



UNIVERSITY OF
ARKANSAS.

COLLEGE OF
ENGINEERING

20192020

Computer Science &
Computer Engineering

Graduate
Hand
Book

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The purpose of this document is to summarize the requirements for the Computer Science and Computer Engineering graduate programs. This document supplements the Graduate School Catalog. The CSCE department has requirements beyond the Graduate School's requirements.

The CSCE department offers two Masters of Science graduate programs and two Ph.D. graduate programs:

- Master of Science in Computer Science
- Master of Science in Computer Engineering
- Ph.D. in Engineering with major area of study in Computer Science
- Ph.D. in Engineering with major area of study in Computer Engineering

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Additional information can be found at:

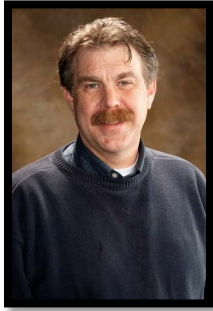
CSCE Department <http://computer-science-and-computer-engineering.uark.edu>

Graduate School <http://graduate-and-international.uark.edu>

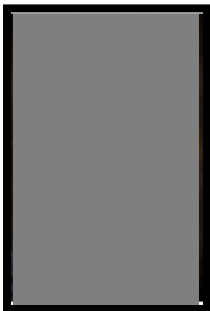
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CSCE FACULTY

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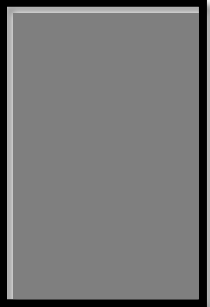
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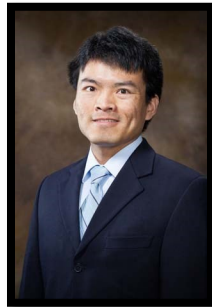
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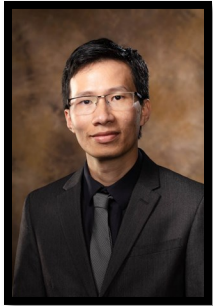
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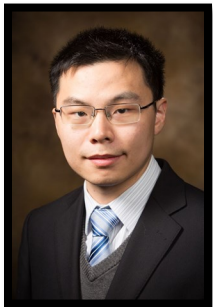
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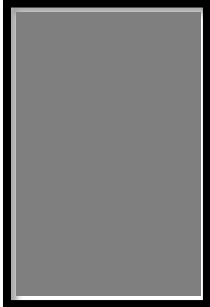
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ADMISSION REQUIREMENTS

To be considered for admission to a graduate program in the CSCE department, applicants must comply with all requirements of the Graduate School and the following CSCE requirements:

- Have a GPA of 3.0 or better on previous academic work;
- Have satisfactory GRE (Graduate Record Examination) scores;
 - minimum required: verbal 146, quantitative 157, and analytical writing 3.5;
- Foreign applicants must also have either:
 - TOEFL (Test of English as a Foreign Language) minimum score 79, or
 - IELTS (International English Language Testing System) score of 6.5

The application is submitted to the Graduate School and must include transcripts, three letters of recommendation, a Statement of Purpose, a Resume, and a Writing Sample (Publication or Report.)

Transfer of Credit

A Master of Science student may transfer a maximum of six credit hours from another recognized graduate school within the United States, provided the grade received was B or better, and the student's faculty advisor provides written consent to the Graduate Coordinator. Transfer of credit from an institution outside of the U.S. is not permitted. No work may be transferred for the Ph.D.

Registration

Graduate students are encouraged to register during priority registration. Late registration may affect tuition waivers and employment processing for graduate students on assistantships. A student who is not enrolled for either a spring or fall term must apply for readmission to the program. MS students who defend in the summer and who were also enrolled in the previous spring semester will not have to register for the summer term if all coursework and thesis hours have been completed. Ph.D. students must be continuously enrolled (fall and spring) after having attained candidacy unless they are graduating during a summer term. If so, they must be enrolled during that summer term.

Absence from the University does not change the time limits set for completing degree requirements. MS students must complete their degrees within six years from the start of their first class(es) which will count toward their degrees. Ph.D. students must complete their degrees within seven years post entering the program.

