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 priority deadline for fall semester; September 1 for spring semester**
- **Credential Offered:**
  Ph.D., M.S.
- **English Proficiency Requirements:**
  TOEFL ibt 79; IELTS 6.5; Duolingo 105

Code	Title	Credits
Master of Science in Computer Science Degree Requirements		
Core courses (required of all students):		
CSCI 713	Software Development Processes	3
CSCI 724	Survey of Artificial Intelligence	3
CSCI 741	Algorithm Analysis	3
CSCI 765	Introduction To Database Systems	3
Additional 600-800 level Computer Science courses selected in consultation with your adviser.		
Thesis Option (Plan A)		**32**
Additional graduate coursework		8-12
CSCI 790	Graduate Seminar	2
CSCI 798	Master's Thesis	6-10
Comprehensive Study Option (Plan B)		**32**
Additional Graduate Coursework		14-16
CSCI 790	Graduate Seminar	2
CSCI 797	Master's Paper	2-4
Culminating Experience-Based Option (Plan C)		**36**
Additional Graduate Coursework		24

Additional requirements for the Master of Science in computer science program:

- 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.

Code	Title	Credits
Bachelor's to Doctor of Philosophy in Computer Science degree requirements		**90**
Core Courses: (or their equivalent in transfer or examination credits)		15
CSCI 713	Software Development Processes	
CSCI 724	Survey of Artificial Intelligence	
CSCI 741	Algorithm Analysis	
CSCI 765	Introduction To Database Systems	
CSCI 790	Graduate Seminar	
8-13 additional courses selected in consultation with your adviser.		24-39
CSCI 899	Doctoral Dissertation	36-51

Code	Title	Credits
Master's to Doctor of Philosophy in Computer Science degree requirements		**60**
Core Courses: (or their equivalent in transfer or examination credits)		15
CSCI 713	Software Development Processes	
CSCI 724	Survey of Artificial Intelligence	
CSCI 741	Algorithm Analysis	
CSCI 765	Introduction To Database Systems	
CSCI 790	Graduate Seminar	
3-5 additional courses selected in consultation with your adviser.		9-15
CSCI 899	Doctoral Dissertation	30-36

Code	Title	Credits
Doctor of Philosophy + Master of Science in Computer Science degree requirements		**90**
Core Courses: (or their equivalent in transfer or examination credits)		15
CSCI 713	Software Development Processes	
CSCI 724	Survey of Artificial Intelligence	
CSCI 741	Algorithm Analysis	
CSCI 765	Introduction To Database Systems	
CSCI 790	Graduate Seminar	
8-13 additional courses selected in consultation with your adviser.		24-39
CSCI 899	Doctoral Dissertation	36-51

Additional requirements for the Bachelor's to Doctor of Philosophy and Master's to Doctor of Philosophy options:

- 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.

Additional requirements for the Doctor of Philosophy + Master of Science option: ***Pending Faculty Senate Approval****

- Ph.D. students in this option will earn a Master of Science degree after they pass the preliminary oral examination (Qualifying Exam).
- Students will need to submit a Ph.D. Plan of Study indicating "Ph.D. + Master's" as the degree.
- Before a student can apply to take the preliminary oral examination (Qualifying Exam), they must have

    1. passed the comprehensive exam.
    2. completed 30 credits, of which 21 credits need to be didactic credits at the graduate level at NDSU.
    3. submitted a paper as first author to a high-quality journal or conference on a topic related to their Ph.D. dissertation.

- After students have passed the preliminary examination, they must complete the Graduate School Graduation Application (https://powerforms.docusign.net/71b00c0e-af21-4473-bb23-cdbd85983676/?env=na3&acct=1ceb9a57-b6a3-4df7-b655-d64cf8f1c2d7&accountId=1ceb9a57-b6a3-4df7-b655-d64cf8f1c2d7) in order for their M.S. degree to be posted to their academic record.
- Students will be eligible to participate in commencement of their M.S. degree the term they pass the preliminary oral examination (Qualifying Exam).

- 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.
- 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.
- Satisfactory completion of the comprehensive examination at the Ph.D. level (written exam based on the core courses).