

## Milestones for the Master of Science Program in Computational Science (M.S. CSci) at the University of South Carolina Beaufort

The Department has a collection of milestone forms that ensure students make steady progress towards completing their degrees. Copies of each form are available online at [https://www.uscb.edu/academics/academic\\_departments/school-of-science-and-mathematics/computer-science/graduate/handbook.html](https://www.uscb.edu/academics/academic_departments/school-of-science-and-mathematics/computer-science/graduate/handbook.html).

In addition to reviewing this Milestones document, M.S. CSci students should review the current version of the USCB University Bulletin ([https://www.uscb.edu/registrar/university\\_bulletin/](https://www.uscb.edu/registrar/university_bulletin/)), including the policies related to **Graduate Studies**, currently found on pp. 81-85 in the 2020-21 edition.

Master's Degree Forms	Deadline
CSCI 1 Major Advisor*	Students in the Thesis and Project options should select a major advisor no later than the beginning of the third full-time semester (i.e., after earning 18 credit hours towards the M.S. degree). Students in the Coursework option do not need a major advisor; instead, the Graduate Coordinator will serve as their advisor for the purposes of planning a program of study and scheduling the comprehensive examination.
Program of Study	A planned program of study should be developed in conjunction with the Graduate Coordinator no later than the beginning of the third full-time semester (i.e., after earning 18 credit hours towards the M.S. degree)
CSCI 2 Thesis or Project Committee*	After selection of Major Advisor but before completing thesis or project proposal scheduling form
CSCI 3 Scheduling Thesis or Project Proposal*	No later than 7 days prior to planned Proposal Presentation
CSCI 3A Thesis or Project Proposal Approval*	No later than 60 days before scheduling the thesis defense
CSCI 4 Scheduling Thesis Defense or Project Final Presentation*	No later than 14 days before the defense or presentation
Comprehensive Exam Verification (coursework option only)	Typically held on the "reading day" during or before the semester intended to graduate

\* Only applies to M.S. students with thesis or project option.

**Program of Study:** M.S. students may choose the master's thesis option, the project option, or the coursework option. Regardless of their chosen option, students should prepare a program of study, which is a list of courses that fulfill all the requirements for their degree. The completed Program of Study form should be approved by the student's Major Advisor and also signed by the Graduate Coordinator and the school Dean no later than the beginning of the third full-time semester (i.e., after earning 18 credit hours towards the M.S. degree)

**M.S. Thesis Option:** Students who choose the thesis option must defend the thesis in a public presentation. The M.S. thesis is a monograph, describing the student's research or project. The thesis is a significant original research paper of sufficient quality to be published in a refereed journal or be presented at one of the major Computer/Computational Science conferences. It is expected that the work completed in a thesis of this nature could be developed into research that has suitable depth for a Ph.D. dissertation. The investment of time by both the thesis advisor and the student should be significant. Thus, students who are interested in preparation for doctoral study will be encouraged to write a thesis. In turn, to reflect the increased investment in time on the part of the student and advisor, the student is required to register for at least six (6) credits of CSCI B799 (Master's Thesis) in lieu of additional courses that students pursuing the coursework option must take.

**M.S. Project Option:** Students who choose the project option must plan, design, and develop a software product and present a demo of the completed product in a public presentation. There is no thesis to write, but the student will still need to write a formal technical report describing the design and development process, the functionality of the product, as well as a possible plan for the potential sustainability of the project (such as commercialization, dissemination as an open source project, etc.). Ideally, the product being developed should help solve a significant real-world problem, and it should represent a novel contribution to the technology marketplace or at least a significant improvement over an existing product. The investment of time by both the project advisor and the student should be significant, with a minimum viable product (MVP) or other significant prototype being developed before the student graduates. In turn, to reflect the increased investment in time on the part of the student and advisor, the student is required to register for at least six (6) credits of CSCI B797 (Research Project) in lieu of additional courses that students pursuing the coursework option must take.

**Thesis or Project Advisor:** No later than the beginning of the third full-time semester, a student is expected to have a thesis or project advisor and submit to the Graduate Coordinator a CSCI 1 Major Advisor form.

**Thesis or Project Committee:** A student may register for CSCI B799 (thesis option) or CSCI B797 (project option) only after completing the CSCI 1 Major Advisor form; certain exceptions may be granted by the Graduate Coordinator or Department Chair. Students in the M.S. program are recommended to register for 3 to 6 hours of CSCI B799 (thesis option) or CSCI B797 (project

option) in each of two semesters. (For a typical full-time M.S. student, this would mean during the Fall and Spring semesters of the student's *second* year in the program.) During the first of these semesters, after a topic is selected and the area of the thesis or project is clearly defined, the student should form a thesis or project committee. The thesis or project committee will consist of three members of the graduate faculty including the thesis or project advisor. The thesis or project advisor and a majority of members (i.e., at least two members) must be from the Computer Science department. The CSC 2 Thesis or Project Committee form should be completed at the time of the formation of the thesis committee.

