Computer Science Department
College Of Engineering
University Of Missouri – Columbia

201 Engineering Building West
Columbia, MO 65211

Dr. Dong Xu
Department Chair

Dr. Yi Shang
Director of Graduate Studies

Jodie Lenser
Academic Advisor
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INTRODUCTION

This document is provided to help you better understand the graduate degree program procedures and requirements of the Computer Science Department at the University of Missouri--Columbia, as well as general department information which should be useful to you as a graduate student here. Included within is important information pertaining to university and department policies, financial and support services, and other vital information. **It is your responsibility to read and familiarize yourself with the material contained in this manual.**

Though every effort has been made to ensure up-to-date accuracy of the information contained within, many policies outside of this department are subject to change without notice. This document should be considered a constant work in progress, and is to be regarded as an informational resource only.

If you believe this document contains any errors or inaccuracies, please notify CS department support staff.

*Information contained in this manual should be considered supplementary to existing University policies, and is subject to supersession at any time by any and all applicable rules, regulations, and policies outlined by the University System, MU Graduate School, College of Engineering, Computer Science Department, and other campus departments where/when applicable.*

DEPARTMENT DIRECTORY

**Administration**

**Dr. Dong Xu**  
Department Chair / Professor  
201 EBW  
xudong@missouri.edu  
(573) 882-2299

**Dr. Yi Shang**  
Director of Graduate Studies / Professor  
125 EBW  
shangy@missouri.edu  
(573) 884-7794

**Adrianna Wheeler**  
Undergraduate Academic Advisor  
113 EBW  
wheeleral@missouri.edu  
(573) 884-6342

**Jodie Lenser**  
Graduate Academic Advisor  
244 EBW  
lenserj@missouri.edu  
(573) 882-7037

**Jeffrey Blumer**  
Administrative Associate I  
201 EBW  
blumerj@missouri.edu  
(573) 882-3843

**Sandra Moore**  
Administrative Assistant  
201 EBW  
mooresan@missouri.edu  
(573) 884-1887
Jessica Nation  
*Office Support Staff*  
201 EBW  
nation@missouri.edu.............................................................(573) 884-1887

Matthew Dickinson  
*Systems Administrator*  
123 EBN (North)  
dickinsonmg@missouri.edu.............................................................(573) 882-7930

Brian Pitts  
*Systems Administrator*  
126 EBW  
pittsb@missouri.edu.............................................................(573) 882-0546

**Faculty**

Dr. Prasad Calyam  
*Assistant Professor*  
221 EBW  
calyamp@missouri.edu.............................................................(573) 882-9747

Dr. Rohit Chadha  
*Assistant Professor*  
111 EBW  
chadhar@missouri.edu.............................................................(573) 882-4899

Dr. Jianlin Cheng  
*Assistant Professor*  
109 EBW  
chengji@missouri.edu.............................................................(573) 882-7306

Dr. Ye Duan  
*Associate Professor*  
209 EBW  
duanye@missouri.edu.............................................................(573) 882-3951

Dr. William Harrison  
*Associate Professor*  
17 EBN  
harrisonwl@missouri.edu.............................................................(573) 884-2436

Dr. Michael Jurczyk  
*Associate Professor*  
121 EBW  
jurczykm@missouri.edu.............................................................(573) 884-8869

Dr. Toni Kazic  
*Associate Professor*  
143A EBW  
kazict@missouri.edu.............................................................(573) 882-1946

Dr. Dmitry Korkin  
*Associate Professor*  
207 EBW  
korkined@missouri.edu.............................................................(573) 882-4762

Dr. Dale Musser  
*Associate Teaching Professor, IT Director*  
107 EBW  
musserda@missouri.edu.............................................................(573) 884-1328
Dr. Kannappan Palaniappan  
*Associate Professor*  
205 EBW  
palaniappank@missouri.edu ..............................................................(573) 884-9266

Dr. Youssef Saab  
*Associate Professor*  
143B EBW  
saaby@missouri.edu ............................................................................(573) 882-4559

Dr. Chi-Ren Shyu  
*Professor; Informatics Institute Director*  
241 EBW  
shyuc@missouri.edu ..............................................................(573) 882-3884

Dr. Gordon Springer  
*Associate Professor*  
115 EBW  
springerg@missouri.edu ..............................................................(573) 882-7422

Dr. Jeffrey Uhlmann  
*Associate Professor*  
217 EBW  
uhlmannj@missouri.edu ..............................................................(573) 884-2129

Dr. Wenjun Zeng  
*Professor*  
119 EBW  
zengw@missouri.edu ..............................................................(573) 882-4480

Dr. Yunxin Zhao  
*Professor*  
141B EBW  
zhaoy@missouri.edu ..............................................................(573) 882-3374

Dr. Xinhua Zhuang  
*Professor*  
211 EBW  
zhuangx@missouri.edu ..............................................................(573) 882-2382

Christopher "Chip" Gubera  
*Resident Instructor*  
101 EBN (North)  
guberac@missouri.edu ..............................................................(573) 882-6566

Joe Guilliams  
*Resident Instructor*  
123 EBW  
guilliamsd@missouri.edu ..............................................................(573) 882-2326

Dean Zeller  
*Instructor*  
107A EBW ..............................................................(573) 882-5896
FACILITIES

Administrative Offices
The Computer Science department administrative office is located in room 201 Engineering Building West. The department support staff is on hand Monday through Friday from 8:00 AM – 5:00 PM (the office closes for lunch for one hour each day). Hours may vary during the Summer months.

