Graduate Study Plan

What is a Study Plan? It is **NOT** just a plan you make of which courses to take when. It is a formal list of the 10 courses (30 units) that will make up your graduate program. It must satisfy certain University and Departmental rules, and every Study Plan must be approved by the Graduate Advisor and the Associate Vice President of Research (or designee). ***It should be submitted before completing more than 13 units of study plan eligible coursework (not including any foundational breadth courses). Each course on the study plan must be completed with a grade of "C" or better***. When you apply for graduation, this is the document that the University will use to decide to award you the Master's Degree. Appendix B shows the Study Plan Worksheet that you will use to make your study plan. Once the study plan has been approved, you must file a "Study Plan Change Request" form with the Computer Science Department if you want to make any changes.

*"**The Study Plan** is **NOT** just a plan you make of which courses to take when. It is a formal list of the 10 courses (30 units) that will make up your graduate program"*

Required Courses

All students are required to complete a set of Required Elective courses, Graduate Seminar in Computer Science (CPSC 598), followed by a Project (CPSC 597) or Thesis (CPSC 598). The details are discussed below.

Required Electives: 9 units (3 courses) from three of the four categories below

- **Computer Applications:**
  - CPSC 531 Advanced Database Management
  - CPSC 566 Advanced Computer Graphics
  - CPSC 583 Expert Systems Design Theory
  - CPSC 585 Artificial Neural networks

- **Computer Systems**
  - CPSC 551 Operating Systems Designs
  - CPSC 552 Cyber Forensics
  - CPSC 558 Advanced Computer networking

- **Software Engineering**
  - CPSC 541 Systems and Software Standards and Requirements
  - CPSC 542 Software Verification and Validation
  - CPSC 543 Software Maintenance
  - CPSC 544 Advanced Software Process
  - CPSC 545 Software Design and Architecture
  - CPSC 546 Modern Software Management
  - CPSC 547 Software Measurement
  - CPSC 548 Professional, Ethical and Legal Issues for Software Engineers

- **Theoretical Computer Science**
  - CPSC 535 Advanced Algorithms

CPSC 589 Seminar in Computer Science

CPSC 597 Project or CPSC 598 Thesis

Graduate Seminar

In the Graduate Seminar (CPSC 589) students will do individual research into topics that can be the basis of a Master degree project or thesis. Research techniques, presentation skills, and contemporary research areas and topics are covered. Students will prepare a project proposal that can be used for their project or thesis. CPSC 589 must be complete before enrolling into CPSC 597 (Project) or CPSC 598 (Thesis).

Project / Thesis

To complete the graduate program, you must complete either CPSC 597 Project or CPSC 598 Thesis. A project is a significant development undertaking that shows originality and independent thinking. A thesis is a written description of the systematic study of a significant problem covering the gathering and analysis of information and including a conclusion or recommendation.

You can enroll into CPSC 597 from your portal.

To enroll in CPSC 598, you must submit a CPSC 598 Thesis Proposal form to the Computer Science Department Office. This form must be signed by a supervising full-time faculty member and by a second faculty reviewer **no later than the two weeks before the last day of instruction of the preceding semester**. Permission to enroll in CPSC 598 may be withheld if you submit a proposal after this deadline. The CPSC 598 proposal cover page can be found at https://www.fullerton.edu/ecs/cs/_resources/docs/Proposal%20Cover.docx

To enroll in CPSC 598, you must submit a CPSC 598 Thesis Proposal form to the Computer Science Department Office no later than two weeks before the last day of instruction of the preceding semester

Again, you will not be able to register online for CPSC 598 course until the Computer Science Department Office grants permission to do so. Email will be sent to your CSUF student account when this is done.

NOTE: If Project/Thesis is the only course left during your last semester, you will need to fill out a Reduced Course Load (RCL) form (found here https://bit.ly/3gknuex), obtain the signature of Department Chair, and submit the signed form to the International Student Services.

Elective Courses

You must take five additional courses; at least two of these courses must be at the 500-level**. Any 400 level course on the study plan cannot be similar in content to a course taken as an undergraduate.**

You should choose elective courses in at least two different areas. The following are groupings of some 400 and 500 level courses. Please note that **courses not listed may still be selected as electives**. In particular, these lists may not cover newly created courses. Depending on the focus, a course may be listed in more than one area.

