

Advisor \_\_\_\_\_  
Assigned By \_\_\_\_\_



Name \_\_\_\_\_  
Date \_\_\_\_\_

# 2018-2019 EDUCATIONAL PLAN

## Associate in Science – Major Related Program

### Bioengineering and Chemical Engineering

Course Placement Recommendations: English \_\_\_\_\_ Reading \_\_\_\_\_ Math \_\_\_\_\_

- ENGL 098       READ 099       MATH 095       MATH 098       MATH& 141  
 ENGL 099       MATH 096       MATH 099       MATH& 142

Recommended course schedule

Fall Quarter, First Year\*\*

	Credits
CHEM& 161 General Chem w/lab I (NS)	6
ENGL& 101 English Composition I (C)	5
ENGR 100 Intro to Engineering	2
Elective ♦ or Humanities Distribution (H)***	OR
Social Science Distribution (SS)***	5
	18

Winter Quarter, First Year

	Credits
CHEM& 162 General Chem w/lab II (NS)	6
MATH& 151 Calculus I (M)	5
Elective ♦ or Humanities Distribution (H)***	OR
Social Science Distribution (SS)*	5
	16

Spring Quarter, First Year

	Credits
CHEM& 163 General Chem w/lab III (NS)	6
MATH& 152 Calculus II (M)	5
Elective ♦ or Humanities Distribution (H)***	OR
Social Science Distribution (SS)***	5
	16

Fall Quarter, Second Year

	Credits
CHEM& 261 Organic Chem w/lab I (NS)	6
MATH 118 Linear Algebra (M)	5
PHYS& 221 Engineering Physics I (NS)	5
	16

Winter Quarter, Second Year

	Credits
BIOL& 222 Majors Cell/Molecular (lab)(NS)	OR
CHEM& 262 Organic Chem w/lab II (NS)	5 or 6
MATH& 163 Calculus III	5
PHYS& 222 Engineering Physics II (NS)	5
	15-16

Spring Quarter, Second Year

	Credits
MATH 212 Elem Differential Equations	5
PHYS& 223 Engineering Physics III (NS)	5
ENGR& 214 Statics	5
Health & Fitness Distribution (HF)	3
	18

\*An Economics class is recommended.

\*\*If you need review prior to MATH& 151 Calculus I, you may take pre-calculus.

Check for specific prerequisites for transfer institutions, particularly natural science and foreign language requirements.

\*\*\*Students are required to complete 3-5 credits in a Diversity course (D). A list of courses that satisfy the Diversity Requirement can be found in the college catalog.

♦ Choose one elective from CS& 131, CS& 141, MATH 264

QTR/YR \_\_\_\_\_ CREDITS \_\_\_\_\_

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QTR/YR \_\_\_\_\_ CREDITS \_\_\_\_\_

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NAME \_\_\_\_\_

# Engineering

DEGREE: Associate in Science  
(AS-T #2 Bioengineering/Chemical Engineering MRP)

## Purpose:

The Bio/Chemical Engineering Associate in Science degree is a pre-engineering Major Related Program designed for students transferring to a four-year college or university to complete a degree in the sub-discipline of bioengineering or chemical engineering. Elective credits should be planned with the help of an engineering advisor and based on the requirements of the specific discipline at the baccalaureate institution the student plans to attend. This two-year program requires students to be ready for calculus by the second quarter of the first year. If you are not well prepared in high school mathematics and science, you should plan a three-year program at Centralia College in preparation for transfer to a four-year school with the main emphasis in the first year should be on strengthening your mathematics, basic sciences, communication, and reading skills.

## Program Outcomes:

Please refer to the Distribution Requirements and their criteria listed in the Centralia College catalog.

## Learning Themes:

General education outcomes at Centralia College help students, faculty, and the general public identify learning expected when a student has completed a degree or program. The administration, faculty, and staff have agreed upon the following five Learning Themes which students can expect to encounter in their courses by the completion of any degree.

### Reasoning:

The ability to extract information from data, develop ideas and solutions, establish logical progression in thinking, and problem solve using such procedures as literary analysis or the scientific methods.

### Written, Oral and Visual Communication:

The ability to make oneself understood in public, interpersonal, professional, artistic, and technical arenas.

### Exploration-Self and Others:

An awareness of the values, beliefs, customs, and contributions of persons from one's own and other traditions, ethnicities, classes, and genders.

### Resourcefulness:

The ability to adapt to change, such as technological innovations or environmental conditions.

### Responsibility:

The ability to be accountable to self, society, and the natural world.

Note: Students who plan on transferring to the University of Washington will also need to take one full-year of a foreign language if they have not studied that language for the required amount of time in high school. Also, students going to the University of Washington may wish to take at least one five-credit designated writing course.

The Associate in Science degree represents attainments generally required by four-year colleges and universities for pre-professional programs in scientific disciplines. The need for early concentration on coursework in the chosen scientific major diminishes the general educational experience demonstrated by the Associate in Arts degree. By working with an advisor in the completion of one of the two Associate in Science tracks, you can transfer to one of the Washington State baccalaureate institutions with reasonable assurance that you have completed all or most of the prerequisite courses for the targeted science major.

## Centralia College is part of the direct transfer Statewide Engineering AS-T Track 2 Major Related Program (MRP)

### Agreement with the following colleges:

Eastern Washington University - Gonzaga University - Saint Martin's University - Seattle Pacific University - Seattle University - University of Washington Seattle - Henry Cogswell University - Washington State University - Walla Walla College

### Estimated Quarterly Program Costs (subject to change without notice)

Resident Tuition (15 credits) and fixed fees*:	\$1427
US Citizen Nonresident Tuition (15 credits) and fixed fees*:	\$1576
Non US Citizen Nonresident Tuition (15 credits) and fixed fees*:	\$3381
*Tuition is subject to change due to State Legislative actions	
Books and supplies (estimate):	\$427
Lab fees:	Refer to quarterly class schedule.

Centralia College does not discriminate against any person on the basis of race, color, national origin, disability, sex, genetic information, or age in admission, treatment, or participation in its programs, services and activities, or in employment. All inquiries regarding compliance with access, equal opportunity and/or grievance procedures should be directed to the Centralia College Vice President of Human Resources and Legal Affairs, 600 Centralia College Blvd., Centralia, WA 98531.