The Department Chair's office is also located in 201 EBW.

The office of the Director of Graduate Studies (Dr. Yi Shang) is located in 125 EBW. The Academic Advisor for graduate studies (Jodie Lenser) has an office in 244 EBW.

Mail; TA Lab
All graduate students are given a mailbox located in the lower level, northeast corner of EBW in order to facilitate the receiving of mail for official university business. (Graduate Teaching Assistants are assigned mailboxes in 201 EBW.) Please do not arrange for personal mail to be sent to your campus address. Space for office hours for GTAs is generally available in 239 EBW.

Telephones
Most University phone numbers begin with an "882" or "884" prefix. When dialing a university phone number using a campus phone, simply dial the last five digits of the number you're trying to reach. For example, if you are trying to reach the CS office at 882-3842, dial "23842" to be connected.

To make local, off-campus phone calls from a campus phone, dial "9", followed by the seven-digit phone number you are trying to reach.

Photocopies
A photocopy machine is supplied for CS graduate student use in the northeast lower level of EBW. Use of this copier requires a four digit access code, which you may obtain from the Graduate Academic Advisor in 244 EBW. Let the staff in 201 EBW know when more paper is needed for the copier.

This machine is provided for the copying of class-related materials only, and is not to be utilized for personal reasons.

Email
A Computer Science graduate student email list is maintained for the purpose of communicating information relating to the graduate program, primarily, and occasionally to announce job opportunities and other information of interest to graduate students. Since Mizzou email addresses are used for this purpose, it is important to regularly check your student email account and to maintain enough space in your account to continue receiving/sending messages without delays. For any problems with email, the IT Help Desk can be contacted at 882-5000.

Emergency Procedures
MU subscribes to a mass notification system to help expedite communications with the campus community in the event of an emergency. To make sure your contact information is up to date, students can access the registration site by logging into myZou, going to “Self Service”, then “Campus Personal Information”, and then “Phone Numbers”.

Outdoor warning sirens sound as part of the local warning network. Should severe weather be imminent, remember to: MOVE TO INTERIOR CORRIDORS AWAY FROM DOORS AND WINDOWS, PREFERABLY IN A
BASEMENT OR LOWER FLOORS; AVOID AUDITORIUMS, GYMNASIUMS, OR OTHER AREAS HAVING A WIDE, FREE-SPAN ROOF; IF OUTDOORS, LIE FLAT IN THE NEAREST DEPRESSION SUCH AS A DITCH OR RAVINE; IF THERE IS TIME, MOVE AWAY FROM THE PATH OF A TORNADO AT A RIGHT ANGLE.

Specific information regarding the nature of an emergency indicated by the outdoor sirens (weather and otherwise), should be broadcast by the local emergency radio station, KFRU 1400 AM. Campus emergency procedures for various types of situations/events are posted outside the door to 201 EBW, as well as inside the department office.

**Campus Parking**

The MU Parking & Transportation Services offices are located in the Turner Avenue Garage, Level 2. Students wishing to purchase a parking permit on campus should fill out an application at the Parking office. Assignments will be made based on class standing beginning with graduate students. Visitor parking is available in metered areas. Parking regulations are enforced at all times, even when classes are not in session. If commuting by bicycle, it is recommended that you register your bike at the University Police Department. Bicycles must be parked (and should be locked) in the racks provided for this purpose throughout campus.

**INTERNATIONAL STUDENTS**

International students bear sole responsibility for complying with any and all immigration regulations that may be applicable to their Visa status. Don’t hesitate to contact an International Student & Scholar Services advisor for any assistance. The International Center is housed in N52 Memorial Union.

**International Center Directory**

**David Currey**  
ISSS Director/Asst. Director of International Center  
curreyd@missouri.edu.................................................................(573) 882-5510

**Mihaela Britt**  
Coordinator – Scholar Services, H-1B/J-1 Scholars, Permanent Residence  
brittm@missouri.edu.................................................................(573) 882-7099

**Leah Buretta**  
Advisor – F-1/J-1 Students (last names A-J)  
burettal@missouri.edu.................................................................(573) 882-6007

**Kristen Albrecht**  
Advisor – F-1/J-1 Students (last names K-R)  
albrechtkl@missouri.edu.................................................................(573) 882-6007

**Callie Fleming**  
Advisor – F-1/J-1 Students (last names S-Z)  
flemingcj@missouri.edu.................................................................(573) 882-6007

**Dottie Heibel**  
Document Specialist  
heibeld@missouri.edu.................................................................(573) 884-7680

**Tami Lorenson**  
Advisor – H1-B Scholars  
lorensonrt@missouri.edu.................................................................(573) 882-6367

**Becky Showmaker**  
Coordinator – Student Services, F-1/J-1 Students  
showmakerrr@missouri.edu.................................................................(573) 882-6007
ACADEMIC HONESTY

What is Academic Integrity?

CS Department Academic Honesty page: http://engineering.missouri.edu/cs/degree-programs/academic-honesty/

Academic Integrity is the core set of values and principles that underwrites the very mission of the University itself: integrity, honesty, hard work, and the determination to translate personal and professional principles into behavior.

