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>Required Courses</td>
<td>9</td>
<td></td>
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<tr>
<td></td>
<td>See &quot;Required Courses by Category&quot; listed below</td>
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<tr>
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<td>Additional Courses 1, 2</td>
<td>63</td>
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<td>&quot;Additional Courses&quot; are approved in conjunction with the academic committee to meet 72 total hours</td>
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<td>Total Hours</td>
<td>72</td>
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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:

**Continuous Mathematics**
- MA 513 Introduction to Complex Variables 3
- MA 515 Analysis I 3
- MA 531 Dynamic Systems and Multivariable Control I 3
- MA 532 Ordinary Differential Equations I 3
- MA 534 Introduction to Partial Differential Equations 3
- MA 546 Probability and Stochastic Processes I 3
- MA 551 Introduction to Topology 3
- MA 555 Introduction to Manifold Theory 3

**Discrete Mathematics**
- MA 505 Linear Programming 3
- MA 520 Linear Algebra 3

**Computational Mathematics**
- MA 522 Computer Algebra 3
- MA 540 Uncertainty Quantification for Physical and Biological Models 3
- MA 565 Graph Theory 3
- MA 573 Mathematical Modeling of Physical and Biological Processes I 3
- MA 580 3

Faculty

**Full Professors**
- Bojko Nentchev Bakalov
- Alina Emil Chertock
- Moody Ten-Chao Chu
- Jo-Ann D. Cohen
- Patrick Louis Combettes
- Pierre Alain Gremaud
- Mansoor Abbas Haider
- Hoon Hong
- Ilse Ipsen
- 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 Rodriguez
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

Ryan William Murray
Tien Khai Nguyen
A. Papanicolaou
T. Saksala
Radmila Sazdanovic

**Practice/Research/Teaching Professors**

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

**Emeritus Faculty**

John William Bishir
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.
Thomas J. Lada
Joe A. Marlin
Carl Meyer Jr.
Larry Keith Norris
Sandra Paur
Lavon Barry Page
E. Peterson
Mohan Sastry Putcha
N. Rose
Stephen Schecter
Jeffrey Scott Scroggs
James Francis Selgrade
C. Siewert
Robert Silber
Michael F. Singer
R. White

Adjunct Faculty
Scott Christopher Batson
Jonathan David Hauenstein
Patricia L. Hersh
John Lavery
Sarah Katherine Mason
Jordan E. Massad
Jessica Loock Matthews
J. Ottesen