Computer and Electrical Engineering

Associate in Computer and Electrical Engineering
Direct Transfer Agreement/Major Related Program (DTA/MRP)
Planning Guide 2017–2018

Computer and Electrical Engineering—What is it?

Computer and Electrical Engineering are intrinsically intertwined. While Computer Engineers focus specifically on the design, implementation and operation of computer hardware and software systems, Electrical Engineers design, develop and test all devices and systems that use electrical and electromagnetic energy. Both majors build on a solid foundation of math, science, computer science, engineering design and communications.

Areas of Study in Computer and Electrical Engineering: Electrical Circuits, Linear Systems, Thermodynamics, Engineering Problem Solving and Design, Data Structures, Microprocessors, Digital Operations and Computation, Electromagnetic Waves, Wireless Communication, Computer Programming, Operating Systems and Networks.

What is an AS-T Track 2 MRP?

The Associate in Science Transfer (AS-T) degree is designed to prepare students entrance into a Bachelor of Science (B.S.) program in Computer Engineering or Electrical Engineering. This AS-T degree is a Major Related Program detailing university requirements in the sciences, mathematics, computer science, communications and engineering so students will be ready for junior standing. Students will be required to take additional courses after transfer to fulfill general university requirements. Computer and Electrical Engineering is also an excellent major for graduate studies in Computer Science, Engineering, Law, Business and Education.

Where can I go for help?

Instructional Faculty Advisors

Alison Armstrong	206-546-4698	aarmstrong@shoreline.edu	Rm 2811
Eric Basham	206-546-4625	ebasham@shoreline.edu	Rm 2809
Stephanie Diemel	206-546-4579	sdiemel@shoreline.edu	Rm 5356
Fred Kuczmarski	206-546-6993	fkuczmar@shoreline.edu	Rm 5348
Sasha Malinsky	206-533-6709	smalinsky@shoreline.edu	Rm 5383
Tiffany Meier	206-546-6953	tmeier@shoreline.edu	Rm 5233

For course information and entry codes, contact: mathadvising@shoreline.edu; chemistryadvising@shoreline.edu; engineeringadvising@shoreline.edu

General Academic Advising

FOSS (5000) Building, Rm. 5229
206-546-4559
advising@shoreline.edu
www.shoreline.edu/advising

International Student Academic Advising

9000 Building, Rm. 9302
206-546-4697
ieadvisors@shoreline.edu
www.shoreline.edu/international/advising/

Where can I transfer?

The AS-T Track 2 MRP in Computer and Electrical Engineering makes it possible for students to transfer to a number of public and private colleges and universities with junior standing. Below are Washington State institutions that recognize this MRP.

Public Institutions

Central Washington University (CE Tech, EE Tech)
Eastern Washington University—Spokane (CE)
Eastern Washington University—North Seattle (EE)
University of Washington—Seattle (CE, EE)
University of Washington—Bothell (CE, EE) & Tacoma (CE)
Washington State University – Pullman (CE, EE)
Washington State University – Everett, Tri-Cities, Vancouver (EE)
Western Washington University (EE)

Private Institutions

DigiPen Inst. of Tech (CE)
Gonzaga University (EE, CE)
Pacific Lutheran University (EE, CE)
Seattle Pacific University (EE, CE)
Seattle University (EE, CE)
Walla Walla University (CE)

*Note: Engineering Majors offered at Washington State Universities are designated as follows: Computer Engineering (CE) and Electrical Engineering (EE)

What can I do with a Bachelor's Degree in Computer and Electrical Engineering?

In addition to strong technical, scientific and problem solving skills, engineers often rely on teamwork and clear communications to manage projects effectively. These skills apply to a wide range of careers in such areas as hardware research and design, software and electrical engineering, management, teaching, sales and consulting.

Potential employers include: Engineering firms, manufacturing firms, semi conductor companies, computer software and hardware companies, wireless communication companies, government agencies, colleges and universities. For more, please visit http://www.shoreline.edu/counseling-services/career-counseling.aspx

What do I need to take?*	Below are the requirements for the AS-T Track 2 and the Major Related Program (MRP) in Computer and Electrical Engineering.

