Tulane University

COMPUTER SCIENCE CERTIFICATE

Overview

The **Undergraduate Certificate in Computer Science** offers students from across the university to develop a strong understanding of the fundamentals of computer science and programming that will increase their competitiveness for future jobs and/or post-baccalaureate studies. The certificate must be attached to a degree and cannot be earned as an independent certificate. The certificate also cannot be earned in addition to the traditional Coordinate Major in Computer Science; students can earn one or the other, but not both.

The requirements for the **Undergraduate Certificate in Computer Science** are highly flexible to provide students the opportunity to specialize their study in ways that complement their chosen major. It also offers students the opportunity to take a few courses in computer science before deciding whether or not to go for the full major. The certificate will require 3-4 semesters to complete as there is a one year sequence of introductory classes that must be taken in order.

There are multiple entry and exit points for students wishing to pursue the certificate. Students who begin by pursuing the Computer Science Coordinate Major will enter with CMPS 1500 Intro to Computer Science I (4 c.h.), which is a more rigorous course that sets students up for success in CMPS 2200 Intro to Algorithms (3 c.h.) and later courses required for the Major. However, students who are more "computer science curious" can enter with CMPS 1100 Foundations of Programming (3 c.h.) followed by CMPS 3160 Introduction to Data Science (3 c.h.) which will provide them with a comparable foundation at a gentler pace.

Students that have a firm desire to take only a small number of advanced CMPS courses, e.g., Machine Learning, Bioinformatics, or Computational Geometry, can take a sequence consisting of CMPS 1500 Intro to Computer Science I (4 c.h.), CMPS 1600 Intro to Computer Science II (4 c.h.), CMPS 2200 Intro to Algorithms (3 c.h.), and then the specific higher level elective.

Requirements

The **Undergraduate Certificate in Computer Science** requires the completion of a minimum of four courses consisting of the following. Note that the certificate must be attached to an undergraduate degree and cannot be earned as an independent certificate. The certificate also cannot be earned in addition to the traditional Coordinate Major in Computer Science; students can earn one or the other, but not both.

Course ID	Title	Credits
Select one of the following		
CMPS 1100 & CMPS 3160	Foundations of Programming and Introduction to Data Science	6 or 4
or CMPS 1500	Intro to Computer Science I	
CMPS 1600	Intro to Computer Science II	4
Select one or two courses at the 2000-level or above [1]		**3 or 6**

Students who complete CMPS 1100 and CMPS 3160 must complete one additional CMPS course at the 2000-level or higher; Students who complete CMPS 1500 will take two courses at the 2000-level or above to complete this certificate.

[1] CMPS 2170 Intro to Discrete Math (3 c.h.) or MATH 2170 Intro To Discrete Math (3 c.h.) is a required prerequisite for CMPS 2200 Intro to Algorithms (3 c.h.), however CMPS 2170 Intro to Discrete Math (3 c.h.) or MATH 2170 Intro To Discrete Math (3 c.h.) **will not** count towards the requirements for the certificate.