Santa Clara University

Department of Civil Engineering

Typical Program of Studies for Civil Engineering Students Entering the University as Freshmen During the 2017/2018 Academic Year

(FIRST TIME OFFERED)	FALL	WINTER	SPRING
FROSH	MATH 11 - CALC I CHEM 11 - CHEM I L&L (5) CRIT THINK WRITING I CENG 7 - GRAPH COMM L&L ENGR 1 - INTRO ENGR (2)	MATH 12 - CALC II PHYS 31 - PHYSICS I L&L (5) CRIT THINK WRITING II CULTURES & IDEAS I	MATH 13 - CALC III PHYS 32 - PHYSICS II L&L (5) CENG 10 - SURVEYING L&L CULTURES & IDEAS II
SOPH	MATH 14 - CALC IV PHYS 33 - PHYSICS III L&L (5) CENG 15 - COMP APL CE L&L (3) CENG 41 - STATICS	AMTH 106 - DIFF EQNS CENG 20 - GEOLOGY L&L (4) CENG 44A - STR MATLS L&L (4) ENGL 181 - TECH WRITING (4)	CENG 44B - STR MATLS (2) CENG 115 - MATERIALS L&L (5) CENG 132 - STR ANALYSIS ELEN 49 - POWER SYS or RTC 1
JUNIOR	CENG 121A - GEOTECH I L&L (4) CENG 145 - TRANS ENG DES CENG 148 - STRUCT SYS L&L (5) ELEN 49 - POWER SYS or RTC 1	AMTH 112 - RISK IN CIV ENGR CENG 121B - GEOTECH II (2) CENG 125 - MUNI ENG L&L CENG 141 - FLUIDS/HYDR L&L (5) CENG TECH ELECTIVE	CENG 128 - ENGR ECON (3) CENG 140 - WATER RES L&L (5) CENG 143 - ENV ENG L&L (4) CENG 192A - CE PROJ DEV (1) CENG TECH ELECTIVE
SENIOR	CENG 192B - CE PRACTICE (2) CENG 192C - CE PROF DEV (1) CENG TECH ELECTIVE UNIV CORE REQUIREMENT UNIV CORE REQUIREMENT	CENG 193 - CE PROJ DESIGN (4) FLEX COURSE FLEX COURSE UNIV CORE REQUIREMENT	CENG 194 - CE DES COMM (1) FLEX COURSE UNIV CORE REQUIREMENT UNIV CORE REQUIREMENT

Each course is 4 units unless a different number is shown in parentheses, above. One-unit labs are also indicated; where available, they must be taken together with the associated lecture course.

University CORE requirements for engineering students are detailed in the University Bulletin and the CORE Curriculum Handbook. This sample program, shown above, assumes that all CORE Curriculum requirements will be satisfied by ten required humanities courses in combination with other required program/major course work. Engineering students are expected to use a limited number of selectively chosen courses to satisfy multiple CORE Curriculum requirements to complete all degree program requirements in four years.

The 3 *FLEX COURSES* include a CENG technical elective, a computer applications course (CENG 160 – GIS (3) or CENG 182 – BIM (3)), and a free elective. A second computer applications course can be taken as an analysis elective. The 4 *CENG TECHNICAL ELECTIVES* must include at least two design-focused technical electives and one analysis-focused technical elective. Students should work with their academic advisor to select the electives that address their professional goals and help prepare them for their senior capstone design project.

CATEGORY I: CENG DESIGN-FOCUSED ELECTIVES:

CENG 119 - DES SUSTAIN CONSTRUCT
CENG 133 - TIMBER DES
CENG 134 STEEL DES
CENG 135 CONCRETE DES
CENG 136 - ADV CONCRETE DES
CENG 137 - EARTHQUAKE ENGR DES
CENG 138 - GEOTECH ENGR DES (4/1)
CENG 142 - WATER RES DES
CENG 144 - ENVIRON SYSTEMS DES
CENG 146 - COLD FORMED STEEL DES
CENG 150 - TRAFFIC ENGR DES

CATEGTORY II: CENG ANALYSIS-FOCUSED ELECTIVES:

CENG 118 - CONSTRUCTION ENGR (3)
CENG 123 - ENVIRON REACTION ENG
CENG 124 - WATER LAW & POLICY
CENG 139 - GROUNDWATER HYDRO (3)
CENG 149 - CIVIL SYSTEMS ENGR
CENG 151 - SPEC TOPICS TRANS ENGR
CENG 160 - GIS WATER RESOURCES (3)
CENG 161 - SUSTAINABLE WATER RES (3)
CENG 162 - COMP WATER RES (3)
CENG 184 - CONST ADMIND (3)
CENG 186 - CONST PLANNING
CENG 187 - CONST OPERATIONS
CENG 182 - INTRO TO BIM (3)

For graduation 6/20