Computer Science (MS)

Master of Science Degree Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select a minimum of one course per category under “Core Courses” listed below</td>
<td></td>
</tr>
<tr>
<td>Required Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSC 600</td>
<td>Computer Science Graduate Orientation</td>
<td></td>
</tr>
<tr>
<td>CSC 695</td>
<td>Master's Thesis Research</td>
<td></td>
</tr>
<tr>
<td>Elective Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minor Courses, CSC Graduate Electives or Restricted Electives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Minor Courses, CSC Graduate Electives or Restricted Electives&quot; will be approved in conjunction with the academic committee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Hours</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>

Core Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Select minimum of two courses, one from each category</td>
<td>6</td>
</tr>
<tr>
<td>Theory Category</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSC 503</td>
<td>Computational Applied Logic</td>
<td>3</td>
</tr>
<tr>
<td>CSC 505</td>
<td>Design and Analysis Of Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>CSC 512</td>
<td>Compiler Construction</td>
<td>3</td>
</tr>
<tr>
<td>CSC 514</td>
<td>Foundations of Cryptography</td>
<td>3</td>
</tr>
<tr>
<td>CSC 565</td>
<td>Graph Theory</td>
<td>3</td>
</tr>
<tr>
<td>CSC 579</td>
<td>Introduction to Computer Performance Modeling</td>
<td>3</td>
</tr>
<tr>
<td>CSC 580</td>
<td>Numerical Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>Systems Category</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSC 501</td>
<td>Operating Systems Principles</td>
<td>3</td>
</tr>
<tr>
<td>CSC 506</td>
<td>Architecture Of Parallel Computers</td>
<td>3</td>
</tr>
<tr>
<td>CSC 510</td>
<td>Software Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CSC 520</td>
<td>Artificial Intelligence I</td>
<td>3</td>
</tr>
<tr>
<td>or CSC 720</td>
<td>Artificial Intelligence II</td>
<td></td>
</tr>
<tr>
<td>CSC 540</td>
<td>Database Management concepts and Systems</td>
<td>3</td>
</tr>
<tr>
<td>CSC 561</td>
<td>Principles of Computer Graphics</td>
<td>3</td>
</tr>
<tr>
<td>CSC 570</td>
<td>Computer Networks</td>
<td>3</td>
</tr>
<tr>
<td>or CSC 573</td>
<td>Internet Protocols</td>
<td></td>
</tr>
<tr>
<td>CSC 574</td>
<td>Computer and Network Security</td>
<td>3</td>
</tr>
</tbody>
</table>

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

Tiffany M. Barnes
Donald L. Bitzer
Rada Yuryevna Chirkova
Jon Doyle
Rudra Dutta
Edward F. Gehringer
Xiaohui Gu
Christopher Graham Healey
James C. Lester II
Timothy James Menzies
Rainer Frank Mueller
Harilaos George Perros
Michael A. Rappa
Douglas S. Reeves
Gregg Evan Rothermel
Georgios N. Rouskas
Nagiza Faridovna Samatova
Carla Diane Savage
Xipeng Shen
Munindar P. Singh
Matthias F. M. Stallmann
Mladen Alan Vouk
Laurie A. Williams

Associate Professors

Dennis R. Bahler
Min Chi
William H. Enck
Vincent W. Freeh
Khaled Abdel Hamid Harfoush

Faculty

Full Professors

Tiffany M. Barnes
Donald L. Bitzer
Rada Yuryevna Chirkova
Jon Doyle
Rudra Dutta
Edward F. Gehringer
Xiaohui Gu
Christopher Graham Healey
James C. Lester II
Timothy James Menzies
Rainer Frank Mueller
Harilaos George Perros
Michael A. Rappa
Douglas S. Reeves
Gregg Evan Rothermel
Georgios N. Rouskas
Nagiza Faridovna Samatova
Carla Diane Savage
Xipeng Shen
Munindar P. Singh
Matthias F. M. Stallmann
Mladen Alan Vouk
Laurie A. Williams