FELLOWSHIPS and ASSISTANTSHIPS

There are many funding opportunities for students within our graduate degree programs. The department may nominate outstanding applicants entering a Ph.D. program with a Bachelor of Science degree for a Distinguished Academy Fellowship (DAF), or a Distinguished Doctoral Fellowship (DDF) if they have sufficiently high scores on the GRE and a very high GPA. Consult the Graduate School webpage for current requirements.

All nominations for DAF and DDF awards must be delivered to the Graduate School by February 1st. Prospects for these fellowships should complete their graduate applications for admission by December 15th.

Graduate Teaching Assistantships (TAs) and Graduate Research Assistantships (RAs) are the two types of assistantships available. In addition to a tuition waiver for degree-related courses, recipients of either a TA or GA position receive a monthly stipend. Stipends for Ph.D. students are \$1720 per month, and those for MS students are \$1355 per month.

The U of A will pay a portion of student health insurance to all 50% appointed Graduate Assistants/Teaching Assistants. Please see the link below for current rates:

Student Health Insurance Fringe Benefit (<https://health.uark.edu/billing-insurance/insurance.php>)

U of A Student Health Insurance General Information

(https://health.uark.edu/resources/documents/student_insurance/uark-student-insurance-information-2018-2018.pdf)

The CSCE Department currently has approximately a dozen teaching assistantships to offer to qualified students who have a GPA of 3.25 or higher. Placement in these positions is very competitive with preference given to Ph.D. students and M.S. students with prior experience. Foreign students must pass a test of spoken English before being considered for these positions. Students wishing to be considered for a TA position should submit their assistantship applications by January 15th. Late applications for TA positions will be considered as the need arises. The application can be found on the Graduate School website at <http://grad.uark.edu>.

The faculty members who have funds available determine RA positions. Applications for an RA are considered when funds become available. Other assistantship opportunities are available on campus. Interested students should refer to the University of Arkansas Human Resources website at <http://hr.uark.edu>.

DEGREE REQUIREMENTS

The Master of Science (MS) Thesis option:

- A minimum of 24 semester hours of graduate coursework of which at least 15 hours must be CSCE lecture courses numbered 5000 level or above. The remaining 9 hours may include no more than 6 hours of transfer work, 3 hours of individual study, or 6 hours from outside the department;
- A GPA of at least 3.0 on all graduate courses attempted;
- A minimum of 6 hours of CSCE 610V – Master’s Thesis; and
- An oral defense of the thesis.

The Master of Science (MS) Non-Thesis option:

- A minimum of 33 hours of graduate coursework of which at least 21 hours must be CSCE lecture courses numbered 5000 or above. The remaining 12 hours may include no more than 6 hours of transfer work, 3 hours of individual study, or 6 hours from outside the department;
- A GPA of at least 3.0 on all graduate courses attempted; and
- A comprehensive oral examination over the coursework taken.

Doctor of Philosophy (Ph.D.):

- A minimum of 72 hours of graduate-level credit beyond the bachelor’s degree, including a minimum of 42 hours of coursework and a minimum of 30 hours of dissertation;
- All coursework must be at the 5000 level or above;
- A maximum of 9 hours total may be from the following list: outside of the CSCE department (with consent of the student’s Advisory Committee), CSCE 590V, Individual Studies, and CSCE 620V, Post-Masters Research;
- A minimum cumulative grade-point average of 3.0 on all graduate courses attempted;
- The qualifying examinations must be passed;
- A proposal for a dissertation must be defended; and
- A dissertation on a topic in the student’s major field of study must be completed and defended.

With the approval of the CSCE Graduate Studies Committee, students entering a Ph.D. program with a recognized Master's degree may be given credit for up to 30 hours that may include 6 hours of credit towards the dissertation if a thesis was completed.

Some students may find that they need to exceed the limitations on courses listed above. These students, together with their advisory committees, should submit a plan of study to the Graduate Studies Committee for a variance to the limitation. This plan of study should explain the need for these courses, as well as, how they will contribute to the student's progress toward the Ph.D.

Standards

All students must maintain a 3.0 GPA or higher, with no more than one "C" grade. The second "C" grade or a single "D" or a single "F" grade will result in dismissal from the program.

PLANNING A GRADUATE PROGRAM

Selection of a Major Professor

A member of the active graduate faculty within the department will serve as the major professor for directing a student's program of study, and should be chosen by the student prior to the second semester of enrollment. This selection is based primarily on common interests shared between the student and the faculty member. As the student's academic advisor, the major professor will assist the student in choosing the remaining members of his/her committee.

