**Course Sequencing and Course Rotation**

**Mathematics and Economics**

Joe Yanik

**Economics:**

Every semester

EC 101, Basic Economics

Fall

EC 305 Intermediate Microeconomics

Spring

EC 306, Intermediate Macroeconomics. T

The rest of the schedule is filled out with rotating electives. Part of the economics program includes statistics and typically quite a bit of math.

**Mathematics/Mathematics Education:**

Every semester

MA 161, Calculus One

MA 262, Calculus Two

MA 240, Discrete Mathematics

MA 322, Linear Algebra

MA 425, Abstract Algebra

Fall

MA 363, Calculus Three

CS 130, Microcomputer Problem Solving

MA 291, Mathematical Modeling

MA 460, History of Mathematics

Spring

MA 380, Probability and Statistics

MA 470, Teaching Mathematics in the Middle/High School

MA 421, College Geometry
Mathematics courses at ESU

Algebra

Trigonometry

Discrete Math

Calculus I

History of Math (Fall Sem)

Linear Algebra

Calculus II

Abstract Algebra

Calculus III (Fall Sem.)

College Geometry (Spring Sem.)

Probability & Stat (Spring Sem.)

Math Modeling (Fall Sem.)

Math Stat

CS 130 (Fall Sem)

Calculus I

Calculus II

Calculus III (Fall Sem.)

Probability & Stat (Spring Sem.)

Math Modeling (Fall Sem.)

Math Stat

Phase I Junior Year Fall

MA 470A Junior Year Spring

Student Teaching
**Mathematics Graduate:** Because of the recent dramatic increase in enrollment in our graduate program we will have to make major changes in the scheduling for our graduate courses. Other than two semester sequences such as Advanced Calculus I and II and Mathematical Statistics I and II there are no significant sequences in the graduate program. We do, however, expect our students to take Mathematical Proofs at their first opportunity since the skills that are reinforced in that class are important for many of the other courses.

I am attaching a draft of a proposed schedule of courses for the graduate program. It should be emphasized that this is only a draft and may undergo some revisions.

### Proposed Graduate Curriculum

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<thead>
<tr>
<th>Fall (even years)</th>
<th>Spring (odd years)</th>
<th>Fall (odd years)</th>
<th>Spring (even years)</th>
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<tbody>
<tr>
<td>Proofs</td>
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<tr>
<td>Advanced Calc 1 (on-campus)</td>
<td>Advanced Calc 1 (online)</td>
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<td>Advanced Calc 2</td>
<td>Complex Variables</td>
<td>Advanced Calc 2</td>
<td>Complex Variables</td>
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<td>Groups</td>
<td>Rings</td>
<td>Fields</td>
<td>Number Theory</td>
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<td>Simulation Techniques</td>
<td>Numerical Analysis</td>
<td>Regression Analysis</td>
<td>Numerical Linear Algebra</td>
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<tr>
<td>Additional Courses*</td>
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*We expect to offer the following courses over a 3 year period:*

- Topology
- Non-Euclidean Geometry
- Projective Geometry
- Optimization Techniques
- Technology in the Classroom
- Categorical Data Analysis
- Knot Theory
- Differential Equations
- Vector Spaces