

Master of Science in Computer Science  
Program Overview and Requirements for Graduation

**Coursework**

Please refer to the following webpage for the academic calendar: <https://catalog.csusb.edu/calendar/>.

If you have been given conditional admission, then your acceptance letter will indicate the prerequisite undergraduate courses that you need to complete. It is recommended to complete these as soon as possible (i.e., in the first year).

There are five core graduate courses that every graduate student must take. These are CSE 6020 (Computation and Complexity Theory), CSE 6100 (Modern Computer Architecture), CSE 6300 (Theory of Algorithms and Their Analysis), CSE 6550 (Software Engineering Concepts), and CSE 6600 (Operating Systems Concepts and Theory). These courses should be completed as soon as possible.

The following are the elective requirements for the three options:

- Examination Option: 15 units of elective coursework chosen from 5000- to 6000-level computer science courses deemed appropriate by the department graduate committee. Up to 9 units of 5000-level computer science courses may be taken.
- Project Option: 12 units of elective coursework chosen from 5000- to 6000-level computer science courses deemed appropriate by the department graduate committee. Up to 9 units of 5000-level computer science courses may be taken.
- Thesis Option: 10 units of elective coursework chosen from 5000- to 6000-level computer science courses deemed appropriate by the department graduate committee.

An elective is a 6000-level course that is not one of the core courses (however, note that Master's Project (CSE 6962/6964), Thesis (CSE 6972/6973/6974/6976), Graduate Seminar (CSE 6890), Comprehensive Examination (CSE 6980), and Continuous Enrollment are not considered electives). You are also allowed to take certain 5000-level courses as electives, but as mentioned above, there is a limit on how many 5000-level courses you can take as electives. There are several additional restrictions, mentioned as follows. CSE 6950 (Graduate Independent Study) can only count once as an elective, while CSE 595X (Undergraduate Independent Study) will not count as an elective. CSE 6940 (Graduate Research Methods in Computer Science) can only count once as an elective. CSE 5750 (Internship in Computer Science and Engineering) can only count once as an elective. You may need or choose to take courses below 5000-level, but they will not count towards the MS degree. Please note that courses that you have taken during your undergraduate degree cannot be retaken or counted towards the MS degree.

CSE 6950 (Graduate Independent Study) and CSE 5750 (Internship in Computer Science and Engineering): In order to enroll in these courses, you need to complete the necessary forms. For Graduate Independent Study, you need to complete the following form ([https://www.csusb.edu/sites/default/files/cse\\_6950\\_application\\_form.pdf](https://www.csusb.edu/sites/default/files/cse_6950_application_form.pdf)) as well as complete the proposal ([https://www.csusb.edu/sites/default/files/cse\\_6950\\_proposal\\_template.pdf](https://www.csusb.edu/sites/default/files/cse_6950_proposal_template.pdf)). For Internship, you need to complete the following form ([https://www.csusb.edu/sites/default/files/cse\\_5750\\_Internship\\_Contract.pdf](https://www.csusb.edu/sites/default/files/cse_5750_Internship_Contract.pdf)) as well as sign the following ([https://www.csusb.edu/sites/default/files/cse\\_5750\\_undergraduate\\_internship\\_criteria.pdf](https://www.csusb.edu/sites/default/files/cse_5750_undergraduate_internship_criteria.pdf)).

CPT (Curricular Practical Training) for International Students: If you are interested in doing CPT (<https://www.csusb.edu/international-education/immigration-services/students/employment-f>), note that the training must be related to your academic program. It must be related to an internship or independent-study course that you are enrolled in, or to a thesis or project that you are working on. The faculty advisor for the internship/independent-study or the project/thesis will have to approve/sign the CPT form.

### **Full-time Status / Continuous Enrollment**

Please note that full-time status is 6 units. Please see the following webpage for more information: <https://www.csusb.edu/registrar/registration/enrollment-status>.