- Article VI of the Faculty Handbook states:
  
  "Academic dishonesty refers to any act that is intended to produce an academic assessment that is not commensurate with an individual's performance, or any act that is intended to unfairly assist or hinder an individual's academic efforts."  

Some examples of Academic Dishonesty include, but are not limited to:

  o Allowing the work of one student to be academically assessed as the work of another
  o Allowing academic credit to be assigned for work that has not been performed
  o Unauthorized possession of University-owned and regulated resources (e.g., reserved library material, laboratory material, art work, computer software or medical excuses)
  o Misrepresentation of an academic record (e.g., changing grades without following proper procedure, failure to report work done at other institutions)
  o Denial of access to resources (e.g., reserved library material, laboratory material, artwork, computer software) intended to be available to other students

STUDENT PRIVACY/FERPA

Student Records and FERPA

What is "FERPA"? And what does this mean for you in relationship to your class?

FERPA is an acronym for Family Education Rights and Privacy Act. The act is a “federal law designed to protect the privacy of educational records, to establish the rights of students to inspect and review their educational records, and to provide guidelines for the correction of inaccurate and misleading data through informal and formal hearings."  

Educational institutions may not release personally identifiable information or non-directory information about a student without that student’s written permission.

What is Directory Information?

Please direct any requests for Directory Information to the CS Department support office in 201 EBW.

What is "Personally Identifiable Information"?

This is information that might invade privacy, allow for the student’s identity to be traced, etc. Examples:

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1 Office of Student Rights & Responsibilities; http://osrr.missouri.edu/about/index.html
2 MU Faculty Council; http://facultycouncil.missouri.edu/
3 Office of the MU Registrar; http://registrar.missouri.edu/policies/ferpa.php
• Name
• Name of parents or family members
• Personal identifiers, i.e.: social security number and/or student number.
• List of personal characteristics that would make a student’s identity traceable.
• Address

The following information about students may not be released under any circumstances:

• Social security number
• Student number
• Race/ethnicity/nationality
• Gender
• Grades
• Any other personally identifiable information without written consent or when subject to an applicable exception.

Further information about FERPA can be obtained at: http://registrar.missouri.edu/policies/ferpa.php.

Campus Resources for personal issues

Students should be aware of campus resources that are in place to assist students in need. The MU Counseling Center (882-6601, 119 Parker Hall) has a staff of licensed psychologists whose help is available at no cost to students. It is not unusual or complicated to receive counseling services on campus, and it is not complicated to schedule an appointment. The MU Counseling Center will carry out an initial interview with students who walk in to the Center if they are in crisis (open Monday-Friday, 8:00am-5:00pm). Their counseling services are kept confidential.

The Student Health Center can be reached at 882-7481, and is located in the University Physicians Medical Building, 1101 Hospital Drive. (http://studenthealth.missouri.edu/)

GRADUATE DEGREES IN COMPUTER SCIENCE

Computer Science Department
College of Engineering
University of Missouri – Columbia

MS, ME – Computer Science
PhD – Computer Science

The following is a general description of the graduate degree programs offered by the Computer Science (CS) Department at the University of Missouri–Columbia (MU). Admission and graduation requirements are described.
GENERAL ORIENTATION

The CS Department graduate programs lead to the degrees of Master of Science in Computer Science or Master of Engineering, and Doctor of Philosophy in Computer Science. The CS graduate degree programs prepare prior recipients of four-year BS degrees in Computer Science or closely related areas for further study at the doctoral level or for successful careers as specialized computer professionals. The Ph.D. program is a research degree designed to prepare students for various advanced professional careers, including college teaching and research, as well as research and development in leading industrial and government R&D facilities.

Specialized training is available in the faculty’s active research fields including algorithms, artificial and computational intelligence, bioinformatics, computer graphics, computer vision, cyber-security, data mining, database, multimedia systems, networking, parallel and distributed computing, programming languages, software engineering, visualization, wireless networks, and world-wide-web programming.

The CS Department has a variety of computing equipment and laboratories available for instruction and research. These facilities, enhanced in conjunction with computing laboratories maintained by the campus, offer students in CS a wealth of opportunity to access and utilize a wide range of equipment best suited for their instructional and research needs. All of the equipment is connected to departmental, campus and global networks, which provides ready access to the exploding world of information and computational resources. Departmental information can be obtained by accessing the department’s web pages at http://engineering.missouri.edu/cs/.

A wealth of library resources are available through the extensive collections of books and journals housed in the Engineering and Mathematical Sciences libraries as well as collections in the Main Library and Health Sciences Libraries at MU. The entire library catalog at MU (all library branches) as well as the other campuses of the University of Missouri are available online, and can be searched from any computer access point at the University.

APPLICATION PROCEDURES

Application for admission to a graduate degree program in CS involves submitting a formal application through the Graduate School’s online application for admission (https://app.applyyourself.com/?id=umc-grad). An application must be accompanied by an application fee. In addition, the applicant must have the following original paperwork sent directly from the originating institutions to the Graduate School.

1. Official transcripts from ALL institutions attended
2. Official GRE score report from Educational Testing Service in New Jersey (and TOEFL scores for international applicants)

The following supplemental materials must be uploaded in the online application:

1. A personal goal statement indicating why you feel prepared to pursue the degree program and why you want to pursue this degree, including research interest area(s) (uploaded in your online application)
2. Minimum course requirement form if you do not have a BS in computer science (uploaded in your online application)
3. Three letters of recommendation from, preferably, professors who know your abilities that must address your ability and readiness to pursue a graduate program in computer science (submitted online to your application in the ApplyYourself system by your references).
4. A current resume.
5. Copies of all transcripts.