**Thesis or Project Proposal:** A proposal that outlines the scope of the M.S. thesis (or project) must be prepared in consultation with the advisor and thesis/project committee. An oral presentation of the proposal must be made to the thesis or project committee. Unless the student's research or project is of a highly sensitive nature, the proposal presentation will be open to the public and needs to be scheduled one week ahead by turning in a copy of the proposal and a CSCI 3 Scheduling Thesis or Project Proposal Presentation form to the Graduate Coordinator.

After the committee agrees that the proposed thesis or project is acceptable, the committee members sign the CSCI 3A Thesis or Project Proposal Approval form. This proposal is then filed in the student's folder maintained in the department office. It is the responsibility of the student to present a thesis or project proposal by the end of the first semester in which he/she is registered for CSCI B799 (thesis option) or CSCI B797 (project option).

**Selecting a Date for the Thesis Defense or Project Final Presentation:** Copies of the final draft of the written thesis (or project report) must be submitted to members of the thesis committee at least 2 weeks before the thesis defense (or final project presentation). In addition, a copy of the thesis (or project report) must be submitted to the Graduate Coordinator along with a written request on the CSCI 4 Scheduling Thesis Defense or Project Final Presentation form to set up a date for the thesis defense (or project final presentation). The defense (or presentation) must be scheduled to start between 9:00am and 5:00pm on a day in which the University is in session. The date of the thesis defense will be set no earlier than two weeks after the date of the filing of the CSCI 4 Scheduling Thesis Defense or Project Final Presentation form. This is necessary to give the committee members and other members of the Department adequate time to read the final version of the thesis (or project report). The copy submitted to the Graduate Coordinator will be made available online for public reference. The CSCI 4 Scheduling Thesis Defense or Project Final Presentation form cannot be filed earlier than 60 days after the CSCI 3A Thesis or Project Proposal Approval form is filed and must be filed at least two weeks before the scheduled defense date.

**Thesis Defense (Thesis Option only):** A final oral examination covering the thesis and relevant course work must be passed. A member of the thesis committee other than the thesis advisor will act as the examination chair. The examination chair is responsible for administering the final exam. After the oral exam has been conducted, the examination chair writes a report, which is approved and signed by all members of the student's committee. This report will contain a record

of the exam and its outcome. In the event that corrections or changes of any kind to the written thesis are required, the report shall indicate in writing the method that will be adopted to complete the work. It is the responsibility of the examination chair to ensure that any changes stipulated in the report are made before notifying the Graduate Coordinator that the student has completed his/her final examination successfully. After successful completion of the examination, the student must submit the approved thesis to the Computer Science Department Office. The student must make an appointment at least a week in advance to turn the thesis in to the Computer Science Department Office.

**Project Final Presentation (Project Option only):** A final oral examination covering the development of the project (including a demo of the project) and relevant course work must be passed. A member of the project committee other than the project advisor will act as the examination chair. The examination chair is responsible for administering the final exam. After the oral exam has been conducted, the examination chair writes a report, which is approved and signed by all members of the student's committee. This examination report will contain a record of the exam and its outcome. In the event that corrections or changes of any kind to the written project technical report are required, the examination report shall indicate in writing the method that will be adopted to complete the work. It is the responsibility of the examination chair to ensure that any changes stipulated in the examination report are made before notifying the Graduate Coordinator that the student has completed his/her final examination successfully.

**Comprehensive Exam (coursework option only):** Students in the coursework option will not be required to prepare a formal thesis or project; instead, students in this option will take at least six (6) credits of additional graduate-level coursework beyond the 24 credits of courses required for the M.S. degree. In order to ensure that students in the coursework option receive exposure to the academic literature in the field of Computational Science or exposure to professional practices in the field, students in this option should take at least 3 credits of CSCI B599 (Independent Study) and/or CSCI B699 (Internship). During the “reading day” during or before the intended semester of graduation, students in the coursework option will be required to take an oral comprehensive exam that will cover, at a minimum, a state-of-the-art research topic or professional practice in the field of Computational Science. This topic will be chosen under the guidance of the Graduate Coordinator. If the student satisfactorily completes the comprehensive exam, the Graduate Coordinator will complete the M.S. Computational Science Comprehensive Exam Verification form and submit it to the Registrar’s Office.