International students are required to maintain full-time status. Also, domestic students that are applying for financial aid are required to maintain full-time status. Please note that if you are enrolled in a culminating experience (Master's Project, Thesis, or Comprehensive Examination) in a particular semester, you are considered full-time for that particular term, even if you are not enrolled in any other courses.

The Master's Project or Thesis may require more than one semester to finish the work. If you do not finish the Project or Thesis in the semester that you registered for it, you will receive a grade of "RP" (meaning in-progress) and when you complete the work in a subsequent semester, the grade will be changed to an actual letter grade. It may be necessary to sign up for continuous enrollment to maintain full-time status in the subsequent semester. Please see the following webpage for more information about continuous enrollment: <https://www.csusb.edu/pace/all-programs/continuous-enrollment-graduate-candidacy-standing>. If you have questions regarding continuous enrollment, please contact Ms. Elanor Perry ([eperry@csusb.edu](mailto:eperry@csusb.edu)) and cc the Graduate Coordinator for Advising (Dr. Jennifer Jin, [jennifer.jin@csusb.edu](mailto:jennifer.jin@csusb.edu)).

### **Regarding Forms**

Most CSE forms can be found on the following webpage: <https://www.csusb.edu/cse/resources/forms>. In general, please use Adobe Sign for completion of forms. After the form has been signed by all of the necessary individuals, please send the completed form to Ms. Michelle Torres and Ms. Destiny Bendor in the School of CSE ( [mtorres7@csusb.edu](mailto:mtorres7@csusb.edu) , [destiny.larabendor@csusb.edu](mailto:destiny.larabendor@csusb.edu) ) and cc the Graduate Coordinator for Advising (Dr. Jennifer Jin, [jennifer.jin@csusb.edu](mailto:jennifer.jin@csusb.edu) ).

### **Academic Honesty**

According to the CSUSB Catalog, plagiarism and cheating may result in penalties up to and including expulsion. Students must make appropriate acknowledgements of the original source where material written or compiled by another is used. This policy applies to coursework as well as to the project/thesis proposal and final report. The student is referred to the "Academic Regulations and Standards" in the CSUSB Catalog for the University's policies on plagiarism and cheating (<https://catalog.csusb.edu/academic-regulations/> ).

## **Advancement to Candidacy**

The student must select one of the following options:

- Examination Option:
  1. Achieved classified standing (i.e., not conditionally classified);
  2. Completed a minimum of 12 units towards the Master's degree;
  3. Completed or currently registered in the five required core courses as a graduate student at this university;
  4. Minimum grade point average of 3.0 ("B") in all courses completed towards the Master's degree and a grade of "C" (2.0) or better in each course;
  5. Completed the Advancement to Candidacy form ([https://www.csusb.edu/sites/default/files/Advancement to Candidacy.pdf](https://www.csusb.edu/sites/default/files/Advancement_to_Candidacy.pdf) ).
  
- Project Option:
  1. Achieved classified standing (i.e., not conditionally classified);
  2. Completed a minimum of 12 units towards the Master's degree;
  3. Completed or currently registered in the five required core courses as a graduate student at this university;
  4. Minimum grade point average of 3.0 ("B") in all courses completed towards the Master's degree and a grade of "C" (2.0) or better in each course;
  5. Formed a committee, consisting of the student's advisor and two other committee members (committee members must be tenure-track faculty members);
  6. Satisfactory passage of the oral examination to be administered by the student's committee;
  7. Presented and submitted a project proposal (<https://www.csusb.edu/sites/default/files/PreliminaryMastersProjectProposalTemplate.doc> ) that was approved by the student's committee;
  8. Completed the Advancement to Candidacy form ([https://www.csusb.edu/sites/default/files/Advancement to Candidacy.pdf](https://www.csusb.edu/sites/default/files/Advancement_to_Candidacy.pdf) ).