In order to be considered for admission in a particular semester, the Director of Graduate Studies, according to the following deadlines must receive all required paperwork:

**Fall admission:** Applications and all paperwork must be received by March 1st.

**NOTE:** If applying for financial assistance in the department, applications and all paperwork must be received by January 15th. Please include area(s) of research interest in a cover letter or statement of purpose.
Spring admission: Applications and all paperwork must be received by October 1st.

Note: Copies of the required papers (transcripts, GRE scores, etc.) cannot be accepted in lieu of the official reports from the originating institutions. Copies of these records can be submitted for evaluation, but any decision on admission is non-binding until the official records have been received. International students are urged to submit all paperwork well in advance of the published deadlines.

All MU students (current or prior) must meet the same requirements as external students. The only difference is that MU grad students file one of the following forms (in lieu of an MU Application Form):

a) Current Non-Degree graduate students: Change of Division, Degree, Program, Emphasis, or Advisor form,

b) Current graduate students in another department: Change of Division, Degree, Program, Emphasis, or Advisor form (same as a),

c) Previous graduate student returning to same program: Re-Activation form.

These forms can be obtained from the Department Office or the Graduate School, 210 Jesse Hall, as well as filled and printed from the Graduate School’s website.

### TEACHING AND RESEARCH ASSISTANTSHIPS

#### Teaching Assistantships
Applications for teaching assistantships must be received according to the same deadline schedule as applications for admission. In order to apply for a TA, contact the department office (573-882-3842) to request the TA application form. INTERNATIONAL STUDENTS WHO HAVE NOT COMPLETED THEIR FIRST SEMESTER OF RESIDENCY AT MU ARE NOT ELIGIBLE FOR TEACHING ASSISTANTSHIPS. International students must be tested by the International Teaching Assistant Program and receive a satisfactory score before they will be considered as a TA their second semester or beyond. A TOEFL speaking score of 28 waives the SPEAK test requirement.

#### Research Assistantships
To apply for a research assistantship, you should contact the CS professors directly. Their emails and research interests are located at our website: [http://engineering.missouri.edu/cs/faculty-staff/](http://engineering.missouri.edu/cs/faculty-staff/). The professor will make you an offer if he/she is interested in hiring you and if a position is available.

#### Financial Aid Pointers:

<table>
<thead>
<tr>
<th>For:</th>
<th>Apply to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching and Research Assistantships</td>
<td>CS Department, 201 or 244 EBW</td>
</tr>
</tbody>
</table>
| Fellowships & Scholarships | Graduate School  
210 Jesse Hall  
University of Missouri – Columbia |
| Information and Technology Service Positions | IATS  
615 Locust Street  
University of Missouri – Columbia |
| Student Loans | Financial Aid Office  
11 Jesse Hall  
University of Missouri – Columbia |
ADMISSION

Students applying to the CS graduate program must have a sufficient background in mathematics and computer science to be able to enroll in and perform satisfactorily in the CS courses numbered 7000 and above. Students applying for admission must fulfill the following minimum requirements that include material contained in specific CS courses or their equivalent taken at another institution. It is preferred that students have earned a BS degree in Computer Science. However, students from other disciplines meeting the minimum requirements will be considered for admission.

1. Proficiency in a procedural programming language equivalent to that gained by taking CS 1050 and 2050 (Algorithm Design & Programming I and II). The preferred programming language is Java. This material includes fundamental algorithm design and data structures.
2. Three semesters of formal course work in Calculus (Math 1500, 1700 and 2300 at MU).
5. Knowledge of computer system architecture equivalent to that contained in CS 3270 (Introduction to Digital Logic) and CS 3280 (Assembly Languages and Computer Organization).
6. Four courses with grades B or better equivalent to those defined as follows:
   a. CS 4050 (Design and Analysis of Algorithms I)
   b. CS 4320 (Software Engineering)
   c. CS 4410 (Theory of Computation I), 4430 (Compilers I) or 4450 (Principles of Programming Languages)
   d. CS 4520 (Operating Systems I)
7. A GPA of at least 3.0 (A=4.0) for the last half of the undergraduate curriculum (for MS/ME applicants).
8. Acceptable scores on the GRE General Test’s three parts taken within the last five years. The minimum acceptable percentages are 25% on the verbal (GRE-V) part, 80% on the quantitative part (GRE-Q), and 4 on the analytical writing section.
9. For those not schooled in English as their native language, a score on the TOEFL (taken within last two years) above 577 if paper-based, 233 if computer-based, or 90 if Internet-based, or an IELTS score of 6.5 or above is required.
10. For admission into the Ph.D. program, the student must have either:
    a. A Bachelor’s degree in Computer Science with a GPA of 3.4 (out of 4.), or
    b. An equivalent of a Master’s degree in Computer Science, or a closely related field, with a GPA of least 3.4 (out of 4.0).

GRADUATION REQUIREMENTS

Students must complete the following requirements in order to earn the respective graduate degrees from the CS Department. The Master of Science degree program has both a thesis and a non-thesis option, which can be chosen by the student after consultation with their selected advisor.

