

THE UNIVERSITY OF PUGET SOUND

2018-2019 CURRICULUM GUIDE

MATH/DUAL DEGREE ENGINEERING

DEGREE: BS IN MATHEMATICS: SAMPLE 3-YEAR PROGRAM

CONTACT PERSON: RAND WORLAND, PHYSICS

A suggested three-year program:

This schedule is a possible sequence that allows completion in three years. Other sequences are possible. Please talk with your advisor and the Dual Degree Engineering program advisor. Those students with advanced standing (transfer credit, AP, etc.) will have more flexibility.

Fall Semester Classes

Spring Semester Classes

Freshman	Units	Units
SSI 1	1	SSI 1
PHYS 121/Lab (NS core)	1	PHYS 122/Lab
MATH 180 (MA core)	1	MATH 181
FL (if needed) or elective	1	FL (if needed) or elective

Sophomore	Units	Units
MATH 280	1	MATH 290
Approaches core	1	Approaches core
CHEM 110/lab or CHEM 115/lab	1	CHEM 120/lab or CHEM 230/lab
CSCI 161	1	MATH 300+ elective

Junior	Units	Units
MATH 300+ Elective	1	MATH 300+ Elective
MATH 300+ Elective	1	MATH 300+ Elective
MATH 301	1	CN core*
Elective	1	Elective

NOTES

Students majoring in Mathematics must earn a GPA of at least 2.0 in all upper-division mathematics courses (upper division courses are those at the 300-400 level).

There are two options for the Mathematics major: the contract option and the standard option.

Contract option: Each contract will consist of: (1) Between 8 and 16 units with no more than 9 units in mathematics; (2) CSCI 161 or equivalent and (3) At least five-upper-division (300-400 level) units in mathematics or mathematics substitute courses to include (a) two units of related upper-division courses to provide depth and (b) one upper-division unit in a proof-based course. Final shape is worked out in consultation with the advisor and a departmental committee before the first upper-division course is completed. The contract will normally include 180/181/280/290.

Standard option: (1) Completion of 180/181/ 280/290; (2) CSCI 161 and (3) At least five upper-division (300-400 level) units in mathematics to include (a) two units of related upper-division courses to provide depth; (b) one upper-division unit in a proof-based course; and (c) at least one upper-division unit from each of the following lists: (A) MATH 301, 302, 321, 322, 352, 360, 375, 376, 381, 420 (only some topics as noted in topic course descriptions); and (B) MATH 300, 310, 335, 338, 420 (only some topics as noted in topic course descriptions), 433, 434, 471.

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COURSE CHECKLIST

MATH/DUAL DEGREE ENGINEERING

CORE CURRICULUM

UNIVERSITY CORE	CRS	TERM	GRADE
SSI 1			
SSI 2			
AR			
HM			
MA (MATH 180, 181, CSCI 161)			
NS (PHYS 121)			
SL			
CN			

KEY

SSI1= Seminar in Scholarly Inquiry1	MA= Mathematical Approaches
SSI2= Seminar in Scholarly Inquiry2	NS= Natural Scientific Approaches
AR= Artistic Approaches	SL= Social Scientific Approaches
HM= Humanistic Approaches	CN= Connections
	FL= Foreign Language

Foreign Language Requirement (circle one)

- 1) Two semesters at 101/102 level or One semester at 200+ level
- 2) Proficiency exam (3rd year high school level or 1st year college level)
- 3) AP foreign language score of 4 or 5
- 4) IB higher level foreign language score of 5, 6, or 7

Upper Division Level Requirement

Three units at the upper division level outside the first major.

KNOWledge, Identity, and Power Requirement

One course. See Bulletin for details. Courses may also fulfill other program or graduation requirements.

MAJOR REQUIREMENTS

COURSE	UNITS	TERM	GRADE
MATH 180			
MATH 181			
MATH 280			
MATH 290			
CSCI 161			
Five units at the MATH 300-400 level:			
1. #			
2. #			
3. ##			
4. List A ¹			
5. List B ¹			
Additional Dual Degree Engineering Requirements:			
MATH 301			
PHYS 121			
PHYS 122			
CHEM 110 or 115			
CHEM 120 or 230			

**THIS FORM IS
NOT AN
OFFICIAL GRADUATION ANALYSIS**

NOTES

A grade of C- or better is required in all prerequisite courses in Math and Computer Science.

This guide is based on the Mathematics Department's contract major requirements.

#When choosing upper-division units in mathematics include two related courses to provide depth. Current options include: MATH 301/302, 321/322, 375/376, 433/434, and 335/471.

##Include one proof-based upper-division mathematics course.

- 1) Two of the upper-division mathematics units need to include one from List A and one from List B.
 - List A: MATH 301, 302, 321, 322, 352, 360, 375, 376, 381, 420;
 - List B: MATH 300, 310, 335, 338, 420, 433, 434, 471.

When choosing upper division math courses, consider MATH 302 (Partial Differential Equations), MATH 335 (Optimization), and MATH 471 (Modeling).

Both Columbia University and Washington University (St. Louis) have specific requirements that can be met by choosing core classes appropriately. See the Dual Degree Engineering requirements.

Majors must maintain a minimum of 2.0 GPA in all contract courses and in all upper-division courses. A higher GPA is necessary for successful admission to the affiliate engineering programs. At least 4 units of upper-division courses must be completed at Puget Sound. All contracts must meet specific requirements (see Bulletin) and will normally include MATH 180, 181, 280, 290.

Refer to the Engineering 2017-18 Bulletin for courses recommended for students interested in pursuing Biomechanical, Electrical, Chemical, or Mechanical Engineering.