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

Career Planning Guide Effective September 2003 for

COMPUTER ENGINEERING

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 Engineering Faculty Contact:
Mike Steffancin (206)-768-6486
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RSB 189

PROGRAM DESCRIPTION

Computer Engineers design and implement computer hardware and software systems to solve a variety of problems in such diverse areas as communications, manufacturing, robotics, computer graphics, databases and many others. A computer engineer could be involved with hardware design and fabrication, software creation, systems integration, or fundamental research. The Computer Engineering Associate of Science (AS) degree program prepares students for transfer to Computer Engineering programs at four-year colleges and universities and will give students basic skills needed by all engineers. 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 engineering or related fields such as electrical engineering or computer science.

PROGRAM OUTCOMES

Students who successfully complete this program will show:

- An ability to apply knowledge of math, science, and engineering to computer engineering 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 engineering 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 engineering practice.

CAREER OPPORTUNITIES

The employment outlook for Computer Engineers is very good. Graduates can be employed in private industry as well as various governmental departments, consulting services, and technical sales. Nationwide, the average starting salary for graduates with a Bachelor's degree in Computer Engineering in 2008 was $59,962. Source: National Association of Colleges and Employers.

Effective Sept 2003

Associate of Science
Computer Engineering 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 credits):

Visual, Literary and Performing Arts (5 – 10 credits)

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

Individuals, Cultures and Societies (5 - 10 credits)

- Individuals and Societies
- United States Culture
- Global Studies

MAJOR AREA OF STUDY (36 credits):

- CHE 161† (6 credits)
- PHY 221, 222, & 223
- CSC 142‡ or ENGR 142‡
- ENGR 110 (1 cr), 116 (4 cr), 204

ELECTIVES (19 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, CSC *143*, ENGR 142, ENGR& *230,* MATH *220*, MATH *238*
Other Science Classes Offered:

- BIOL& 211, 212, 213
- CHEM& 162 (6 cr), 163 (6 cr), 241 (4 cr), 251 (3 cr)
- ENGR 111 (4 cr), 112 (4 cr), 170 (4 cr), 171 (1 cr), 214, 215, 224, 225, 271, 298
- MATH 109, 224, 298 (2 credit maximum given for MAT 298)

Footnotes:

†CHEM 139 is a prerequisite for CHEM& 161

‡ CSC 110 is a prerequisite for CSC/ENGR 142

Italicized electives are required for graduation in the UW Computer Engineering program.

SAMPLE COURSE PLAN

By starting in the Fall and taking a full-time load, students may complete the curriculum in six quarters. 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
- CHEM& 161 Chemistry I
- Distribution Requirement (5 credits)

Third quarter

- Distribution Requirement (5 credits)
- MATH& 152 Calculus III
- PHYS& 221 Engineering Physics I

SOPHOMORE YEAR:

First quarter

- CSC 142 Computer Programming for Engineers
- PHYS& 222 Engineering Physics II
- MATH 238 Differential Equations

Second quarter

- MATH 220 Linear Algebra
- PHYS& 223 Engineering Physics III
- ENGR& 204 Fundamentals of Electrical Engineering

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 ENGINEERING

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 credits					
Visual, Literary, and Performing Arts (Humanities and Arts): 5 – 10 credits					
Individuals, Cultures, and Society (Social Sciences): 5 – 10 credits					
Major Area of Study: 36 credits					
CHEM& 161	6				
PHYS& 221	5				
PHYS& 222	5				
PHYS& 223	5				
CSC 142 or ENGR 142	5				
ENGR 110	1				
ENGR 116	4				
ENGR& 204	5				
Electives: 19 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**_____