Mathematics (PhD): Interdisciplinary Mathematics Concentration

Degree Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Required Courses</strong></td>
<td>9</td>
<td></td>
</tr>
<tr>
<td></td>
<td>See &quot;Required Courses by Category&quot; listed below</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Additional Courses</strong></td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>&quot;Additional Courses&quot; are approved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>in conjunction with the academic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>committee to meet 72 total hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td>72</td>
<td></td>
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</tbody>
</table>

1. At least 30 credit hours of MA coursework must be at the graded 500- and 700-level.
2. At least two courses should be from another discipline. One of these courses may be cross-listed with MA.

Required Coursework by Category

Select one course from each of the following categories:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Continuous Mathematics</strong></td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>MA 513</td>
<td>Introduction To Complex Variables</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MA 515</td>
<td>Analysis I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MA 531</td>
<td>Dynamic Systems and Multivariable Control I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MA 532</td>
<td>Ordinary Differential Equations I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MA 534</td>
<td>Introduction To Partial Differential Equations</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MA 546</td>
<td>Probability and Stochastic Processes I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MA 551</td>
<td>Introduction to Topology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MA 555</td>
<td>Introduction to Manifold Theory</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Discrete Mathematics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA 505</td>
<td>Linear Programming</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MA 520</td>
<td>Linear Algebra</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Faculty

**Full Professors**

Bojko Nentchev Bakalov
Alina Emil Chertock
Moody Ten-Chao Chu
Jo-Ann D. Cohen
Patrick Louis Combettes
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Mansoor Abbas Haider
Hoon Hong
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Kazufumi Ito
Naihuan Jing
Erich L. Kaltofen
Carl Timothy Kelley
Arkady Kheyfets
Irina Aleksandrovna Kogan
Zhilin Li
Xiao-Biao Lin
Alun L. Lloyd
Sharon R. Lubkin
Negash G. Medhin
Kailash Chandra Misra
Mette Olufsen
Tao Pang
Nathan P. Reading
Jesus Rodríguez
Michael Shearer
Jack William Silverstein
Ralph Conover Smith
Ernest Lester Stitzinger
Seth M. Sullivant
Agnes Szanto
Hien Trong Tran
Semyon Victor Tsynkov
Dmitry Valerievich Zenkov

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P. Ivanisvili
C. Jones
Yerkin Kitapbayev
Tye Lidman
P. McGrath
Ryan William Murray
Tien Khai Nguyen

A. Papanicolaou
T. Saksala
Radmila Sazdanovic

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L. Castle
Alina Nicoleta Duca
Molly A. Fenn
Bevin Laurel Maultsby
S. Paul
Brenda B. Williams

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Stephen LaVern Campbell
Richard E. Chandler
H. Charlton
Ethelbert N. Chukwu
Lung-ock Chung
Joseph C. Dunn
Gary Doyle Faulkner
John E. Franke
Ronald O. Fulp
Dennis E. Garoutte
Robert E. Hartwig
Aloysius G. Helminck
Robert H. Martin Jr.
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Joe A. Marlin
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Lavon Barry Page
E. Peterson
Mohan Sastri Putcha
N. Rose
Stephen Schecter
Jeffrey Scott Scroggs
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R. White

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J. Ottesen