I. GENERAL EDUCATION I 18 - 20 Credits				**II. DISTRIBUTION REQUIREMENTS | 10 Credits**			
Courses used in General Education (Gen Ed) Core may not be used for distribution.				See courses listed on next page *ECON& 201 is recommended for Social Sciences*			
General Education Courses	QTR	GR	CR	**Humanities** *5 Credits*	QTR	GR	CR
ENGL &101			5	1.			
ENGL &102 or &230, or CMST &101			3 - 5	**Social Sciences** *5 Credits*	QTR	GR	CR
Multicultural Understanding			5	1.			
MATH &151 (Quant. & Symb Reas.)			5				

III. PRE-MAJOR PROGRAM I 75 – 79.5 Credits

PHYSICS | 16.5 Credits		QTR	GR	CR	**CHEMISTRY** | 6.5 Credit	QTR	GR	CR
PHYS &221	*Fall, Win*			5.5	CHEM 171/181 *Every quarter*			6.5
PHYS &222	*Win, Spr, Sum*			5.5	**MATHEMATICS** | 20 Credits	QTR	GR	CR
PHYS &223	*Win, Spr*			5.5	MATH &152 *Every quarter*			5
COMPUTING & ENG. | 10 Credits		QTR	GR	CR	MATH &163 *Every quarter*			5
CS &141	*Every quarter*			5	MATH 207 *Fall, Spr*			5
ENGR &204	*Spr*			5	MATH 208 *Fall, Win*			5

FOR MAJOR ELECTIVES, CHOOSE FROM LIST BELOW	**MAJOR ELECTIVES |** 22-26.5 Credits	QTR	GR	CR
BIOL &211 (*Every quarter, 5 Cr.*); **CS 121** (*Every quarter, 5Cr.*); **CS 143** (*Fall, Win, Spr, 5 Cr.*); **CHEM 172/182** (*Win, Spr, Sum, 6.5 Cr.*); **ENGL &230** (*Fall, Spr, 3 Cr, if not taken above*); **ENGR 100** (*Fall, Win, Spr, 4 Cr.*); **ENGR 102** (*Fall, 5 Cr.*); **ENGR &104** (*Win, 5 Cr.*); **ENGR &202** (*Spr, 5 Cr.*); **ENGR &214** (*Spr, Fall, 5 Cr*); **ENGR &215** (*Win, Spr, 5 Cr.*); **ENGR &224** (*Not offered at Shoreline, 5 Cr.*); **ENGR 240** (*Win, 5 Cr.*); **MATH &264** (*Spr, 5 Cr.*)	1.			
	2.			
	3.			
	4.			
	5.			

What does your chosen four-year school require?

Before choosing classes, become familiar with the four-year program where you want to apply: visit the website, email the department, and/or speak with a Shoreline advisor. Below are examples from Washington schools with different admissions and graduation requirements. Check with the school for world language requirements. (Non-native speakers of English are often exempt from this requirement.) University engineering programs require specific courses for each major. Not all majors/universities require all courses on this "Major Related Program" planning guide. At many schools, admission to these majors is competitive. Students are encouraged to investigate the schools and departments to which they plan to apply. The "Engineering, General" Planning Guide shows the minimum requirements for the Associate in Science Transfer-Track 2 degree.

School	Degrees	Requirements
University of Washington - Seattle	B.S. in Computer Engineering and B.S. in Electrical Engineering	http://www.washington.edu/students/gencat/academic/ee.html http://www.washington.edu/students/gencat/academic/cse.html
University of Washington – Bothell	B.S. in Computer Engineering and B.S. in Electrical Engineering	https://www.uwb.edu/bscompe/admissions/transfer https://www.uwb.edu/ee/prerequisites
University of Washington - Tacoma	B.S. in Computer Engineering and Systems	https://www.tacoma.uw.edu/institute-technology/admission-requirements-bs-computer-engineering-systems
Washington State University	B.S. in Computer Engineering and B.S. in Electrical Engineering	https://admission.wsu.edu/academics/fos/Public/field.castle?id=7585 https://admission.wsu.edu/academics/fos/Public/field.castle?id=1602
Seattle University	B.S. in Electrical Engineering and Electrical Engineering w/ specialization in Comp. Eng.	https://www.seattleu.edu/scieng/ece/programs-of-study/electrical-engineering/ https://www.seattleu.edu/scieng/ece/programs-of-study/electrical-engineering-with-computer-engineering-specialization/

The following is a list of classes that satisfy Shoreline's 2017-2018 AS-T Track 2 degree requirements. Credits for a specific course may be used only once and may not be applied toward more than one distribution area. Course numbers with an "&" are common course numbers with content that is consistent across Washington state community colleges.

