

## Mathematics (BA/BS), Graduate School Track

### Semester 1

- TRU 120: First Year Seminar (3 cr)
- MATH 198: Analytic Geometry and Calculus I (5 cr)
- Dialogues Curriculum course (6 cr)

### Semester 3

- MATH 200: WE/Foundations of Mathematics (3 cr)
- MATH 264: Analytic Geometry and Calculus III (4 cr)
- Elementary Foreign Language I (3 cr)
- Dialogues Curriculum course (3 cr)

### Semester 5

- MATH 451: Algebraic Structures I (3 cr) (\*\*\*)
- MATH XXX: One course from List A or B (3 cr)
- JINS 3XX: WE/\_\_\_\_\_ (3 cr)
- Dialogues Curriculum course (3 cr), **OR** BA/BS coursework (3 cr)
- Elective (3 cr)

(\*\*\*) = Math 451 and 461 are only offered in the fall. Math 452 is only offered in the spring of even years, and Math 462 is only offered in the spring of odd years. So, students may need to swap years for the Math 451-452 and 461-462 sequences.

### Semester 7

- MATH 461: Advanced Calculus (3 cr) (\*\*\*)
- MATH 499: WE/Mathematics Capstone (3 cr)
- Electives (6-9 cr)

(\*\*\*) = Math 451 and 461 are only offered in the fall. Math 452 is only offered in the spring of even years, and Math 462 is only offered in the spring of odd years. So, students may need to swap years for the Math 451-452 and 461-462 sequences.

### Semester 2

- MATH 263: Analytic Geometry and Calculus II (4 cr)
- CS 170: Intro to Computer Science I (4 cr), **OR** CS 180: Foundations of Computer Science I (4 cr) (\*)
- Dialogues Curriculum course (6 cr)

(\*) = Students interested in double majoring in CS should take CS 180

### Semester 4

- MATH 357: Linear Algebra (3 cr)
- STAT 290: Statistics (3 cr), **OR** STAT 370: Probability (3 cr)
- CHEM 130: Chemical Principles I (4 cr), **OR** PHYS 185: College Physics I (4 cr) (\*\*)
- Elementary Foreign Language II (3 cr)

(\*\*) = Math majors are required to take either CHEM 130 or PHYS 185

### Semester 6

- MATH 398: Junior Seminar in Mathematics (1 cr)
- MATH 452: Algebraic Structures II (3 cr) (\*\*\*)
- MATH XXX: One course from List A or B (3 cr)
- Dialogues Curriculum course (3 cr), **OR** BA/BS coursework (3 cr)
- Elective (3 cr)

(\*\*\*) = Math 451 and 461 are only offered in the fall. Math 452 is only offered in the spring of even years, and Math 462 is only offered in the spring of odd years. So, students may need to swap years for the Math 451-452 and 461-462 sequences.

### Semester 8

- MATH 462: Advanced Calculus II (3 cr) (\*\*\*)
- MATH 440: Topology (3 cr) (\*\*\*\*)
- Dialogues Curriculum course (6 cr), **OR** BA/BS coursework (6 cr)
- **Electives (as needed) to total at least 120 hours**

(\*\*\*) = Math 451 and 461 are only offered in the fall. Math 452 is only offered in the spring of even years, and Math 462 is only offered in the spring of odd years. So, students may need to swap years for the Math 451-452 and 461-462 sequences.

(\*\*\*\*) = Offered only every other year. May need to take in junior year.

## NOTES:

- (\*) = Students interested in double majoring in CS should take CS 180
- (\*\*) = Math majors are required to take either CHEM 130 or PHYS 185

- (\*\*\*) = Math 451 and 461 are only offered in the fall. Math 452 is only offered in the spring of even years, and Math 462 is only offered in the spring of odd years. So, students may need to swap years for the Math 451-452 and 461-462 sequences.
- (\*\*\*\*) = Offered only every other year. May need to take in junior year.
- Graduation Requirements: Total credit hrs  $\geq$  120 (40 credit hrs @ 300-level or higher)
- WE = Writing Enhanced course
- If you have not completed the Civics Exam, we recommend doing so in your **first year**.
- Truman students are required to complete a [Portfolio](#) to graduate. We recommend starting to compile your work for the Portfolio sooner than later.
- Students must complete their Application to Graduate **the semester prior to graduating**. Apply to graduate through TruView.
- Graduating seniors need to complete their seniors test and questionnaire. We recommend reviewing the [Assessment & Testing page](#) to plan accordingly.
- **The Dialogues curriculum** requires a certain number of courses/credit hours in the following Perspectives: Social, Arts and Humanities, STEM, Communications, and Statistics. The exact number of courses a student will be required to take during their undergraduate career varies individually according to the credit transferred in.

**List A of Elective Courses (3 cr):**

MATH 363: College Geometry  
 MATH 440: Topology  
 MATH 447: Combinatorial Analysis  
 MATH 452: Algebraic Structures II  
 MATH 454: Theory of Numbers  
 MATH 462: Advanced Calculus II  
 MATH 464: Higher Geometry  
 MATH 465: Differential Geometry  
 MATH 468: Intro to Set Theory  
 MATH 469: Intro to Mathematical Logic  
 MATH 515: Complex Variables I  
 STAT 570: Mathematical Probability and Statistics I

**List B of Elective Courses (3 cr):**

MATH 300: Introduction to Numerical Analysis  
 MATH 330: Mathematics of Finance  
 MATH 335: Game Theory  
 MATH 345: Introduction to Mathematical Biology  
 MATH 347: Discrete Mathematics  
 MATH 364: Vector Analysis  
 MATH 365: Ordinary Differential Equations  
 MATH 400: Methods of Optimization  
 MATH 425: Intro. To the Math. of Life Contingencies  
 MATH 455: History of Mathematics I  
 MATH 456: History of Mathematics II  
 MATH 511: Numerical Analysis  
 MATH 521: Partial Differential Equations  
 MATH 530: Topics in Mathematical Modeling  
 MATH 564: Advanced Linear Algebra  
 STAT 571: Mathematical Probability and Statistics II

**Department Chair:** Please contact the [Center for Academic Excellence](#) with any updates to the plan above. Rev. 8-5-24