Computer Science

Department Information

- **Department Chair:**
  Simone Ludwig, Ph.D.
- **Graduate Program Coordinator:**
  Changhui Yan, Ph.D.
- **Department Location:**
  258 QBB
- **Department Phone:**
  (701) 231-8562
- **Department Email:**
  gradinfo@cs.ndsu.edu
- **Department Web Site:**
  www.ndsu.edu/cs/ (http://www.ndsu.edu/cs/)
- **Application Deadline:**
  February 1 for fall semester; September 1 for spring semester**
- **Credential Offered:**
  Ph.D., M.S.
- **English Proficiency Requirements:**
  TOEFL ibt 79; IELTS 6.5

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 713</td>
<td>Software Development Processes</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 724</td>
<td>Survey of Artificial Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 741</td>
<td>Algorithm Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 765</td>
<td>Introduction To Database Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

**Thesis Option (Plan A)**

Additional 600-800 level Computer Science courses selected in consultation with your advisor.

- CSCI 790 | Graduate Seminar                     | 2       |
- CSCI 798 | Master's Thesis                      | 6-10    |

Total Credits 32

**Comprehensive Study Option (Plan B)**

Additional 600-800 level Computer Science courses selected in consultation with your advisor.

- CSCI 790 | Graduate Seminar                     | 2       |
- CSCI 797 | Master's Paper                       | 2-4     |

Total Credits 32

**Culminating Experience-Based Option (Plan C)**

Additional 600-800 level Computer Science courses selected in consultation with your advisor.

Total Credits 24

- Research advisor should be selected by the end of the second semester at NDSU.
- Additional 600-800 level Computer Science courses selected in consultation with your advisor
  - maximum of two courses (6 credits) at the 600 level
  - Field Experience/Practicum credits do not count.
- All course work must be approved by the student’s advisor, supervisory committee, and graduate coordinator through the Plan of Study.
- A Plan of Study listing coursework and examination committee members should be completed by the end of the second semester at NDSU.
- A maximum of 9 credits may be transferred into the program.
• There may be a maximum of 3 credits of independent study.
• Successful completion of the final oral examination on the student’s research for Plan A and B.

### Bachelor's to Doctor of Philosophy

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 713</td>
<td>Software Development Processes</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 724</td>
<td>Survey of Artificial Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 741</td>
<td>Algorithm Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 765</td>
<td>Introduction To Database Systems</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 790</td>
<td>Graduate Seminar</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional courses selected in consultation with your adviser. 24-39

CSCI 899 | Doctoral Dissertation                      | 36-51   |

Total Credits 90

### Master's to Doctor of Philosophy

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 713</td>
<td>Software Development Processes</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 724</td>
<td>Survey of Artificial Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 741</td>
<td>Algorithm Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 765</td>
<td>Introduction To Database Systems</td>
<td>3</td>
</tr>
<tr>
<td>CSCI 790</td>
<td>Graduate Seminar</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional courses selected in consultation with your adviser. 9-15

CSCI 899 | Doctoral Dissertation                      | 30-36   |

Total Credits 60

• Research advisor should be selected by the second semester at NDSU.
• A minimum of 15 didactic credits numbered 700-789 or 800-898,
  - at least 9 are not included in the Computer Science core courses listed above
  - none of these can be individual study course credits.
• A maximum of two courses (6 credits) at the 600 level; Field Experience/Practicum credits do not count.
• Students who took core courses as part of their M.S. studies at NDSU should discuss replacement courses with the advisor and the Graduate program coordinator.
• All course work must be approved by the student's advisor, supervisory committee, and graduate coordinator through the plan of study.
• A Plan of Study listing coursework and supervisory committee members should be completed by the end of the second semester at NDSU.
• 30-51 credit hours of research – The Ph.D. requires a research contribution to be made under the supervision of one of the Computer Science department's graduate faculty members.
• Students who applied the listed core courses towards a M.S. degree obtained from NDSU can take up to 42 research credits.
• Satisfactory completion of the comprehensive examination at the Ph.D. level (written exam based on the core courses).
• Research proposal presentation and preliminary oral examination (Qualifying Exam) should be completed by the fourth semester at NDSU after passing the comprehensive exam.
• Successful completion of the final defense of the dissertation.

Some additional information regarding the course work:

• A student holding a Master of Science degree from an educational institution of recognized standing may use:
  • 30 credits previously completed toward the 90 total credits required for the doctoral degree if the M.S. degree is in Computer Science OR
  • Up to 9 credits previously earned graduate level courses with a grade of B or better may be used toward the 90 total credits for the doctoral degree if the M.S. degree is not in Computer Science.
  • The 90 credits (including any credits transferred) must be computing-related with at least 39 credits involving significant graduate level computer science material, which are offered by a computer science department.
• The 90 credits may include a maximum of 6 credits of non-didactic courses (independent studies or seminars). Seminars are limited to 3 of those credits.