*"Your Study Plan **cannot** include any 400 level elective courses whose content is similar to a course you took as an undergraduate and was credited toward your bachelor's degree"*

1. **Software Engineering:**
   - CPSC 463 Software Testing
   - CPSC 464 Software Architecture
   - CPSC 466 Software Process
   - CPSC 541 Systems and Software Standards and Requirements
   - CPSC 542 Software Verification and Validation
   - CPSC 543 Software Maintenance
   - CPSC 544 Advanced Software Process
   - CPSC 545 Software Design and Architecture
   - CPSC 546 Modern Software Management
   - CPSC 547 Software Measurement
   - CPSC 548 Professional, Ethical, and Legal Issues for Software Engineers

2. **Databases & Web Programming:**
   - CPSC 431 Database and Applications
   - CPSC-449 Web Back-End Engineering
   - CPSC 531 Advanced Database Management

3. **Computer Networks & Security:**
   - CPSC 452 Cryptography
   - CPSC 454 Cloud Computing and Security

- CPSC 455 Web Security
- CPSC 456 Network Security Fundamentals
- CPSC 458 Malware Analysis
- CPSC 459 Blockchain Technologies
- CPSC 471 Computer Communications
- CPSC 552 Cyber Forensics
- CPSC 558 Advanced Computer Networking

4. **Systems:**
    - CPSC 411 Mobile Device Application Programming
    - CPSC 531 Advanced Database Management
    - CPSC 551 Operating Systems Design
    - CPSC 558 Advanced Computer Networking

5. **Machine Intelligence:**
    - CPSC 481 Artificial Intelligence
    - CPSC 483 Introduction to Machine Learning
    - CPSC 583 Expert Systems Design Theory
    - CPSC 585 Artificial Neural Networks

6. **Theoretical Computer Science:**
    - CPSC 439 Theory of Computation
    - CPSC 535 Advanced Algorithms

7. Bioinformatics:

- CPSC 485 Computational Bioinformatics
- CPSC 583 Expert Systems Design Theory
- CPSC 585 Artificial Neural Networks

8. Computer Graphics & Game programming:

- CPSC 484 Principles of Computer Graphics
- CPSC 486 Game Programming
- CPSC 489 Game Development Project
- CPSC 566 Advanced Computer Graphics

Courses offered by other departments related to the student's objectives in Computer Science may be included on the Study Plan if approved by the Graduate Advisor.

Independent Graduate Research

You may take CPSC 599 Independent Graduate Research to fulfill part of your electives. This course allows you to pursue topics of special interest beyond those of a regular course. It cannot cover the same topic as your project or thesis.

You must submit an Application for Independent Study to the department office, which will supply the form. The application must include a plan for the course of study and objectives, and must be approved by a supervising full-time faculty member and by the department chair.

You may take up to three units per semester, and apply a maximum of three units towards the degree. The University allows a maximum of six units, but the Computer Science Department allows only three units.

You will not be able to register online for this course until the Computer Science Department Office grants permission to do so. Email will be sent to your CSUF student account when this is done.

Transfer Credit

At least 21 semester units must be taken in residence. Transfer credits and Cal State Fullerton extension credits are not residence units.

No more than nine units of transferable course work can be accepted from another institution and applied to the thirty required units on the Study Plan.

Duration of Study

All study plan courses should be completed within 10 semesters. If you find that this is not possible, you must file for a two-year extension.

The 10 semester time limit starts when you take the first course on your study plan. It does not include time spent on taking foundational breadth courses.

Grade Point Average

The University requires a 3.0 GPA for all 400 and 500 level courses taken here. You must also maintain a 3.0 GPA in all courses on your Study Plan. If you have a GPA lower than this, you will be placed on probation. If you are on probation for more than two consecutive semesters you are subject to disqualification from the program. Each course on the study plan must be completed with a grade of "C" or better while maintaining a 3.0 GPA. If a student receives a grade less than a "C" in a Study Plan course, that course must be repeated and passed with a "C" or better. A course may be repeated only once, and both grades will be included in the GPA. A maximum

*The University requires a **3.0 GPA** for all 400 and 500 level courses taken here with a grade of 'C' or better in each constituent course.*

of 6 units on your study plan may be repeated.

Scheduling Guidelines

Some 400 level and 500 level classes are offered every semester, while others are offered only every second semester or even less frequently. You should always check the official schedule or contact the Computer Science Department Office to make sure that a particular course is actually being offered when you want to take it.

Internship

Many students are interested in doing internships while pursuing their Master's degree. While the Computer Science Department encourages students doing internship, we do not have a formal program that places students in internships. Interested students should visit the Career Center in Langsdorf Hall Room 208. (http://www.fullerton.edu/career/students/) They have listings for both on-campus and off-campus jobs, and general information about internships. International students should also consult the International Office for the latest rules and regulations about CPT and OPT. Once an internship offer is given, students may enroll in EGGN 495, the internship course. It can be taken for the fall, spring or summer term. It is a variable unit course, so it can be taken for one unit at a time, or all three units at once. You should discuss how many units to sign up for with the faculty in charge of the internship course.

For all OPT/CPT questions please contact Dr. Sang June Oh (sjoh@fullerton.edu)

Applying For Graduation

You should file a Request for Graduation Check through Titan Online accessed from your Student Portal one semester before your expected date of graduation. The Graduation Check and your Graduate Study Plan will be sent to the Computer Science Department during that semester.

The Graduate Advisor will determine if your study plan has been satisfactorily completed, and will send a recommendation to the University Graduate Office, who will then inform you of the results.

