Mathematical Sciences Minors

Stand out from the crowd, minor in math!

NEW—Calculus not required.

MINOR REQUIREMENTS

Students minoring in mathematics must complete 18 credits in Mathematical Sciences courses numbered 200 and above, of which 9 credits must be 300-level or above, and taken at UWM. This minor is available as a post-baccalaureate option for students who have graduated. The college requires that students attain at least a 2.500 GPA on all credits in the minor attempted at UWM and on all minor credits attempted, including any transfer work.

COURSES RECOMMENDED FOR STUDENTS MAJORING IN:

HUMANITIES, ARTS, OR EDUCATION:

START WITH:
Math 240: Matrices and Applications
Math 341: Intro to Language & Practice of Math.

CHOOSE TWO TO THREE OF:
Math 531: Modern Algebra
Math 535: Linear Algebra
Math 511: Symbolic Logic
6 cr from: Math 490, 591, 599, 690, 699 Topics, Indep. Study, Capstone

AND ONE TO TWO OF:
Math 205: Intro Finite Math
Math 275: Problem Solving/Critical Thinking For Elem. Ed. Majors
Math 276: Algebraic Structures for Elem. Ed. Majors
Math 277: Geometry for Elem. Ed. Majors
Math 278: Discrete Probability & Statistics for Elem. Ed. Majors
MthStat 215: Elementary Statistical Analysis

PREREQUISITE
Math 2xx or Placement level A

MATH 2xx or Placement level A

Math Placement level B

Qla is satisfied

HEALTH SCIENCES, BUSINESS, SOCIAL SCIENCES OR EDUCATION:

START WITH:
Math 211: Survey in Calculus
Math 240: Matrices and Applications

CHOOSE ONE COURSE FROM:
MthStat 215: Elementary Statistical Analysis

*Note: Bus adm 210, Econ 210 may be substituted
Math 205: Intro Finite Math
Math 275: Problem Solving/Critical Thinking For Elem. Ed. Majors
Math 276: Algebraic Structures for Elem. Ed. Majors
Math 277: Geometry for Elem. Ed. Majors
Math 278: Discrete Probability & Statistics for Elem. Ed. Majors
Math 290: Topics in Mathematics

AND THREE COURSES FROM:
Math 305: Intro to Mathematical & Computational Modeling
Math 313: Linear Programming & Optimization
Math 315: Mathematical Programming & Optimization
Math 405: Mathematical Models and Applications
Math 417: Computational Linear Algebra
6 cr from: Math 490, 591, 599, 690, 699 Topics, Indep. Study, Capstone

PREREQUISITE
Qla is Satisfied

Math 2xx or placement level B

Math placement level B

Math 211+2xx

Math 211+240

Varies

Mathematics is the international language of science and technology. Much of the subject matter in engineering and the natural sciences, as well as some social sciences such as economics, is presented in mathematical terms. Mathematical and statistical techniques are vital in fields that usually are not considered mathematical, such as biology, psychology, and political science. Some students are attracted to mathematics for its own sake, for the beauty, discipline, logic, and problem-solving challenges. Other students pursue mathematics in order to achieve deeper understanding in their own areas of study.
### ENGINEERING OR A NATURAL SCIENCE:

**Start With:**
- Math 213 or 231: First Semester Calculus
- Math 232: Calculus and Analytic Geometry II

**Note:** 221 + 222 is equivalent to 231+232+233

**Then, choose at least one:**
- Math 233: Calculus and Analytic Geometry III
- Math 234: Linear Algebra & Differential Equations
- Math 240: Matrices and Applications
- Math 341: Intro to Language & Practice of Math.

**PREREQUISITE**

**Math Placement Level A**
- Math 213 or 231

**Math Placement Level A or Math 2xx**
- Math 232

- Math Placement Level A

### INTRODUCTION TO APPLIED MATH

**Math 305:** Intro to Mathematical & Computational Modeling
**Math 311:** Theory of Interest
**Math 431:** Modern Algebra w/ Applications

**PREREQUISITE**

- Math 213/231 or 211+2xx
- Math 232
- Math 232

### APPLIED STATISTICS EMPHASIS

**Math 321:** Vector Calculus
**Math 423:** Complex Analysis
**MthStat 361 & 362:** Intro to Math. Stats I & II
**MthStat 563:** Regression Analysis
**MthStat 564:** Time Series Analysis
**MthStat 565:** Nonparametric Statistics
**MthStat 566:** Computational Statistics

**PREREQUISITE**

- Math 233
- Math 233
- Math 233
- MthStat 362
- MthStat 362
- MthStat 362
- MthStat 362

### APPLIED COMPUTATIONAL MATH EMPHASIS

**Math 313:** Linear Programming & Optimization
**Math 320:** Intro to Differential Equations
**Math 405:** Mathematical Modeling & Applications
**Math 417:** Computational Linear Algebra

**PREREQUISITE**

- Math 234 or 240
- Math 234 or 240+232
- Math 211/213 /231 + 234/240
- Math 234 or 240

### APPLIED/COMPUTATIONAL/STATS EMPHASIS

**Math 315:** Math. Programming & Optimization
**Math 322:** Partial Differential Equations
**Math 413:** Intro to Numerical Analysis
**Math 415:** Intro to Scientific Computing
**MthStat 562:** Design of Experiments
**MthStat 568:** Multivariate Statistical Analysis

**PREREQUISITE**

- Math 211/233 +234/240
- Math 232+233
- Math 233+234
- Math 233+234
- MthStat 362 + Math 234/240
- MthStat 362 + Math 234/240

### PURE MATH EMPHASIS

**Math 451:** Axiomatic Geometry
**Math 453:** Transformations in Geometry
**Math 521:** Advanced Calculus I
**Math 531:** Modern Algebra
**Math 537:** Number Theory
**Math 535:** Linear Algebra
**Math 551:** Elementary Topology

**PREREQUISITE**

- Math 341+232
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- Math 341+232

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**Interested? Have questions? Need advice? Ready to declare? Contact Math Sciences...**

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