# Ozarks Technical Community College

OTC Associate of Science in Mathematics to MSU Bachelor of Science in Mathematics

The following is a guide to graduation with completion of OTC's Associate of Science in Mathematics and MSU's Bachelor of Science in Mathematics degree. The B.S. in Mathematics may be completed on campus only. This is a comprehensive major meaning it does not require completion of a minor. Courses are sequenced to provide guidance and to help ensure that prerequisite requirements are met. Catalog Year: 2022-2023. Date Modified: 5.11.22.

MSU Transfer Advisor: Dr. William Bray, [WBray@MissouriState.edu](mailto:WBray@MissouriState.edu), 417-836-6270

Finish in 4 Go Bears Missouri State University

### OTC Year 1 Semester 1

Mathematical Sciences - 5 hours required for the A.S. in Biology

* OTC Course ID/Title: MTH 140 ◈ Analytic Geometry and Calculus I
* Credit Hours: 5
* MSU Equivalent: MTH 261
* Meets Core 42: Yes
* MSU Major Requirement: Yes

Computer Applications Course

* OTC Course ID/Title: CIS 120 Introduction to Computer Programming
* Credit Hours: 3
* MSU Equivalent: CSC 130
* Meets Core 42: No
* MSU Major Requirement: Yes

Written Communications - 6 credit hours

* OTC Course ID/Title: Choose one: ENG 100 Composition 1 with support, ENG 101 Composition
* Credit Hours: 3-5
* MSU Equivalent: ENG 110
* Meets Core 42: Yes
* MSU Major Requirement: No

Social/Behavioral Sciences - 6 credit hours required for the A.S. in Mathematics - 9 credit hours required for Core 42 (Must fulfill 2 disciplines)

* OTC Course ID/Title: Choose one: PLS 101, HST 120, HST 130
* Credit Hours: 3
* MSU Equivalent: HST 121, HST 122, PLS 101
* Meets Core 42: Yes
* MSU Major Requirement: No

Semester 1 Total = 14-16 credit hours

### OTC Year 1 Semester 2

Program Specific Course – Must earn “C” or better

* OTC Course ID/Title: MTH 145 Analytic Geometry and Calculus 2
* Credit Hours: 5
* MSU Equivalent: MTH 280
* Meets Core 42: No
* MSU Major Requirement: Yes

Natural Sciences - 10 credit hours required for the A.S. in Mathematics (Must fulfill 2 disciplines including one course with a lab component.)

* OTC Course ID/Title: PHY 220 Physics Engineers & Scientists 1
* Credit Hours: 5
* MSU Equivalent: PHY 203
* Meets Core 42: Yes
* MSU Major Requirement: Yes

Humanities and Fine Arts - 3 credit hours required for the A.S. in Mathematics - 9 credit hours required for Core 42 (Must fulfill 2 disciplines)

* OTC Course ID/Title: Choose one: ART 100, ART 101, ART 105, ART 120▲, ASL 101, ASL 102, CHN 101, ENG 180, ENG 240, ENG 241, ENG 260, ENG 265, ENG 270, ENG 271, FRN 101, FRN 102, GRM 101, GRM 102, HUM 101, MUS 101, MUS 105, MUS 106, MUS 110, MUS 235\*▲, PHL 101, PHL 105, REL 100, REL 101, REL 102, SPN 101, SPN 102, THR 101
* Credit Hours: 3
* MSU Equivalent: Varies
* Meets Core 42: Yes
* MSU Major Requirement: No

Semester 2 Total = 16 credit hours

### OTC Year 2 Semester 3

Program Specific Course

* OTC Course ID/Title: MTH 240 Analytic Geometry and Calculus 3
* Credit Hours: 3
* MSU Equivalent: MTH 302
* Meets Core 42: No
* MSU Major Requirement: Yes

Program Specific Course

* OTC Course ID/Title: MTH 215 Algebraic Structures
* Credit Hours: 3
* MSU Equivalent: MTH 315
* Meets Core 42: No
* MSU Major Requirement: Yes

Social/Behavioral Sciences - 6 credit hours required for the A.S. in Mathematics - 9 credit hours required for Core 42 - (Must fulfill 2 disciplines)