- Thesis Option:
  1. Achieved classified standing (i.e., not conditionally classified);
  2. Completed a minimum of 12 units towards the Master's degree;
  3. Completed or currently registered in the five required core courses as a graduate student at this university;
  4. Minimum grade point average of 3.0 ("B") in all courses completed towards the Master's degree and a grade of "C" (2.0) or better in each course;
  5. Formed a committee, consisting of the student's advisor and two other committee members (committee members must be tenure-track faculty members);
  6. Presented and submitted a thesis proposal that was approved by the student's committee;
  7. Completed the Advancement to Candidacy form ([https://www.csusb.edu/sites/default/files/Advancement\\_to\\_Candidacy.pdf](https://www.csusb.edu/sites/default/files/Advancement_to_Candidacy.pdf)).

After completing the above steps, please send the completed Advancement to Candidacy form to Ms. Michelle Torres and Ms. Destiny Benzor in the School of CSE ( [mtorres7@csusb.edu](mailto:mtorres7@csusb.edu) , [destiny.larabenzor@csusb.edu](mailto:destiny.larabenzor@csusb.edu) ) and cc the Graduate Coordinator for Advising (Dr. Jennifer Jin, [jennifer.jin@csusb.edu](mailto:jennifer.jin@csusb.edu) ). You will then be allowed to enroll in Master's Project (CSE 6962/6964), Thesis (CSE 6972/6973/6974/6976), or Comprehensive Examination (CSE 6980).

It is strongly recommended that you complete the steps for advancement to candidacy the semester before you plan to enroll in Master's Project (CSE 6962/6964), Thesis (CSE 6972/6973/6974/6976), or Comprehensive Examination (CSE 6980).

### **Thesis Preparation, Presentation and Submission (for Thesis Option)**

The student must conduct a research study, and from these efforts, write a thesis acceptable to the student's thesis committee and the Dean of Graduate Studies. The thesis topic and major advisor must be included on the program of graduate study submitted with the application to candidacy, although this may be amended.

The student shall enroll in Thesis at a rate of two to six units (CSE 6972, CSE 6973, CSE 6974, or CSE 6976) per semester for all contiguous academic year semesters starting from the time of advancement to candidacy until the thesis is completed and accepted. Over that period, six units of Thesis will count toward the degree.

The student, upon completion of the thesis, must give a public presentation of the research and stand for the defense of the thesis before the faculty made up of the thesis committee and any other faculty members who wish to attend. The student is given a maximum of five years from the time the student was advanced to candidacy to finish the degree.

Note that there are specific deadlines for submitting the final thesis document for a given academic term (as indicated on the Graduate Studies website: <https://www.csusb.edu/graduate-studies/current-students/thesis-project-dissertation/deadlines-and-review-process> ). The thesis presentation/defense as

well as a draft of the thesis document should be completed at least three weeks before the document submission deadline (because the committee members can possibly suggest changes). The thesis document should be finalized when submitting it to Graduate Studies. Please see the following webpage for more information about the submission process: <https://www.csusb.edu/graduate-studies/current-students/thesis-project-dissertation/deadlines-and-review-process> .

### **Project Preparation, Presentation and Submission (for Project Option)**

The student must implement and complete a project acceptable to the student's project committee and the Dean of Graduate Studies. The project topic and major advisor must be included on the program of graduate study submitted with the application to candidacy, although this may be amended.

The student shall enroll in Masters Project at a rate of two or four units (CSE 6962 or CSE 6964) per semester for all contiguous academic semesters starting from the time of advancement to candidacy until the project is completed and accepted. Over that period, four units of Masters Project will count toward the degree.

The student, upon completion of the project, must give a public presentation. The student is given a maximum of five years from the time the student was advanced to candidacy to finish the degree.

Note that there are specific deadlines for submitting the final project report for a given academic term (as indicated on the Graduate Studies website: <https://www.csusb.edu/graduate-studies/current-students/thesis-project-dissertation/deadlines-and-review-process> ). The project presentation as well as a draft of the project report should be completed at least three weeks before the document submission deadline (because the committee members can possibly suggest changes). The project report should be finalized when submitting it to Graduate Studies. Please see the following webpage for more information about the submission process: <https://www.csusb.edu/graduate-studies/current-students/thesis-project-dissertation/deadlines-and-review-process> .