I. GENERAL EDUCATION CORE REQUIREMENTS | 18-20 CREDITS

COMMUNICATIONS —10 Credits

English &101
English &102, &230
Communication Studies &101

MULTICULTURAL UNDERSTANDING — 5 Credits

Art 105
Communication Studies 203, 285
Gender and Women's Studies 284
History 245
Multicultural Studies 105

QUANTITATIVE / SYMBOLIC REASONING—5 Credits

Math &151

* Students planning to transfer to the University of Washington must consult Math Advising, mathadvising@shoreline.edu

II. DISTRIBUTION AREA REQUIREMENTS | 10 CREDITS

HUMANITIES—5 Credits
No more than 5 credits in 100 level foreign language.

General Humanities

American Ethnic Studies 106, 215
American Sign Language &121-&123
Art &100, 105, 234
Art History 204, 210, 224-226
Chinese &121-&123
Cinema 201, 202
Communication Studies &101, &102, 203, &210, &220, 285
Drama &101
English &111-&113, 154, 200, 207, &220, &226-&228, 229, &244-&246, 247, 248, 257, 265, 271, 272, 281, 282, 287-289
French &121-&123
Honors 100
Humanities 111-113, 140, 275
Japanese &121-&123, &221-&223
Music 100, &105, 106, 108, 109, &141-&143, 150, 206, 224, &241-&243
Philosophy &101, 102, &115, 210, 240, 248, 267
Spanish &121-&123, &221-&223

Performance Skills /Applied Theory – 5 Credits Maximum

Art 109, 110, 121-123, 131-134, 144-146, 251-256, 260-262, 271-273
Communication Studies 140, &230, 244, 245, 247, 292-294
Drama 144–146, 155-157, 207–209, 224-226, 234. 235, 244, 246, 255, 293
English &230, 279
Film 255-258, 266, 285, 286, 290, 292-295
Music 114, 115, 118–120, 135, 136, 140, 144, 146, 147, 151–156, 161–167, 170, 175, 180, 184, 196, 204, 205, 207, 210-212, 225, 226, 251–253, 264, 268, 270, 280, 284, 296
VCT 267

SOCIAL SCIENCES— 5 Credits

American Ethnic Studies 106, 119
Anthropology &100, 130, 140, &204, &206, &207, 215
Business &101
Child Advocacy Studies 102, 202, 285
Communication Studies &102
East Asia 216, 218
Economics 100, &201, &202. 291-295
Gender and Women's Studies 205, 215, 284-286, 288
Geography &100, 123, &200, 277, 295
History &116-&118, &136, &137, &146-&148, 207, &214, &215, 218, &219, 234-238, 245-247, 275, 295
Honors 100
International Studies 101, 123, 200, 201, 205, 292, 295
Multicultural Studies 105, 205, 210, 238, 250
Philosophy &101, 102, &115, 210, 240, 248, 265, 267, 295
Political Science &101, &201-&203, 221, 222, 291-295
Psychology &100, &200, 208-210, &220, 225, 236, 245, 295
Sociology &101, 102, 112, &201, 202, 250, 288, 295

STUDENT INFORMATION

Name: _____

Student I.D. No.: _____

Major/Pathway(s): _____

Specialty (if applicable): _____

TRANSFER SCHOOLS OF INTEREST

1.

2.

3.

4.

Academic Goals

❐ Complete an A.A. or A.S. degree

❐ Prepare for transfer only—No degree

❐ High school completion program/ GED

Previous College Experience

❐ Transferred from another college

❐ Completed transfer credit evaluation

❐ Prior Learning Assessment

Qtr:	Year:
COURSE	**CR**
Total Credits	

Qtr:	Year:
COURSE	**CR**
Total Credits	

Qtr:	Year:
COURSE	**CR**
Total Credits	

Qtr:	Year:
COURSE	**CR**
Total Credits	

Notes:

Qtr:	Year:
COURSE	**CR**
Total Credits	

Qtr:	Year:
COURSE	**CR**
Total Credits	

Qtr:	Year:
COURSE	**CR**
Total Credits	

Qtr:	Year:
COURSE	**CR**
Total Credits	

Notes:

Qtr:	Year:
COURSE	**CR**
Total Credits	

Qtr:	Year:
COURSE	**CR**
Total Credits	

Qtr:	Year:
COURSE	**CR**
Total Credits	

Qtr:	Year:
COURSE	**CR**
Total Credits	

Notes: