 521	Partial Differential Equations – 3 hours
MATH 530	Topics in Mathematical Modeling – 3 hours
MATH 564	Advanced Linear Algebra – 3 hours
STAT 571	Mathematical Probability and Statistics II – 3 hours

Capstone Experience

Each student pursuing a Bachelors degree in mathematics is required to complete a project demonstrating his/her ability to study independently some area of mathematics. The project will include a written report and an accompanying public presentation. Students are responsible for choosing a project and a supervisor. The project must be approved by the supervisor and by the Undergraduate Committee.

**Writing Enhanced Requirement**

Complete at least one additional course at Truman, in addition to MATH 200 and the JINS course, that is listed as Writing-Enhanced. This course may be used to fulfill other requirements.

**Total credits required for the Baccalaureate of Science or Arts degree: 124**

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**Fast Facts**

Minimum GPA required:	2.0
Maximum credits accepted:	64
MCC Contact:	
Truman Contact:	A. Kay Anderson, 660-785-4143, or Dr. Lanny Morley, 660-785-4547
Location:	Kirksville, Missouri