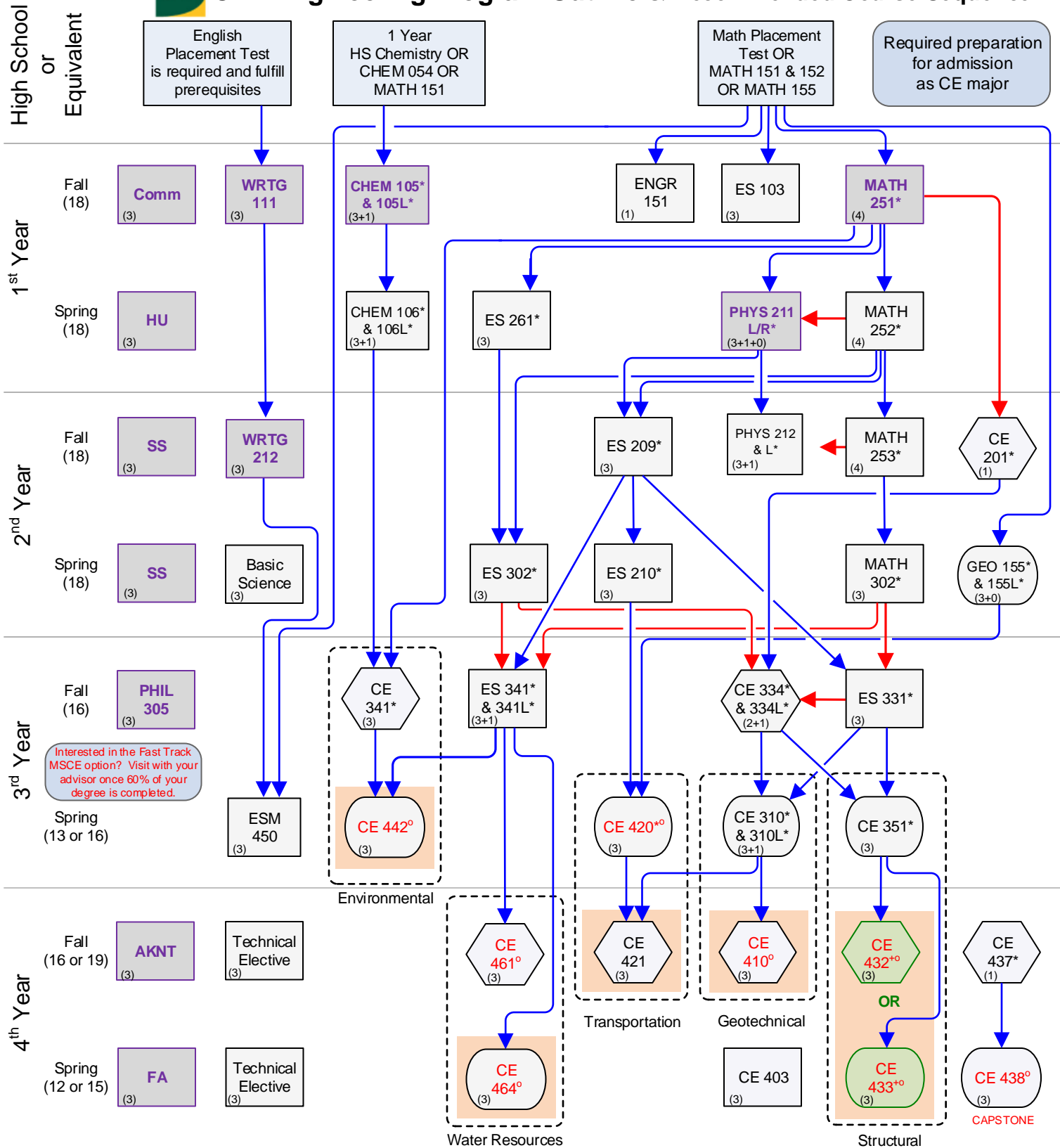




# Civil Engineering Program Outline & Recommended Course Sequence



Course Offerings:



**Course that fulfill GER Requirements:**  
 Comm – Communications  
 HU – Humanities  
 FA - Fine Arts  
 SS - Social Science  
 AKNT – Alaska Native-Theme

Prerequisite →  
 Prerequisite or Concurrent →

(x) indicates number of credits per course / semester  
 \* must be completed with a grade of C or better

**°At least 1 design course must be taken prior to CAPSTONE**

Select 4 courses, one each in four of the five disciplines

**\*If Structural is chosen as one of the four disciplines, either CE432 or CE433 may be taken. If both are taken, one may be used as a Tech Elective**

## Bachelor of Science in Civil Engineering Recommended Course Sequence

### Required Courses

All courses with an asterisk (\*) must be completed with a grade of “C” or better.