### **Comprehensive Written Examination (for Examination Option)**

Students who have selected the Examination option are advised by the graduate coordinator. The program of study for the Examination option consists of declaring and choosing the Examination option and may not be modified to the Thesis or Project option.

The student shall enroll in CSE 6890 and CSE 6980 after consultation with the graduate coordinator and completion of the last core course(s). CSE 6890 is a graduate seminar in preparation of the comprehensive examination CSE 6980 and CSE 6980 may be repeated only once. Students enrolled in CSE 6980 must pass a comprehensive written examination on the material in the core courses.

It is strongly recommended that you complete the steps for advancement to candidacy the semester before you plan to enroll in CSE 6890 and 6980.

#### Comprehensive Written Examination Format:

- The exam covers the five core courses.
- The exam will be held in-person and the student will have a total of 2.5 hours.
- For each course, the student will select 1 out of 2 questions.
- The student is allowed 2 letter-sized (8.5 by 11 inches) cheat sheets (double-sided allowed), handwritten or typed, no less than 10 pt font.

#### Passing Criteria for Comprehensive Written Examination:

The student needs a grade of 75 or above in at least 2 courses, and no more than one course with a grade below 60.

#### Retake Policy for Comprehensive Written Examination:

- If a student does not pass the exam, the student will receive a grade of "NC" and will have an opportunity to retake the exam in the subsequent regular semester term (Spring/Fall).
- Students are required to retake courses for which they scored below 60.
- It is up to the student to decide whether to retake courses for which they scored 60 or above but below 75.
- For each course retaken, the higher of the two grades for the course will be applied.
- If a student does not retake a particular course, the grade will remain unchanged for that course.
- Students have **only one** retake attempt and courses are to be retaken in the **same** exam session.
- Students need to inform the graduate coordinator for advising which courses they will be retaking (at least 1 month in advance).

## Degree Requirements (31 units)

<b>Required Courses (15)</b>		
<a href="#">CSE 6020</a>	Computation and Complexity Theory	3
<a href="#">CSE 6100</a>	Modern Computer Architecture	3
<a href="#">CSE 6300</a>	Theory of Algorithms and Their Analysis	3
<a href="#">CSE 6550</a>	Software Engineering Concepts	3
<a href="#">CSE 6600</a>	Operating Systems Concepts and Theory	3
In rare instances past 5000-level course work may preclude a student from enrolling in a required course. In that case, the student must seek advising by the graduate coordinator who will determine a viable alternative.		
<b>Culminating Experience (16)</b>		
Sixteen units from one of the following options:		16
<b>Total Units</b>		<b>31</b>

## Culminating Experience (16 units)

### Examination Option (16 units)

<a href="#">CSE 6890</a>	Graduate Seminar	1
<a href="#">CSE 6980</a>	Comprehensive Examination	0
15 units of elective coursework chosen from 5000- to 6000-level computer science courses deemed appropriate by the department graduate committee. Up to 9 units of 5000-level computer science courses may be taken.		15
<b>Total Units</b>		<b>16</b>

### Project Option (16 units)

<a href="#">CSE 6962</a> or <a href="#">CSE 6964</a>	Masters Project (for a total of 4 units) Masters Project	4
12 units of elective coursework chosen from 5000- to 6000-level computer science courses deemed appropriate by the department graduate committee. Up to nine units of 5000-level computer science courses may be taken.		12
<b>Total Units</b>		<b>16</b>

## Thesis Option (16 units)

Six units chosen from:		6
<a href="#">CSE 6972</a>	Thesis	
<a href="#">CSE 6973</a>	Thesis	
<a href="#">CSE 6974</a>	Thesis	
<a href="#">CSE 6976</a>	Thesis	
10 units of elective coursework chosen from 5000- to 6000-level computer science courses deemed appropriate by the department graduate committee.		10
<b>Total Units</b>		