M.S. Degree

All students completing a Master’s degree must fulfill the following minimum requirements:

1. The student must earn a minimum of 30 credit hours of course work approved by the CS Department. This course work must include at least 15 credit hours of course work numbered 8000 or above (CS 8990 Thesis Research credit is counted in the required 15 credit hours, but CS 8980 is not).
2. The overall GPA of course work taken as an enrolled graduate student must be at least 3.0 (out of 4.0).
3. Courses taken in other departments (up to 6 credit hours) will be considered for approval as part of a student’s MS program and the approval is sought prior to the student undertaking the course work.
4. A 4000-level course listed in the minimum requirements for graduate admission, cannot be taken at the equivalent 7000 level as part of the required hours for the MS, ME, or PhD programs.
5. **Non-Thesis Option:**
   In order to complete the non-thesis option, the student must complete an independent project under a faculty advisor approved by the department. This project is carried out by enrolling in CS 8980 (Non-Thesis Research) for at least one hour of credit. This project is documented and presented to a faculty committee of at least three graduate faculty members and defended in a public defense as part of a final oral examination. The CS 8980 course grade is assigned by the student’s faculty advisor upon the conclusion of the oral examination. This course is graded on an S/U basis and cannot be used to increase the student’s overall GPA in graduate work. In this option, at most, 3 credit hours of Research, Reading, and/or Problem courses (such as CS 8980, 8990, 8085) can be counted toward the 30-hour MS graduate requirements.
6. **Thesis Option:**
   In order to complete the thesis option, the student must complete an independent project under a faculty advisor approved by the department. This project is carried out by enrolling in CS 8990 (Thesis Research) for at least three hours of credit. A maximum of six credit hours of CS 8990 can be counted toward the required 30 credit hours for the MS degree program. The thesis project is documented in a formal thesis, presented to a faculty committee of at least three graduate faculty members (one of whom is a faculty member from another department) and defended in a public defense as part of a final oral examination. The CS 8990 course grade(s) is/are assigned by the student’s faculty advisor upon the conclusion of the oral examination. CS 8990 is graded on an S/U basis and cannot be used to increase the student’s overall GPA in graduate work. In this option, at most 9 credit hours of Research, Reading, and/or Problem courses (such as CS 8980, 8990, 8085) can be counted toward the 30-hour MS graduate requirements.
7. **Seminar Attendance:** *This policy affects students entering (or adding) the program in the Spring 2008 term and later.* The approval of the M3 form is tied to the attendance records for the department’s seminar series. MS and ME students are required to attend a total of at least ten CS approved seminars during the course of their Master’s program. Approved seminars include all CS Seminar Series presentations, Dr. Harrison’s Security Reading Group meetings, and others as announced.
   Master’s students who add the PhD program can apply up to ten seminars attended as part of their Master’s program toward the attendance requirement (twenty) for doctoral students.
8. **M Forms:** By the end of the second semester in the program, the M1 Program of Study form should be prepared and submitted, with the aid of a faculty advisor in the department. An advisor should be selected during the student’s first semester. If a thesis option is chosen, the student should form a thesis committee and submit the M2 Request for Thesis Committee form. The M3 Report of Master’s Examining Committee form is submitted after the thesis or project defense during the final semester.
9. **Annual Review/Progress Report** Requirement of the Graduate School: This is accomplished through the Graduate Student Progress System found at [https://gsps.missouri.edu/](https://gsps.missouri.edu/). All graduate students are required to complete the Annual Review requirement by updating their progress report in the Graduate Student Progress System by the end of their second, fourth, etc. semesters of their program. The CS Department requires that this report be approved online by the student’s faculty advisor, and a printed copy attached to each M form before being signed by the CS Director of Graduate Studies.

**M.E. Degree**

The requirements for the Master of Engineering degree are the same as those for the Master of Science (MS) in Computer Science degree with the following exceptions:

1. The student must complete at least 36 hours of graduate courses.
2. A minimum of 30 credit hours must be earned from University of Missouri System institutions.
3. At least 21 hours must be courses offered by the computer science department.
4. At least 15 hours must be 8000 level courses offered by the computer science department (excluding CS 8085).

5. CS 8980, CS 8990, and CS 9990 may not be taken.

6. At most 3 hours of CS 8085 may be taken.

7. No final examination is required. Only the M1 Program of Study is submitted for this program. Master of Engineering, not Computer Science, is noted on the student's transcripts. The degree completion letter is tied to meeting the seminar attendance requirement (see M.S. Degree above).

The entrance requirements for the MS and ME degrees are the same.

**Ph.D. Degree**

All students completing a Ph.D. degree must fulfill the following minimum requirements:

1. Complete all of the course work requirements of the Master's degree in CS or have an MS degree in CS from another institution. The required 15 hours at the 8000 level must be regular courses not to include Research or Problems.

2. The student must maintain an overall GPA of at least 3.4/4.0 in their graduate level course work (excluding Research and Problems courses).

3. Pass a qualifying examination* to be admitted to candidacy in the CS Ph.D. program within three years of program enrollment.

4. Earn a minimum of 72 credit hours of course work and research past the student's Bachelor's degree.

5. Pass a comprehensive examination covering their areas of expertise within five years of program enrollment.

6. Complete a doctoral dissertation on a topic approved by the candidate's advisory committee.

7. Defend the dissertation in a final oral examination.

8. Have at least one journal paper submitted, accepted or published, as approved by the advisor.

9. Present on a research topic as part of the Computer Science Seminar Series at some point between passing the qualifying exam and the dissertation defense. This policy is effective for entering PhD students in Spring 2013 and later.