* OTC Course ID/Title: ECO 270 Principles of Macroeconomics
* Credit Hours: 3
* MSU Equivalent: ECO 155
* Meets Core 42: Yes
* MSU Major Requirement: No

Institutional Elective - 10 hours required for A.S. Mathematics

* OTC Course ID/Title: Any course numbered 100 and above - your choice.
* Credit Hours: 3
* MSU Equivalent: Varies
* Meets Core 42: No
* MSU Major Requirement: No

Oral Communications - 3 credit hours

* OTC Course ID/Title: Choose one: COM 100, COM 105, COM 200
* Credit Hours: 3
* MSU Equivalent: Varies
* Meets Core 42:Yes
* MSU Major Requirement: No

Semester 3 Total = 15 credit hours

### OTC Year 2 Semester 4

Program Specific Elective

* OTC Course ID/Title: MTH 241 Differential Equations
* Credit Hours: 3
* MSU Equivalent: MTH 303
* Meets Core 42: No
* MSU Major Requirement: Yes

Program Specific Elective

* OTC Course ID/Title: MTH 230 Linear Algebra
* Credit Hours: 3
* MSU Equivalent: MTH 333
* Meets Core 42: No
* MSU Major Requirement: Yes

Natural Sciences – 10 credit hours required for the A.S. in Mathematics (Must fulfill 2 disciplines including one course with a lab component)

* OTC Course ID/Title: BIO 160 General Biology 1
* Credit Hours: 4
* MSU Equivalent: BIO 121
* Meets Core 42: Yes
* MSU Major Requirement: No

Institutional Elective – 10 hours required for A.S. Mathematics

* OTC Course ID/Title: Any course numbered 100 and above - your choice.
* Credit Hours: 7
* MSU Equivalent: Varies
* Meets Core 42: No
* MSU Major Requirement: No

Semester 4 Total = 17  
Total Hours at OTC = 62-64  
Total Hours Applied Toward MSU Major Requirements: 30

\* One credit hour course ▲May choose only one, falls under MOTR code 'PERF

# Missouri State University

MSU Bachelor of Science in Mathematics (Comprehensive) after OTC Associate of Science in Mathematics

Date Modified: 5.11.22  
MSU Transfer Advisor: Dr. William Bray, [WBray@MissouriState.edu](mailto:WBray@MissouriState.edu), 417-836-6270  
  
Finish in 4 Go Bears Missouri State University

Courses are sequenced to provide guidance and to help ensure that prerequisite requirements are met.

Catalog Year: 2022-23

### MSU Year 3 Semester 1

Major Requirement

* MSU Course ID/Title: MTH 532 Introduction to Abstract Algebra
* Credit hours: 3

Major Requirement

* MSU Course ID/Title: MTH 540 Statistical Theory
* Credit hours: 3

Major Elective

* Choose any Mathematics course numbered 400 and above with the assistance of an advisor.
* Credit hours: 3

Social/Behavioral Sciences - 9 credit hours (Must fulfill 2 disciplines)

* MSU Course ID/Title: Choose one: ANT 100, ANT 125, ANT 303, CFD 155, COM 260, CRM 210, ECO 101, ECO 155, ECO 165, GRY 100, HST 103, HST 104, HST 121, HST 122, MED 120, PLN 100, PLS 101, PLS 205, PLS 232, PSY 121, SOC 150, SOC 152

General Elective\*\*

* Work with your MSU advisor to identify courses that will complement your specific career goals.
* Credit hours: 3

Semester 1 Total: 15 Credit Hours

### MSU Year 3 Semester 2

Major Requirement

* MSU Course ID/Title: MTH 503 Advanced Calculus 1
* Credit hours: 3

Major Requirement

* MSU Course ID/Title: Choose one: MTH 421 Numerical Analysis 1, MTH 541 Statistical Theory 2
* Credit hours: 3

Major Elective

* MSU Course ID/Title: Choose any Mathematics course numbered 400 and above with the assistance of an advisor.