CE A201* <sup>6</sup>	Intro to Civil Engineering	1	ES A331*	Mechanics of Materials	3
CE A310/L* <sup>6</sup>	Intro to Geotechnical Engr/lab	4	ES A341*	Fluid Mechanics	3
CE A334*	Properties of Materials	3	ES A341L*	Fluid Mechanics lab	0
CE A334L*	Properties of Materials lab	0	ESM A450	Econ Analysis & Operation	3
CE A341* <sup>6</sup>	Environmental Engineering	3	GEO A155*	Fundamentals of Surveying	3
CE A351* <sup>6</sup>	Structural Analysis	3	GEO A155L*	Fundamentals of Surveying lab	0
CE A403 <sup>6</sup>	Arctic Engineering	3	MATH A251*	Calculus I	4
CE A410 <sup>3,6</sup>	Foundation Engineering	3	MATH A252*	Calculus II	4
CE A420* <sup>6</sup>	Fund. of Transportation Engr I	3	MATH A253*	Calculus III	4
CE A421 <sup>3,6</sup>	Design of Highways	3	MATH A302*	Differential Equations	3
CE A432 <sup>3</sup>	Steel Design <sup>3</sup>	3	PHIL A305	Professional Ethics	3
CE A433 <sup>3</sup>	Reinforced Concrete Design <sup>3</sup>	3	PHYS A211*	General Physics I	3
CE A437*	Project Planning	1	PHYS A211L*	General Physics I lab	1
CE A438	Design of Civil Engr Systems	3	PHYS A212*	General Physics II	3
CE A442 <sup>3</sup>	Environmental Engr Design	3	PHYS A212L*	General Physics II lab	1
CE A461	Hydraulic Analysis & Design	3	WRTG A212 <sup>1</sup>	Writing & the Professions	3
CE A464 <sup>3</sup>	Hydrologic Analysis & Design	3			
CHEM A105*	General Chemistry I	3			
CHEM A105L*	General Chemistry I lab	1			
CHEM A106*	General Chemistry II	3			
CHEM A106L*	General Chemistry II lab	1			
ENGR A151	Engineering Practices I	1			
ES A103	Engineering Graphics	3			
ES A103L	Engineering Graphics lab	0			
ES A209*	Statics	3			
ES A210*	Dynamics	3			
ES A261* <sup>6</sup>	Engineering Graphics II	3			
ES A302*	Engineering Data Analysis	3			
			<b>Other Requirements</b>		
			CE Technical Elective <sup>4</sup>		6
			Basic Science Elective <sup>2</sup>		3
			Alaska Native-Theme <sup>5</sup>		3
			Fine Arts		3
			Humanities		6
			Oral Communications		3
			Social Science		3
			Written Communication <sup>1</sup>		3

<sup>1</sup> Students who do not meet the prerequisite requirements for WRTG A212 must take WRTG A111

<sup>2</sup> The Civil Engineering Program requires a Basic Science Elective (min. 3 credits) is taken from the following list: BIOL A115/L Fundamentals of Biology I with Lab (4), BIOL/GEOL A178 Fundamentals of Oceanography (3), BIOL A271/L Principles of Ecology with Lab (4), GEOL A111 Physical Geology (4), GEOL A115 Environmental Geology (3).

<sup>3</sup> A 2<sup>nd</sup> course is required in four of the five disciplines. If all five are taken, one will count as a technical elective. If the structural discipline is chosen as one of the four, the 2<sup>nd</sup> course may be fulfilled by taking either CE A432 Steel Design or CE A433 Reinforced Concrete Design. If both courses are taken, the second course will count as a technical elective.

<sup>4</sup> Graduate level courses (600 or above) that may be used as technical electives are listed in the Civil Engineering section of the catalog. A petition must be filed with the department to apply these courses as undergraduate credit.

<sup>5</sup> Alaska Native-Theme - Some courses satisfy both this GER and Humanities, Art, or Social Sciences GER. See the catalog or your advisor for courses.

<sup>6</sup> Course numbering changes: ES A261 was ENGR A161; CE A201 was CE A152; CE A341 was CE A441; CE A420 was CE A405; CE A421 was CE A406; CE A310/L was CE A435/L; CE A410 was CE A422; CE A351 was CE A431; and CE A403 was AE A403.