10. **Seminar Attendance:** This policy affects students entering (or adding) the program in the Spring 2008 term and later. The approval of the D4 form is tied to the attendance records for the department's seminar series. PhD students are required to attend a total of at least twenty CS approved seminars during the course of their doctoral program. Approved seminars include all CS Seminar Series presentations, Dr. Harrison's Security Reading Group meetings, and others as announced.

    Master's students who add the PhD program can apply up to ten seminars attended as part of their Master's program toward the attendance requirement for doctoral students.

11. **D Forms:** After the successful completion of the Qualifying Examination—by or before the end of the third year in the program—the D1 Qualifying Exam Results & Doctoral Committee Approval form should be submitted to the Graduate School, followed by the D2 Plan of Study for the Doctoral Degree form. The D3 form Doctoral Comprehensive Examination Results is submitted when the student has completed the Comprehensive Exam. Graduate School policy requires completion of the Comp Exam within five years of beginning the PhD program. At least seven months must pass between the Comp Exam and the dissertation defense, followed by submission of the final D4 Dissertation Defense form.

12. **Annual Review/Progress Report** Requirement of the Graduate School: This is accomplished through the Graduate Student Progress System found at [https://gsps.missouri.edu/](https://gsps.missouri.edu/). All graduate students are required to complete the Annual Review Requirement by updating their progress report in the Graduate Student Progress System by the end of their second, fourth, etc. semesters of their program. The CS Department requires that this report be approved online by the student's advisor, and a printed copy attached to each D form before being signed by the CS Director of Graduate Studies.

* Students cannot take CS 9990 before passing the PhD qualifying exam. Pre-Qual students should take CS 8990 for Research credit.
**PHD QUALIFYING EXAMINATION** (effective Spring 2012)

Prior to being formally admitted to candidacy for the Ph.D. degree, the student must demonstrate knowledge of computer science fundamentals and a potential for research by passing a qualifying examination (Qual). The Qual consists of two steps: a course requirement step followed by an oral examination step.

**Step 1: Course requirement**
- A student is required to take *CS 8050* (Design and Analysis of Algorithm II) and at least two graduate-students-only CS regular courses, including all 8000-level CS regular courses and CS 7010 (Computational Methods for Bioinformatics), and obtain a cumulative GPA of at least 3.4 from all graduate-student-only courses, including CS 8050.
- For students who have taken courses equivalent to CS 8050 at other institutions, they are required to take at least three graduate-students-only CS courses and obtain a cumulative GPA of at least 3.4 from all graduate-student-only courses.
- A student is required to satisfy the course requirement within 2 years of starting the PhD program. A student who fails the course requirement may elect to transfer to the MS program.

**Step 2: Oral Examination**
- The Qual oral exam must be passed within 1 year after satisfying the Qual course requirement. A student may take the oral exam twice.
- The oral exam has several goals:
  1) To motivate students to review and synthesize course work and research material
  2) To determine the student’s ability to understand and apply fundamental concepts
  3) To develop and test the student’s ability to communicate orally and to respond to questions and comments
  4) To evaluate the student’s potential to pursue doctoral research
  5) To identify areas that need to be strengthened for the student to be successful as a PhD student, independent scholar, researcher, and teacher.

- Before the oral exam:
  o The student must select an academic advisor.
  o The student in consultation with his/her advisor, submits a Qual Exam form, a 1-page qualifying exam statement outlining his/her research areas and foci, 5 to 10 research papers, and 5 recommended exam committee members (excluding the advisor) to the CS Graduate Office at least one month prior to the date of the Qual oral exam.
  o The Graduate Committee forms the oral qualifying exam committee by selecting 3 out of the 5 recommended members and decides the chair of the committee. By default, 2 out of the 3 committee members must be CS regular faculty, including faculty with joint CS appointments. The advisor of the student should not be on the committee.
  o The qualifying exam committee selects 2-3 papers based on the papers provided by the student and other related papers. The student will give a presentation in the oral exam based on these selected papers.
  o The qualifying exam committee schedules the exam time, which will be announced to the public.

- The oral exam lasts up to 2 hours and consists of the following steps:
  o 15 minutes (closed session): a committee-member-only before-exam meeting by the oral exam committee to discuss the research statement, potential questions, and criteria for pass/fail.
  o 45 minutes (open to all faculty and students): a presentation by the student based on the selected 2-3 papers and also about his/her research directions, including Q&A from the audience.
○ Up to 45 minutes (closed session): Q&A. The student answers additional questions from the committee.

○ 15 minutes (closed session): a committee-member-only after-exam meeting to discuss the exam and make a pass/fail decision by a majority vote. Then, the chair of the exam committee writes a letter to the student and copies it to the advisor, the DGS, and the Graduate Advisor, explaining the decision and suggesting ways for improvement.

- A student who fails the oral exam may elect to transfer to the MS program.

### ADDITIONAL NOTES

**MS Thesis and Non-Thesis Requirements:**

The MS thesis or non-thesis project is the distinctive element of the MS degree program. Documentation of the project work is an extended report on a technically substantive research project that involves basic computer science, and, possible, one of its many application areas. Interdisciplinary topics for both thesis and non-thesis project reports are encouraged. Both thesis and non-thesis projects are defended.