Major Elective

* MSU Course ID/Title: Choose any Mathematics course numbered 400 and above with the assistance of an advisor.
* Credit hours: 3

Humanities and Fine Arts - 9 credit hours (Must fulfill 2 disciplines)

* MSU Course ID/Title: Choose one: ARB 101, ARB 102, ART 115▲, ART 200, ART 212, ART 271, ART 272, CHI 101, CSD 330, CSD 331, ENG 200, ENG 203▲, ENG 205▲, ENG 215▲, ENG 282, ENG 289, ENG 340, ENG 341, ENG 350, ENG 351, ENG 362, FRN 101, FRN 102, GRM 101, GRM 102, ITL 101, ITL 102, JPN 101, JPN 102, KOR 101, KOR 102, LLT 121, MED 274, MUS 100, MUS 162\*▲, MUS 175▲, MUS 176\*▲,MUS 178\*▲, MUS 239, MUS 241, MUS 345, MUS 346, MUS 347, PHI 105, PHI 110, PHI 115, PTG 101, PTG 102, REL 100, REL 101, REL 102, REL 210, RUS 101, RUS 102, SPN 101, SPN 102, THE 101
* Credit hours: 3

Semester 2 Total: 15 Credit Hours

### MSU Year 4 Semester 3

Major Elective

* MSU Course ID/Title: Choose any Mathematics course numbered 400 and above with the assistance of an advisor.
* Credit hours: 3

Major Elective

* MSU Course ID/Title: Choose any Mathematics course numbered 400 and above with the assistance of an advisor.
* Credit hours: 3

Humanities and Fine Arts - 9 credit hours (Must fulfill 2 disciplines)

* MSU Course ID/Title: Choose one: ARB 101, ARB 102, ART 115▲, ART 200, ART 212, ART 271, ART 272, CHI 101, CSD 330, CSD 331, ENG 200, ENG 203▲, ENG 205▲, ENG 215▲, ENG 282, ENG 289, ENG 340, ENG 341, ENG 350, ENG 351, ENG 362, FRN 101, FRN 102, GRM 101, GRM 102, ITL 101, ITL 102, JPN 101, JPN 102, KOR 101, KOR 102, LLT 121, MED 274, MUS 100, MUS 162\*▲, MUS 175▲, MUS 176\*▲,MUS 178\*▲, MUS 239, MUS 241, MUS 345, MUS 346, MUS 347, PHI 105, PHI 110, PHI 115, PTG 101, PTG 102, REL 100, REL 101, REL 102, REL 210, RUS 101, RUS 102, SPN 101, SPN 102, THE 101
* Credit hours: 3

General Elective\*\*

* MSU Course ID/Title: Work with your MSU advisor to identify courses that will complement your specific career goals.
* Credit hours: 6

Semester 3 Total: 15 Credit Hours

### MSU Year 4 Semester 4

Major Requirement

* MSU Course ID/Title: MTH 497 Topics
* Credit hours: 1

Major Elective

* MSU Course ID/Title: Choose any Mathematics course numbered 400 and above with the assistance of an advisor.
* Credit hours: 3

General Elective\*\*

* MSU Course ID/Title: Work with your MSU advisor to identify courses that will complement your specific career goals.
* Credit hours: 6

Core 42 Elective

* MSU Course ID/Title: Choose MOTR coded course of your choice with the assistance of an advisor.
* Credit hours: 6

Semester 4 Total: 13 Credit Hours  
Total Hours at MSU: 58  
Total Hours Overall: 120-122

\*\* Electives provide the opportunity to customize your degree program. Some elective credits may or may not be needed to bring total credit hours to a minimum of 120 credit hours and upper division hours (300+) to 40.

\* One credit hour course ▲ May choose only one, falls under MOTR code 'PERF'

This information is provided as a guide only.

* OTC students are strongly encouraged to meet with their major specific MSU transfer advisor early in their OTC education to discuss the most appropriate OTC coursework for their intended MSU major, MSU degree requirements, etc.
* Students are required to fulfill MSU graduation and GPA requirements to receive a degree and should consult with their MSU advisor and the MSU undergraduate catalog for details, as there may exist pre-requisite requirements as well as periodicity limitations that could affect scheduling sequences.
* Please note that transfer students from Missouri public colleges and universities may follow the general education and general baccalaureate degree requirements in effect at Missouri State when they first enrolled (or re-enrolled after an absence of one calendar year or more) as degree-seeking students at the institutions from which they transferred (e.g., OTC).