''If you do not keep your study plan up to date, your graduation may be delayed''

If you change your study plan, you must file a Request for Change in Study Plan form, which you can obtain from the Computer Science Department or download from the Office of Graduate Studies website (https://bit.ly/2QkV9Kc). If you do not keep your study plan up to date, your graduation could be delayed.

Full-Time Faculty

Please see http://www.fullerton.edu/ecs/cs/faculty/ for up-to-date information on faculty.

Course Descriptions

For the most up-to-date course listings and descriptions, please consult the online Catalog at http://catalog.fullerton.edu/. Computer Science courses are most easily accessed from the Computer Science Department page in the catalog (https://bit.ly/3hpvn3q).

Appendix A. Foundational Breadth Requirement Worksheet

This worksheet is used to plan and record the foundational breadth course of study leading to classified graduate standing, shown on the next page.

Name: _____ **Semester:** _____

CWID: _____ **Date:** _____

Foundational Breadth Requirement Evaluation

The courses with a **mark** in front of them are those that you **need to complete**

Need to take	Course	Met By
	CPSC 121 Object-Oriented Programming	
	CPSC 131 Data Structures	
	CPSC 240 Computer Architecture and Assembly Language	
	CPSC 323 Compilers and Languages	
	CPSC 335 Algorithm Engineering	
	CPSC 351 Operating System Concepts	
	CPSC 362 Foundations of Software Engineering	
	MATH 150A Calculus I	
	MATH 150A Calculus II	
	MATH 270A Mathematical Structures I (Discrete Math)	
	MATH 270B Mathematical Structures II (Linear Algebra)	
	MATH 338 Statistics Applied to Natural Sciences	

Based on your transcripts, we believe that you must complete one or more foundational breadth courses before you may take any graduate courses. They are marked in the above table. If you feel that this is not correct, please provide detailed information (catalog description, course syllabus, or similar information) for our further evaluation.

Evaluator:

Appendix B. Graduate Study Plan Worksheet

The standard form for creating a Graduate Study Plan is shown on the next page.

CALIFORNIA STATE UNIVERSITY
FULLERTON
Department of Computer Science

Study Plan **Master of Science in Computer Science**

Name _____ Student ID No. _____ Date _____
Address _____ Home Phone: _____
_____ ZIP _____ Work Phone: _____

The following preclassification requirements have been met:

1. ☐ BA ☐ BS ☐ Other from _____ Month/Year _____
   Undergraduate major _____
2. ☐ Minimum GPA of 2.5, regardless of the visa status, from domestic (US) institutions with undergrad degree in engineering or computer science OR
   ☐ Minimum GPA of 2.5 from ABET accredited international institutions with undergrad degree in engineering or computer science OR
   ☐ Minimum GPA of 3.0 from domestic (US) institutions with undergrad degree other than engineering or computer science OR
   ☐ Minimum GPA of 3.0 if undergrad degree is from non-ABET accredited international institutions.
3. ☐ If undergrad degree is not in computer science, completed one course in computer programing with a grade of B- within the past two years.
4. Satisfactory completion of the following courses or equivalent including prerequisites:
   ☐ CPSC 121 ☐ CPSC 323 ☐ CPSC 362 ☐ MATH 270A
   ☐ CPSC 131 ☐ CPSC 335 ☐ MATH 270B
   ☐ CPSC 240 ☐ CPSC 351 ☐ MATH 338

Writing Requirement has been/will be met by ☐ **CPSC 597** ☐ **CPSC 598**

ALL STATE AND UNIVERSITY REQUIREMENTS ARE TO BE MET INCLUDING FIVE-YEAR LIMIT

Study Plan Requirements	*Units*	*Grade*	*Sem/Yr*	*Ext.*	*Comments*
REQUIRED ELECTIVES (9 Units) (3 units each from three of the four categories below)					
Computer Applications					
One of: CPSC 531, 566 583 or 585					
Computer Systems					
One of: CPSC 551, 552 or 558					
Software Engineering					
One of: 541, 542, 543, 544, 545, 546, 547, 548					
Theoretical Computer Science					
CPSC 535					
ELECTIVE COURSES (15 units 400/500—Maximum 9 units at 400-level)					
SEMINAR/PROJECT/THESIS (6 units)					
CPSC 589 Seminar in Computer Science	3				
CPSC 597 Project or 598 Thesis	3				
Total Units Required	30	Minimum 21 units 500-level			

Minimum 15 units Computer Science

CLASSIFIED STANDING recommended by committee (prerequisites met and Study Plan approved):
Reviewed by dept. staff (if required) _____ Date _____
Graduate Program Adviser _____ Date _____
Reviewed in Graduate Office _____ Date _____
CLASSIFIED GRADUATE STANDING GRANTED _____ Date _____
Associate Vice President, Academic Programs

Rev. 8/20 Rec'd Graduate Studies Office: Copies Sent: