Undergraduate Handbook
2015-2016 Edition

Department of Computer Science
California State University, Fullerton

Draft: July 28, 2015

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Introduction

1.1 The field of computer science

Computer Science is the systematic study of computing systems and computation. The body of knowledge contains the theoretical foundation for understanding computing systems and methods, design methodology, algorithms, and software and hardware tools.

These programs cover a wide range of areas, including:

- multimedia and digital game technologies,
- Internet and enterprise computing,
- wireless and mobile computing,
- databases and data mining,
- computer security,
- software engineering, and
- computational bioinformatics.

Computer Science prepares graduates for rewarding careers in all areas of business, government, education and industry. These organizations, large and small, need computer professionals to address their needs with specific programs and systems. Computer science professionals tackle complicated problems and create computer solutions to solve them, devising new ways to use computers.

1.2 The department

The faculty and staff of the Computer Science Department welcome you into our program and sincerely wish you good luck on your journey into higher education, and continued success.

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Whenever you have a question about the Department—its policies, its curriculum, its services, your progress, or anything else—feel free to contact us.

Web:	http://fullerton.edu/ecs/cs/
E-mail:	csoffice@ecs.fullerton.edu
In person:	Room CS-522
Telephone:	(657) 278-3700
Fax:	(657) 278-7168
Postal mail:	California State University, Fullerton Department of Computer Science P.O. Box 6870 Fullerton, CA 92834-6870

1.3 Accreditation

The Bachelor of Science in Computer Science degree at Cal State Fullerton is accredited by the Computer Accreditation Commission of ABET (abet.org).

1.4 The programs

The Department offers the following Undergraduate programs, which are documented in this Handbook:

1. Bachelor of Science in Computer Science (BS CS), and
2. Minor in Computer Science.

The Department also offers Graduate programs, which are documented elsewhere:

1. Master of Science in Computer Science (MS CS),
2. Master of Science in Software Engineering (MSE), and
3. Accelerated Master of Science in Software Engineering (AMSE).

Some CS courses count toward the Computer Engineering, Electrical Engineering, and Mathematics majors.

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1.5 Objectives and Outcomes

The following Program Educational Objectives and Program Outcomes have been established for the Bachelor of Science in Computer Science:

Program Educational Objectives

1. *Technical Growth:* Graduates will be successful in modern computing practices, integrate into the local and global workforce, and contribute to the economy of California and the nation.
2. *Professional Skills:* Graduates will continue to demonstrate the professional skills necessary to be competent employees, assume leadership roles, and have career success and satisfaction.
3. *Professional Attitude and Citizenship:* Graduates will become productive citizens with high ethical and professional standards, who make sound technical or managerial decisions, and have enthusiasm for the profession and professional growth.

Program Outcomes

(a) An ability to apply knowledge of computing and mathematics appropriate to the discipline

(b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution

(c) An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs

(d) An ability to function effectively on teams to accomplish a common goal

(e) An understanding of professional, ethical, legal, security and social issues and responsibilities

(f) An ability to communicate effectively with a range of audiences

(g) An ability to analyze the local and global impact of computing on individuals, organizations, and society

(h) Recognition of the need for and an ability to engage in continuing professional development

(i) An ability to use current techniques, skills, and tools necessary for computing practice

(j) An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrate comprehension of the tradeoffs involved in design choices

(k) An ability to apply design and development principles in the construction of software systems of varying complexity

1.6 Using this document

This handbook covers information on how to earn a Bachelor of Science or a Minor in Computer Science, and contains information relevant to students pursuing them. If you are pursuing a Masters degree, please trade this handbook for a copy of the Graduate Handbook.

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Some aspects of our programs are complex, and you may find it difficult to choose among alternatives. In those cases, we present our suggested default choice as a tip, as shown below. You are not required to obey these tips, but obeying them is often a wise choice.

TIP	When in doubt, heed tips such as this one.

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Other sources of information

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Major tracks

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5.2 Internet and Enterprise Computing (IE)

5.3 Software Engineering (SE)

5.4 Scientific Computing (SC)

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Alternative pathways

6.1 Transfer

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Advisement

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Resources and Activities

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8.4 Clubs

8.4.1 Association of Computing Machinery (ACM)

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Progress Flowcharts

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Credits and Revision History

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