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

Tiffany M. Barnes
Donald L. Bitzer
Rada Yuryevna Chirkova
Jon Doyle
Rudra Dutta
Edward F. Gehringer
Xiaohui Gu
Christopher Graham Healey
James C. Lester II
Timothy James Menzies
Rainer Frank Mueller
Harilaos George Perros
Michael A. Rappa
Douglas S. Reeves
Gregg Evan Rothermel
Georgios N. Rouskas
Nagiza Faridovna Samatova
Carla Diane Savage
Xipeng Shen
Munindar P. Singh
Matthias F. M. Stallmann
Mladen Alan Vouk
Laurie A. Williams

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

Tiffany M. Barnes
Donald L. Bitzer
Rada Yuryevna Chirkova
Jon Doyle
Rudra Dutta
Edward F. Gehringer
Xiaohui Gu
Christopher Graham Healey
James C. Lester II
Timothy James Menzies
Rainer Frank Mueller
Harilaos George Perros
Michael A. Rappa
Douglas S. Reeves
Gregg Evan Rothermel
Georgios N. Rouskas
Nagiza Faridovna Samatova
Carla Diane Savage
Xipeng Shen
Munindar P. Singh
Matthias F. M. Stallmann
Mladen Alan Vouk
Laurie A. Williams

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

Tiffany M. Barnes
Donald L. Bitzer
Rada Yuryevna Chirkova
Jon Doyle
Rudra Dutta
Edward F. Gehringer
Xiaohui Gu
Christopher Graham Healey
James C. Lester II
Timothy James Menzies
Rainer Frank Mueller
Harilaos George Perros
Michael A. Rappa
Douglas S. Reeves
Gregg Evan Rothermel
Georgios N. Rouskas
Nagiza Faridovna Samatova
Carla Diane Savage
Xipeng Shen
Munindar P. Singh
Matthias F. M. Stallmann
Mladen Alan Vouk
Laurie A. Williams

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

Tiffany M. Barnes
Donald L. Bitzer
Rada Yuryevna Chirkova
Jon Doyle
Rudra Dutta
Edward F. Gehringer
Xiaohui Gu
Christopher Graham Healey
James C. Lester II
Timothy James Menzies
Rainer Frank Mueller
Harilaos George Perros
Michael A. Rappa
Douglas S. Reeves
Gregg Evan Rothermel
Georgios N. Rouskas
Nagiza Faridovna Samatova
Carla Diane Savage
Xipeng Shen
Munindar P. Singh
Matthias F. M. Stallmann
Mladen Alan Vouk
Laurie A. Williams
Steffen Heber  
Arnav Harish Jhala  
Noboru Matsuda  
K. Anyanwu Ogan  
David L. Roberts  
Donald R. Sheehy  
Ranga Raju Vatsavai  
Benjamin Allen Watson  

**Assistant Professors**  
Anupam Das  
Guoliang Jin  
Alexandros Kapravelos  
Xu Liu  
Collin Francis Lynch  
Christopher Robin Martens  
John-Paul William Ore  
Christopher Joseph Parnin  
Thomason William Price  
Bradley Galloway Reaves  
Alessandra Scafuro  
Muhammad Shahzad  
Kathryn Thomasset Stolee  
Ruozhou Yu  

**Lecturers**  
Ketchiozo Thierry Wandji  

**Emeritus Faculty**  
Wu-show Chou  
Edward Willmore Davis Jr.  
Robert Joseph Fornaro  
Thomas Lynn Honeycutt  
David Franklin McAllister  
Woodrow Robbins  
William James Stewart  
Alan Lee Tharp  
David J. Thuente  

**Adjunct professor**  
Robert Loftin  

**Practice/Research/Teaching Professors**  
Bita Akram  
Suzanne M. Balik  
Tzvetelina Battestilli  
Ignacio Xavier Dominguez  
Patrick A. Dreher  
Sarah Smith Heckman  
Jamie Allison Jennings  
Shuyin Jiao  
Jason Tyler King  
Jessica Young Schmidt