Annual Course Overview

Below is a list of our upper level courses and when they are typically offered. Please note that course offerings, instructor names, and times are subject to change and all summer course offerings are dependent on having high enough enrollment to be able to offer the course and are not listed here. More information on 400-Level courses offered this year can be found here.

On this Page:

- When Courses are Offered
- Schedule of 400-Level Courses
- Schedule of 500/600-Level Courses

When Courses Are Offered 2018-2019

<table>
<thead>
<tr>
<th>Autumn</th>
<th>Winter</th>
<th>Spring</th>
</tr>
</thead>
</table>

*MATH 492 will not be taught. STAT 498 replaces MATH 492.

Courses Offered 2018-2019

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td>Introduction to Mathematical Reasoning</td>
</tr>
<tr>
<td>301</td>
<td>Number Theory</td>
</tr>
<tr>
<td>307</td>
<td>Introduction to Differential Equations</td>
</tr>
<tr>
<td>308</td>
<td>Matrix Algebra with Applications</td>
</tr>
<tr>
<td>309</td>
<td>Linear Analysis</td>
</tr>
<tr>
<td>324</td>
<td>Advanced Multivariable Calculus I</td>
</tr>
<tr>
<td>327</td>
<td>Introductory Real Analysis</td>
</tr>
<tr>
<td>Course No.</td>
<td>Course Title</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------</td>
</tr>
<tr>
<td>334/5/6</td>
<td>Honors Calculus</td>
</tr>
<tr>
<td>340</td>
<td>Abstract Linear Algebra</td>
</tr>
<tr>
<td>380</td>
<td>Autumn: Intermediate Topics - Art of Problem Solving, Spring: Introduction to Discrete Mathematics</td>
</tr>
<tr>
<td>381</td>
<td>Discrete Mathematical Modeling</td>
</tr>
<tr>
<td>394</td>
<td>Probability I</td>
</tr>
<tr>
<td>395</td>
<td>Probability II</td>
</tr>
<tr>
<td>396</td>
<td>Probability III</td>
</tr>
<tr>
<td>402</td>
<td>Introduction to Modern Algebra (Rings)</td>
</tr>
<tr>
<td>403</td>
<td>Introduction to Modern Algebra (Groups)</td>
</tr>
<tr>
<td>404</td>
<td>Introduction to Modern Algebra (Fields)</td>
</tr>
<tr>
<td>407</td>
<td>Linear Optimization</td>
</tr>
<tr>
<td>408</td>
<td>Nonlinear Optimization</td>
</tr>
<tr>
<td>409</td>
<td>Discrete Optimization</td>
</tr>
<tr>
<td>411</td>
<td>Introduction to Modern Algebra for Teachers</td>
</tr>
<tr>
<td>412</td>
<td>Introduction to Modern Algebra for Teachers</td>
</tr>
<tr>
<td>424</td>
<td>Fundamental Concepts of Analysis</td>
</tr>
<tr>
<td>425</td>
<td>Fundamental Concepts of Analysis</td>
</tr>
<tr>
<td>426</td>
<td>Fundamental Concepts of Analysis</td>
</tr>
<tr>
<td>427</td>
<td>Complex Analysis</td>
</tr>
<tr>
<td>428</td>
<td>Complex Analysis</td>
</tr>
<tr>
<td>441</td>
<td>Topology</td>
</tr>
<tr>
<td>442</td>
<td>Differential Geometry</td>
</tr>
<tr>
<td>443</td>
<td>Topics in Topology and Geometry</td>
</tr>
<tr>
<td>444</td>
<td>Geometry for Teachers</td>
</tr>
<tr>
<td>445</td>
<td>Geometry for Teachers</td>
</tr>
<tr>
<td>461</td>
<td>Combinatorial Theory</td>
</tr>
<tr>
<td>462</td>
<td>Combinatorial Theory</td>
</tr>
<tr>
<td>464/465</td>
<td>Numerical Analysis I and II</td>
</tr>
<tr>
<td>480</td>
<td>Advanced Topics in Undergraduate Mathematics</td>
</tr>
<tr>
<td>491</td>
<td>Introduction to Stochastic Processes</td>
</tr>
<tr>
<td>492*</td>
<td>*STAT 498 replaces MATH 492, course title Advanced Stochastic Process</td>
</tr>
</tbody>
</table>
Schedule of 400-Level Courses, 2018-2019

All courses meet Monday, Wednesday, and Friday unless otherwise noted. (Course offerings, instructor names, and times are subject to change.)

