SSCC SOUTH SEATTLE COMMUNITY COLLEGE
Member of the Seattle Community College District

Career Planning Guide Effective September 2003 for

COMPUTER SCIENCE

Length of Program: 90 credits **Goal**: Associate of Science (AS) Degree

South Seattle Community College
6000 16th Ave SW
Seattle, Washington 98106-1499
http://www.southseattle.edu/
Academic Offices (206) 768-6600

General Academic Advising:
(206)-764-5387
advisorsouth@sccd.ctc.edu

Quarterly Costs – check current schedule:
http://www.southseattle.edu/services/tuition.htm

Class schedule and District catalog:
http://www.southseattle.edu/programs/classCat/

Computer Science Faculty Contact:
Mike Steffancin (206)-768-6486
msteffancin@sccd.ctc.edu
RSB 189

PROGRAM DESCRIPTION

Computer Scientists work with computers and the software that runs them, develop information technologies, and develop and adapt principles for applying computers to new uses. Computer Science includes the theory of computation, the design and analysis of algorithms, the architecture and logic design of computers, programming languages, compilers, operating systems, scientific computation, computer graphics, user interfaces, databases, artificial intelligence and natural language processing. The Computer Science degree focuses on programming theory as opposed to the skills-based degree of Computing and Software Systems. The Computer Science Associate of Science (AS) degree program prepares students for transfer to computer science programs at four-year colleges and universities and will give students basic skills needed by all scientists. Students study basic mathematical and scientific principles with an emphasis on problem solving and critical thinking. Additionally, the program provides students experience with computer programming, commonly used engineering software like Pspice and Matlab, and with building and analyzing electric circuits. The curriculum includes a design component consistent with the Accreditation Board for Engineering and Technology (ABET) accreditation standards. The curriculum also develops other job related skills such as communications, human relations and technical report writing. Credits earned with the AS degree at South Seattle Community College can be applied toward the first two years of a four-year bachelor's degree in computer science or a related field such as computer engineering.

PROGRAM OUTCOMES

Students who successfully complete this program will show:

- An ability to apply knowledge of mathematics, science, and engineering to computer science problems.
- An ability to design and conduct experiments, as well as to analyze and interpret data.
- An ability to think critically in evaluating information, solving problems and making decisions.
- An ability to function on diverse, multi-disciplinary teams.
- An ability to access and evaluate information from a variety of sources including the Internet.
- An understanding of professional and ethical responsibility.
- An ability to communicate effectively with written, oral, and visual means.
- The broad education necessary to understand the impact of programming solutions in a global and societal context.
- A recognition of the need for and an ability to engage in life-long learning.
- An ability to use modern engineering techniques, skills, and technology including computing and programming tools necessary for a career in computer science.

CAREER OPPORTUNITIES

The employment outlook for Computer Scientists is very good. Graduates can be employed in private industry as well as various governmental departments, consulting services, and technical sales. The average nationwide starting salary for graduates with a Bachelor's degree in Computer Science in 2008 was $59,873. Source: National Association of Colleges and Employers.

Effective Sept 2003

Associate of Science
Computer Science Pre-Major

CURRICULUM

The A.S. degree requires 90 credits total. Courses are 5 credits unless otherwise listed.

BASIC REQUIREMENTS (20 credits):

- ENGL& 101 – Composition
- MATH& 151 – Calculus I
- MATH& 152 – Calculus II
- MATH& 153 – Calculus III

DISTRIBUTION REQUIREMENTS (15 - 20 credits):

Visual, Literary and Performing Arts (5 - 15 credits)

- Language and Speech
- Literature/History of Ideas
- Music, Art and Drama

Individuals, Cultures and Societies (5 - 15 credits)

- Individuals and Societies
- United States Culture
- Global Studies

MAJOR AREA OF STUDY (35 credits):

- PHYS& 221, 222, & 223
- CSC 142‡, 143
- ENGR 110 (1 cr), 116 (4 cr)
- MATH 220 (5 cr)

ELECTIVES (15 - 20 credits):

Courses may not be used to satisfy other requirements. **Selection should be made based on advisor recommendation, given the four-year institution that the student plans to attend.**

Recommended: CSC 110‡, ENGR 142, ENGR& 230, MATH 109

Other science classes offered:

- BIOL& 211, 212, 213
- CHEM& 161† (6 cr), 162 (6 cr), 163 (6 cr), 241 (4 cr), 251 (3 cr)
- CSC 110
- ENGR 111 (4 cr), 112 (4 cr), 204, 214, 215, 220, 224, 225, 230, 298
- MATH 224, 238, 298 (2 credit maximum given for MATH 298)

Footnotes:

†CHE 139 is a prerequisite for CHEM& 161

‡ CSC 110 is a prerequisite for CSC/ENGR 142

SAMPLE COURSE PLAN

By starting in the Fall and taking a full-time load, students may complete the curriculum in six quarters. Many students find they have to attend summer school to graduate on time. Certain higher-level classes are only offered once a year, **so be sure to consult with advisors here at SSCC and at the 4-year institution you will attend to plan your schedule.**

FRESHMAN YEAR:

First quarter

- MATH& 151 Calculus I
- ENGL& 101 Composition
- ENGR 116 Engineering Design and Creativity
- ENGR 110 Engineering Orientation

Second quarter

- MATH 152 Calculus II
- Distribution Requirement (5 credits)
- MATH 109 Statistics

Third quarter

- MATH& 153 Calculus III
- PHYS& 221 Engineering Physics I
- CSC 110 Intro to Programming

SOPHOMORE YEAR:

First quarter

- ENGR 142 Engineering Programming C/C++
- PHYS& 222 Engineering Physics II
- Distribution Requirement (5 credits)

Second quarter

- MATH 220 Linear Algebra
- PHYS& 223 Engineering Physics III
- CSC 142 Computer Programming for Engineers

Third quarter

- Distribution Requirement (5 credits)
- ENGR& 230 Technical Writing
- CSC 143 Computer Programming for Engineers II

Updated 10/6/08

__SOUTH SEATTLE COMMUNITY COLLEGE_____

ASSOCIATE OF SCIENCE DEGREE IN COMPUTER SCIENCE

Note: Students must have a minimum 2.0 GPA for graduation and must take a minimum of 30 credits at SSCC. Final quarter must be at SSCC.

Name	**SID#**				
No course fulfills more than one requirement **Basic Requirements: 20 credits**	**Course Credit**	**Credit Earned**	**Grade**	**College**	**Quarter**
ENGL& 101	5				
MATH& 151	5				
MATH& 152	5				
MATH& 153	5				
Areas of Knowledge Distribution Requirements: 15 - 20 credits					
Visual, Literary, and Performing Arts (Humanities and Arts): 5 – 15 credits					
Individuals, Cultures, and Society (Social Sciences): 5 – 15 credits					
Major Area of Study: 34 credits					
PHYS& 221	5				
PHYS& 222	5				
PHYS& 223	5				
CSC 142	5				
CSC 143	5				
ENGR 110	1				
ENGR 116	4				
MATH 220	5				
Electives: 16 - 21 credits Courses may not be used to satisfy other requirements. **Selection should be made based on advisor recommendation, given the four-year institution that the student plans to attend.**					

Total Credits Required: 90 Evaluator_____**Date**_____

Updated 10/6/08