To satisfy the Graduate School, the MS thesis must be “the student’s own work and must demonstrate a capacity for research and independent thought.” It is not required that the MS thesis involve the discovery or creation of new knowledge, as is the case for the Ph.D. thesis. An MS thesis must show the student’s ability to carry through to completion a project of a credible level of difficulty that draws on the knowledge and experience gained through advanced graduate course work.

**Annual Review Requirement:**

The Annual Review Requirement of the Graduate School is at [http://gradschool.missouri.edu/policies/progress/annual-review/](http://gradschool.missouri.edu/policies/progress/annual-review/). It is done through the Graduate Student Progress System at [https://gsps.missouri.edu/](https://gsps.missouri.edu/). All graduate students are required to complete the Annual Review Requirement by updating their information in the Graduate Student Progress System by the end of their second, fourth, etc. semesters of their program. Approval of an M or D form is contingent upon the completion of a student’s annual review in the Graduate Student Progress System. A summary printed from the system is required to be submitted with any M or D form (regardless of term).

Annual Review information includes the indicators listed below, not all of which are applicable to all graduate students every year:

1. Review of progress toward degree completion using program of study as a guide.
2. Areas in which student is meeting or exceeding expectations.
3. Areas in which student needs improvement
4. * Number of presentations (single or co-authored) at:
   a. Local conferences
   b. Regional conference
   c. National conferences
5. *Number of publications (single or co-authored)
6. *Notification of any grant/fellowship applications submitted
7. *Notification of any grant/fellowship applications funded
8. *Involvement in any partnerships programs of research, outreach, or appropriate professional activity with non-university organizations;
9. *Notification of any teaching awards
10. *Notification of any research awards
11. *Notification of any other awards, specify
12. *Notification of any conference travel
13. *Notification of any department/college awarded fellowship/scholarship
14. *Participation and evaluation of any internship experience
15. *Update on job search; notification of job placement

*Indicates items of information required on annual data forms submitted by departments to the Graduate School in July of each year.

**Tuition Support:**
For appointments associated with a tuition waiver (primarily GTA and GRA), there is a time limit to the number of semesters a student can receive a tuition waiver from the university (not including summer sessions). Semesters of grant-supported tuition are not counted in the total semesters of eligibility. The time lengths for this eligibility are listed as follows:

<table>
<thead>
<tr>
<th>Type of Student</th>
<th>Maximum Years / Semesters of Eligibility (Not Including Summers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admitted as master’s student</td>
<td>3 years / 6 semesters</td>
</tr>
<tr>
<td>Has relevant master’s degree, admitted as doctoral student</td>
<td>5 years / 10 semesters</td>
</tr>
<tr>
<td>No relevant master’s degree, admitted as doctoral student</td>
<td>7 years / 14 semesters</td>
</tr>
<tr>
<td>No relevant master’s degree, admitted to doctoral program with master’s en route</td>
<td>8 years / 16 semesters</td>
</tr>
</tbody>
</table>

Note: The overall limits are 2 degrees or 7 years (8, in the last scenario), whichever comes first. For all master's work, the student is limited to 3 years or 6 semesters of support.

(Information taken directly from the Graduate School website, at http://gradschool.missouri.edu/financial/assistantships-fellowships/tuition-waivers/eligibility.php.)

**Change of Program, Degree, or Advisor:**
This form (attached at the end of this handbook) serves multiple functions: A student can request an advisor change during the course of her/his graduate program. Students may also request to add or replace their current graduate degree program (in Computer Science or another MU department) with another or additional graduate program in Computer Science. If adding the PhD program to a current Master’s program, the student must submit additional application materials to meet the admission requirements of the CS doctoral degree program.

**Reasonable Rate of Progress:**
For CS Master's students, degree completion must occur within eight years of enrollment in the program. Time spent in military services does not count toward this eight-year limit. For CS PhD students, completion of the Comprehensive Examination should occur within a five-year period of enrollment in the doctoral program. Additionally, the PhD degree program must be completed within five years of passing the Comp Exam.

For any extensions of these time limitations, students, in conjunction with their faculty advisor and Director of Graduate Studies, must petition the Graduate School with an extension request.
Credit Toward a Second Master’s Degree:
A student who has completed one Master's degree at MU or elsewhere may present, upon the recommendation of the student’s advisor and approval by the Director of Graduate Studies and the Graduate School, a maximum of six hours of credit earned in the previous program toward a second Master’s degree. (Note: The Graduate School permits eight credits, but the CS Department only accepts six.)

Graduate Academic Minor:
A graduate student may choose to add a graduate minor to their regular program of study. The Graduate School lists available Designated Minors on their website, at http://gradschool.missouri.edu/programs/minors/. Designated minors consist of 9 to 15 hours of coursework approved as a graduate minor. A Plan of Study for the Designated Graduate Minor form must be submitted and approved by the Graduate School at least one semester prior to the term of graduation. The designated minor notation will show on the student’s transcript after graduation.

Nondesignated minors require a minimum of 9 hours of graduate coursework in a unified plan of study. These minors should be listed on the student’s regular plan of study, but will not be noted on the transcript.

Both designated and nondesignated minors require approval by the student’s advisor, academic director of graduate studies, and the Graduate School. Additionally, a designated minor must be approved by the Minor Coordinator of that academic program.

