COMPUTER SCIENCE, MS

Natural Sciences, Mathematics, and Engineering (nsme) (https://catalog.csub.edu/general-information/csub-information/school-natural-sciences-mathematics-engineering/)

Department of Computer and Electrical Engineering and Computer Science

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www.cs.csubak.edu (http://www.cs.csubak.edu)

Program Maps for Natural Sciences, Mathematics, and Engineering (https://programmap.csub.edu/academics/interest-clusters/4e942a6e-b8e4-4b60-a1ae-334235acc581/)

Program Requirements

Graduation Writing Assessment Requirement (GWAR)

The California State University system requires all degree candidates to demonstrate upper division writing competency before the degree can be conferred. Students who do not meet the GWAR Waivers for Graduate Students guidelines as specified in the Academic Information and Division of Graduate Programs sections of the CSUB Catalog are required to satisfy GWAR prior to the end of the first semester of the program.

Time Limits

Time limits have been set for completion of requirements at each level of status. For students admitted as Conditionally Classified Graduate Students, advancement to Classified Graduate Student status must be accomplished in the time frame specified in the admissions letter. Advancement to Candidate status must be accomplished within three calendar years of achieving Classified Graduate Student status. The three-year limit may be extended upon approved petition to the Program Committee. All requirements, and graduation, must be completed within five calendar years of admission to the program. The five-year limit may be extended upon approved petition to the Program Committee.

Code	Title	Units
Core Courses		
CMPS 5000	Colloquium in Computer Science (2 terms)	2
CMPS 5010	Current Topics in Computer Science	2
CMPS 5100	Research Methodologies and Professional Ethics	2
CMPS 5120	Graduate Algorithm Design and Analysis	3
Select a minimum of 6 units of the following:		6
CMPS 5240	Graduate Computer Architecture	
CMPS 5350	Graduate Software Engineering	
CMPS 5500	Graduate Programming Languages and Compilers	
CMPS 5600	Graduate Operating Systems	
CMPS 5640	Graduate Distributed Computation	
Capstone Option		
Select one of the following Options:		3-6
Thesis Option		
CMPS 6910	Thesis Research	
CMPS 6920	Thesis Defense	
Project Option		
CMPS 6950	Graduate Project I	
CMPS 6960	Graduate Project II	
Elective Courses		
Select 9-12 elective units [1]		9-12
Total Units		**27-33**

[1] Thesis Option students need 9 elective units. Project Option students need 12 elective units.

Electives should be chosen in consultation with the student's Program Advisor and submitted to the Graduate Program Director for approval. Approved electives will be recorded on the student's Plan of Study.

Electives are available in the following areas:

Code	Title	Units
Data Science/Artificial Intelligence/Machine Learning Courses		
CMPS 5420	Natural Language Processing	3
CMPS 5450	Graduate Data Mining	3
CMPS 5560	Machine Learning	3
Cybersecurity Courses		
CMPS 5270	Hardware Security	3
CMPS 5510	Reverse Engineering	3
CMPS 5650	Operations Security	3
Parallel/Distributed Computation Courses		
CMPS 5150	Parallel Algorithms	3
CMPS 5160	Distributed Learning and Optimization	3
Individual Study/Special Topics [1]		
CMPS 5770	Special Topics in Computer Science	1-3
CMPS 5800	Graduate Research	1-3
CMPS 5860	Graduate Internship in Computing	1-3

[1] *Note: Only up to 3 units of Individual Study/Special Topics may be used for elective credit.*

Units from

Code	Title	Units
CMPS 5240	Graduate Computer Architecture	3
CMPS 5350	Graduate Software Engineering	3
CMPS 5500	Graduate Programming Languages and Compilers	3
CMPS 5600	Graduate Operating Systems	3
CMPS 5640	Graduate Distributed Computation	3

in excess of the 6 units needed to satisfy the Core Course requirements may also be used as elective units, with approval of the Graduate Program Director.

Up to 6 semester units of CMPS 4000-level coursework not previously used to meet baccalaureate degree requirements may be used as

elective units, with approval of the Graduate Program Director. However, international students under certain visas must take all courses used for the MS Computer Science degree at the graduate level (5000 and above) and cannot use the 4000-level petition for elective credit.

Graduation Requirements

The university will confer the degree upon the fulfillment of the following requirements:

1. Completion of all required courses according to an approved Plan of Study with a GPA of 3.0 or better.
2. Completion of all graded courses on the approved Plan of Study with a grade of "B-" or better.
3. Satisfactory completion of the student's chosen capstone option (Thesis or Project):
   Thesis option: Satisfactory completion of the thesis, including oral examination, any revisions required by the student's Thesis Committee or the Program Committee, and filing the thesis with the library.
   Project option: Satisfactory completion of the project and project documentation, including any revisions required by the student's Project Committee or the Program Committee.

1.