Mathematics (MS)

Master of Science Degree Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Required Courses</strong></td>
<td>9</td>
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<tr>
<td></td>
<td>Select one course from each of the following categories:</td>
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<tr>
<td></td>
<td><strong>Continuous Mathematics</strong></td>
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</tr>
<tr>
<td>MA 513</td>
<td>Introduction to Complex Variables</td>
<td></td>
</tr>
<tr>
<td>MA 515</td>
<td>Analysis I</td>
<td></td>
</tr>
<tr>
<td>MA 531</td>
<td>Dynamic Systems and Multivariable Control I</td>
<td></td>
</tr>
<tr>
<td>MA 532</td>
<td>Ordinary Differential Equations I</td>
<td></td>
</tr>
<tr>
<td>MA 534</td>
<td>Introduction to Partial Differential Equations</td>
<td></td>
</tr>
<tr>
<td>MA 546</td>
<td>Probability and Stochastic Processes I</td>
<td></td>
</tr>
<tr>
<td>MA 551</td>
<td>Introduction to Topology</td>
<td></td>
</tr>
<tr>
<td>MA 555</td>
<td>Introduction to Manifold Theory</td>
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<tr>
<td></td>
<td><strong>Discrete Mathematics</strong></td>
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</tr>
<tr>
<td>MA 505</td>
<td>Linear Programming</td>
<td></td>
</tr>
<tr>
<td>MA 520</td>
<td>Linear Algebra</td>
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<tr>
<td>MA 521</td>
<td>Abstract Algebra I</td>
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<tr>
<td>MA 523</td>
<td>Linear Transformations and Matrix Theory</td>
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<tr>
<td>MA 524</td>
<td>Combinatorics I</td>
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<td>MA 526</td>
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</tr>
<tr>
<td></td>
<td><strong>Computational Mathematics</strong></td>
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<tr>
<td>MA 522</td>
<td>Computer Algebra</td>
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</tr>
<tr>
<td>MA 540</td>
<td>Uncertainty Quantification for Physical and Biological Models</td>
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<tr>
<td>MA 565</td>
<td>Graph Theory</td>
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<tr>
<td>MA 573</td>
<td>Mathematical Modeling of Physical and Biological Processes I</td>
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<tr>
<td>MA 580</td>
<td>Numerical Analysis I</td>
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<td></td>
<td><strong>In Depth Requirement Courses</strong></td>
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<td>Select two course sequences, or one group of three thematically linked courses, approved in conjunction with the academic committee</td>
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<tr>
<td></td>
<td><strong>Additional Courses</strong></td>
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<tr>
<td></td>
<td>&quot;Additional Courses&quot; are approved in conjunction with the academic committee to meet 30 total hours</td>
<td></td>
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<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td>30</td>
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Accelerated Bachelor’s/Master’s Degree Requirements

The Accelerated Bachelors/Master’s (ABM) degree program allows exceptional undergraduate students at NC State an opportunity to complete the requirements for both the Bachelor’s and Master’s degrees at an accelerated pace. These undergraduate students may double count up to 12 credits and obtain a non-thesis Master’s degree in the same field within 12 months of completing the Bachelor’s degree, or obtain a thesis-based Master’s degree in the same field within 18 months of completing the Bachelor’s degree.

This degree program also provides an opportunity for the Directors of Graduate Programs (DGPs) at NC State to recruit rising juniors in their major to their graduate programs. However, permission to pursue an ABM degree program does not guarantee admission to the Graduate School. Admission is contingent on meeting eligibility requirements at the time of entering the graduate program.

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

**Associate Professors**
Lorena Viorica Bociu
Min Jeong Kang
Ricky Ini Liu
Arvind Krishna Saibaba
David Papp
Cynthia Leslie Vinzant

**Assistant Professors**
Alen Alexanderian
Mohammad Mehdi Farazmand
Kevin Bryant Flores
P. Ivanisvili
C. Jones
Yerkin Kitapbayev
Tye Lidman
P. McGrath
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 Sasri 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
Jordan E. Massad