Academic Dates and Deadlines: 2013-2014
http://provost.missouri.edu/academic-calendar/2013-2014.html

FAQs: Computer Science Graduate Program
When and how should I establish a faculty advisor?
Preferably by the end of your first semester of classes or early in your second semester, after you have taken several CS courses and have become acquainted with some of the faculty. The Application for Graduate Change of Program, Degree, Emphasis, or Advisor, can be used to officially establish your faculty advisor in myZou.

Can I change my faculty advisor during the course of my graduate program?
Yes. If you wish to change your faculty advisor during your program, due to academic or personal reasons, you may do so, providing that a new faculty member agrees to serve as your advisor. The Application for Graduate Change of Program, Degree, Emphasis, or Advisor, should be submitted to process this change.

Can I take graduate courses in another department and count them in my CS program of study?
You are allowed to count six hours of graduate-level coursework (generally two classes) in your CS program of study. They must be related to your CS program and pre-approved by your faculty advisor.

Do all graduate-level (7000 and 8000) courses in Computer Science count on my program of study?
No! There are several background courses which are numbered as both 4000- and 7000-level courses, which do NOT count in your graduate program of study--- even if taken as a 7000-numbered course. These courses are listed on the CS Minimum Course Requirement form, available from the academic advisor and linked on the CS website. The course descriptions for these courses also specify that they cannot be applied to the Master’s or PhD programs in Computer Science.

The CS Minimum Course Requirement form lists three 4400/7400-level background courses. Does this mean that none of them count in my program of study?
Yes, except in the following situation: If you have previously completed one of these courses at MU (and achieved a B or better), and you take a second course in this series at the 7000-level (and achieve an A or B), the second course may be counted in your graduate plan of study.
How do I apply for departmental funding?
Teaching assistantships require an application. Research assistantships do not. TA applications are collected by the academic advisor during the previous semester, and the Director of Graduate Studies, conferring with the faculty, decides the appointments based on various eligibility requirements. (International students, for example, are not allowed to work as a TA during their first semester of enrollment at MU.) Research Assistantships are arranged individually between the student and a faculty member, and are determined based on funding availability and research interests. PhD students are usually given priority in the selection process for RA positions.

Does the tuition waiver I receive with an assistantship cover all my educational expenses?
No: Typically, the student is responsible for paying the Engineering course fees and the supplemental student fees. The waiver is applied to resident and non-resident tuition charges. A partial or full health insurance subsidy is generally an additional benefit of an assistantship. A monthly stipend is also paid to teaching and research assistants.

Must I maintain a certain GPA as a graduate student at MU, and if so, what happens if I fall below this mark?
Graduate students are required to maintain a minimum graduate GPA of 3.0, both per term and cumulative. The Graduate School imposes academic probationary status to students who fall below this mark. A student on academic probation must bring their GPA up to the 3.0 minimum during the following semester. A student in probationary status may work as a teaching or research assistant, with pay, but may not receive the accompanying tuition waiver.

Can I pursue a Master's and a PhD degree concurrently in Computer Science?
Yes, and this is not unusual. A CS PhD student may “add” the CS Master’s program to their current doctoral program, and complete the MS degree as they are working toward their PhD. A Master’s student may “add” the PhD program through an application process involving a recommendation letter from (typically) the faculty advisor, maintaining a graduate GPA of 3.4, and approval by the graduate committee. The form, Application for Graduate Change of Program, Degree, Emphasis, or Advisor, is required for officially adding (or replacing) the Master’s or PhD program.

Can I pursue a dual graduate degree in another program? Related to this, how does a graduate student in another program apply to pursue a dual program in Computer Science?
Dual graduate programs are allowed. A CS graduate student wishing to pursue a dual degree in another program should contact the other program and follow their application procedures. A graduate student in another MU program must follow the same application requirements as outside applicants to CS, except that the online Graduate School application is not needed.

I am in the undergraduate CS program at MU, and am interested in continuing on in the graduate program. Is the application process different for me?
Maybe. The Fast-Track BS/MS program is available to CS BS students toward the end of their undergraduate program if they meet certain eligibility requirements. The Fast-Track application process requires fewer application documents than the regular process, and bypasses the online application and fee as well as the GRE. A Fast-Track student could possibly transfer 12 graduate credits taken as an undergraduate into their graduate program. Undergraduate CS students not meeting the Fast-Track GPA or research requirements can certainly apply for CS graduate studies through the standard application process (and possibly transfer some graduate credits as well).

Is there a time limit for completing my graduate degree program?
Master’s students must complete their degree within eight years from their first semester of enrollment in the Master’s program. PhD students must take and pass their Comprehensive Examination within five years from their first semester of enrollment in the doctoral program. Additionally, the PhD degree must be completed within five years of passing the Comp Exam. Courses taken more than eight years ago may not be included in the students’ plan of study. Exceptions to the time limits for degree completion and course validity must be approved by the Graduate School via a letter of justification sent by the student and the student’s faculty advisor, with approval from the program’s Director of Graduate Studies. International students may have more stringent time limitations due to I-20/visa expiration dates and/or sponsor-set restrictions. International students should check with the MU International Center regarding these issues. Academic progress is tracked by means of the online Graduate Student Progress System, at https://gsps.missouri.edu/. All MU graduate students are expected to create an Annual Review progress report in the GSPS, and update their information per year at least.