<table>
<thead>
<tr>
<th>TITLE</th>
<th>AUTUMN</th>
<th>WINTER</th>
<th>SPRING</th>
</tr>
</thead>
<tbody>
<tr>
<td>402/3/4 Introduction to Modern Algebra</td>
<td>402 (Rings) A: 8:30 Smith, P B: 9:30 Naehrig</td>
<td>403 (Groups) A: 8:30 Greenberg</td>
<td>404 (Fields) A: 8:30 Collingwood</td>
</tr>
<tr>
<td>411/12 Intro to Modern Algebra for Teachers</td>
<td>411 A: 8:30 Collingwood</td>
<td>412 A: 8:30 Collingwood</td>
<td></td>
</tr>
<tr>
<td>427/8 Complex Analysis</td>
<td>427 A: 11:30 Alper</td>
<td>428 A: 11:30 H. Smith</td>
<td></td>
</tr>
<tr>
<td>441/2/3 Topology and Geometry</td>
<td>441 A: 12:30 Arms</td>
<td>442 A: 12:30 Devinatz</td>
<td>443 A: 12:30 Beardsley</td>
</tr>
<tr>
<td>444/5 Geometry for Teachers</td>
<td>444 A: 12:30 Athreya</td>
<td>445 A: 12:30 Athreya</td>
<td></td>
</tr>
<tr>
<td>461/2 Combinatorial Theory</td>
<td>461 A: 1:30 Dumitriu</td>
<td>462 A: 1:30 Dumitriu</td>
<td></td>
</tr>
<tr>
<td>464/465 Numerical Analysis</td>
<td>464 A: 2:30 Morrow</td>
<td>465 A: 2:30 Bube</td>
<td></td>
</tr>
<tr>
<td>480 Advanced Special Topics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>491/492* Stochastic Processes</td>
<td>491 A: 11:30 Statistics</td>
<td>492* STAT 498 replaces MATH 492</td>
<td></td>
</tr>
</tbody>
</table>

*492 will not be taught. STAT 498 replaces MATH 492.

Schedule of 500/600-level courses, 2018-2019
All courses meet Monday, Wednesday, and Friday unless otherwise noted. (Course offerings, instructor names, and times are subject to change.)

<table>
<thead>
<tr>
<th>TITLE</th>
<th>AUTUMN</th>
<th>WINTER</th>
<th>SPRING</th>
</tr>
</thead>
<tbody>
<tr>
<td>504/5/6 Modern Algebra</td>
<td>504 A: 9:30 Pevtsova</td>
<td>505 A: 9:30 Pevtsova</td>
<td>506 A: 9:30 Pevtsova</td>
</tr>
<tr>
<td>514/5/6 Optimization</td>
<td>514 A: M/W 9:00-12:20 Thomas</td>
<td>515 A: M/W 9:00-10:20 Amath/Aravkin</td>
<td>516 Convex Analysis and Optimization A: 1:30 Drusvyatskiy</td>
</tr>
<tr>
<td>521/2/3 Advanced Probability</td>
<td>521 A: 11:30 Burdzy</td>
<td>522 A: 11:30 Burdzy</td>
<td>523 A: 11:30 Burdzy</td>
</tr>
<tr>
<td>524/5/6 Real Analysis</td>
<td>524 A: 11:30 Bube</td>
<td>525 A: 11:30 Bube</td>
<td>526 A: 11:30 Bube</td>
</tr>
<tr>
<td>544/5/6 Top &amp; Geometry of Manifolds</td>
<td>544 A: 1:30 Devinatz</td>
<td>545 A: 1:30 Devinatz</td>
<td>546 A: 1:30 Devinatz</td>
</tr>
<tr>
<td>557/8 Introduction to Partial Differential Equations</td>
<td>557 A: 12:00 Uhlmann</td>
<td>558 A: 12:30 H. Smith</td>
<td></td>
</tr>
<tr>
<td>581/2/3 Special Topics in Mathematics</td>
<td>581 A: M/W 9:00-10:20 Toro: Topics in Geometric Analysis I</td>
<td>582 B: 10:30 Greenberg: Topics in Number Theory</td>
<td>583 A: MW 9:00-10:20 Becker-Kahn: Topics in Geometric Analysis II</td>
</tr>
<tr>
<td></td>
<td>C: 11:30 Marshall: Geometric Function Theory</td>
<td>C: 11:30 Rohde: Quasiconformal geometry</td>
<td>D: 12:30 Billey: Combinatorics of Matrix Varieties</td>
</tr>
<tr>
<td></td>
<td>E: M/W 2:30-4:00 Uhlmann: Microlocal Analysis and Integral Geometry</td>
<td>E: M/W 2:30-4:00 Uhlmann: Microlocal Analysis and Integral Geometry</td>
<td>F: 2:30 Zhang: Cohomology theories, triangulated categories and applications</td>
</tr>
<tr>
<td></td>
<td>H: 2:30 Zhang: Hopf Algebras</td>
<td></td>
<td></td>
</tr>
<tr>
<td>600</td>
<td>600 C: 10:30 Paternain/Uhlmann Geometric Inverse Problems</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>