Selection of the Advisory Committee

The student's major professor will serve as chairperson of the committee. Committee members are selected from university faculty whose educational and research interests are best suited to guide the student. M.S. Committee members must be selected from graduate faculty within the CSCE department. The Graduate School requires a minimum of three members. Ph.D. committees must consist of a minimum of three members within the CSCE department, and one member outside of the CSCE department. The student is responsible for submitting the committee form to the CSCE office prior to the second semester of enrollment.

Exams and Defenses

Master's Students

All master's students are granted two attempts to pass a comprehensive exam or thesis defense. The following must be met before the first attempt:

- Completed 24 hours for the coursework option or 21 hours for the thesis option. All hours must be applicable toward the degree.
- A cumulative grade-point average for all graduate-level courses of 3.0 or above.
- Deficiencies assigned upon admission must be satisfied.
- Deficiencies assigned by the student's committee must be satisfied.

Coursework Option

Students who have chosen the coursework option will complete a comprehensive exam. This is an oral exam covering all coursework required for the degree.

Thesis Option

Students who have chosen the thesis option will present the Master's Thesis to their committee during the last semester of study. The student will be judged by how well he/she performs on the written and oral tests, the quality of his/her Master's Thesis, the presentation, and how well he/she responds to questions from the committee.

Doctoral Students

All doctoral students must pass or earn exempt status for applicable qualifying exams. They must also defend a dissertation proposal and a dissertation.

Qualifying Exams

All Ph.D. students admitted without a Master's degree, or with a Master's degree in an area other than Computer Science or Computer Engineering, must pass the qualifying exams by the end of the third year of study. Students admitted with a Master's degree in Computer Science or Computer Engineering must pass the exams by the end of the second year of study. Students who have earned A's at the University of Arkansas in any of the courses required for the qualifying exam will be exempt from those sections. Students who have earned an A in the corresponding graduate level course are also exempt from the qualifying exam. Students are permitted one attempt to attain an A in the undergraduate/graduate level course representing each section of the exam. The exams are given early on within the fall and spring semesters. The exam consists of four sections. Each section is two hours in length.

The Computer Science sections consist of Algorithms, Operating Systems, Formal Languages and Database Management.

The Computer Engineering sections consist of Operating Systems, Systems Synthesis, Embedded Systems and Computer Architecture.

Each qualifying exam is scored with a Pass or Fail in each of the four sections. If a student fails any section of the exam, he/she will have only one more chance to pass that section. A second fail will result in termination in the doctoral program. If a student signed up to take the exam but neither withdrew before the deadline nor appeared in the exam, he/she will be considered to have failed the exam.

Proposal Defense

The purpose of the proposal defense is to ensure that the student has adequate graduate academic training to undertake a meaningful research project. The student will defend the proposal to their advisory committee at least one year prior to graduation. The defense will be graded as Pass/Fail. Once the committee votes to pass the proposal, the student is admitted to candidacy status. He/she may then proceed to work toward completing the remaining requirements of the degree. The student must be enrolled within at least one hour of CSCE 700V during the spring and fall semesters until the degree is completed. Again, the student is not required to be enrolled during summer terms unless he/she plans to graduate during a summer term. If so, he/she will need to maintain enrollment within at least one CSCE 700V hour during that term.

Dissertation Defense

The dissertation defense is scheduled once the student has completed the dissertation to the satisfaction of the dissertation committee. The student must complete the Dissertation Defense Announcement on the Graduate School website at least two weeks prior to the date of defense. The student should consult the Graduate School for deadlines regarding submission of the dissertation.

Annual Review

Every graduate student is reviewed annually for progress toward his/her degree. This review will take place during the spring semester. At a minimum, the review covers (a) completed courses and grades; (b) whether the student is making satisfactory progress towards their thesis/dissertation/coursework requirements; and (c) whether the student has completed all required examinations. After the review, the Graduate Student Annual Review form will be signed by the student and the Graduate Coordinator. It will then be submitted to the Graduate School for inclusion into the student's file.

Graduation

A student must complete an application for graduation with the Registrar's Office, as well as, pay the appropriate fees before acquiring their degrees. The application is available in the Student Center of UA Connect, and should be submitted for the semester in which the student expects to complete all requirements for the degree. Additional information can be found on the [Registrar's Office](#) website.