SUNY Canton Civil & Environmental Engineering Technology BT 2488				**Fall 2020**
Program Coordinator: Adrienne Rygel Advisors: Adrienne Rygel and Yilei Shi				
1st Semester		**Credit**	**Term**	**Grade**
ENGS 101	Introduction to Engineering	2		
SOET 116	Intro to Computer Aided Dr+D	2		
CONS 101	Elementary Surveying	4		
MATH 123	Pre-Calculus Algebra	4		
PHYS 121/131	College Physics I or University Physics I	3		
PHY 125/135	College Physics I Lab or University Physics I Lab	1		
		16		
2nd Semester				
CONS 172	Technical Statics [2]	3		
ENGL 101	Composition and the Spoken Word	3		
	GER (3,4,5,6,7, 8, or 9)[3]	3		
MATH 161	Calculus I [1]	4		
PHYS 122/132	College Physics II or University Physics II	3		
PHYS 126/136	College Physics II Lab or University Physics II Lab	1		
		17		
3rd Semester				
CONS 203	Advanced Surveying	3		
CONS 272	Strength of Materials for Tech [2]	3		
CONS 280	Civil Engineering Materials	3		
MECH 221	Engineering Materials Lab	1		
MATH 162	Calculus II [1]	4		
CHEM 150	College Chemistry I	4		
		18		
4th Semester				
ENGS 102	Programming for Engineers	2		
CONS 216	Soils in Construction[4]	4		
Math 364	Differential Equations [1]	4		
	GER (3,4,5,6,7,8,9) [3]	3		
	Program Elective [6(UD) + 7 (CHEM 155)]	3		
		16		
5th Semester				
CONS 336	Structural Analysis	3		
	CONS Course[5]	4		
	CONS Course[5]	4		
	Program Elective [6(LD/UD) + 7 (UD)]	3		
	GER (3,4,5,6,7,8,9) [3]	3		
		17		

6th Semester				
SOET 370	Engineering Economics	3		
CONS 274	Construction Management	3		
SOET 250	Intro to 3D CADD And BIM	2		
	CONS Course[5]	3		
	Program Elective 6(UD) + 7 (UD)	3		
		14		
7th Semester				
SOET 377	Engineering Ethics	1		
	GER (3,4,5,6,7,8,9) 3 (UD for Env. Eng. path)	3		
	CONS Course[5]	4		
	Program Elective 6(UD) + 7 (UD)	3		
	Program Elective 6 only (LD)	2		
		13		
8th Semester				
CONS 477	Capstone Project	3		
SOET 348	Engineering Safety	1		
	CONS Course[5]	4		
	Program Elective 6(UD) + 7 (UD)	3		
	Program Elective 6(UD) + 7 (UD)	3		
		14		
Total Required Program Credits		**125**		

Graduation Requirements: Total Semester Credit Hours – 125 **Minimum G.P.A. 2.0**

Student _____ Certified for Graduation: Yes No

ID # _____ Certified by: _____

Class of _____ G.P.A. 1_____ 2 _____ 3 _____ 4 _____ Total G.P.A. _____ Total Earned Credits _____

[1] If a student enters the program at Calculus I, they will take Calculus I, Calculus II, Differential Equations and a fourth math class of their choosing and with advisement.

[2] Students may take ENGS 201 Statics in place of CONS 172 and ENGS 203 Engineering Strength of Materials in place of CONS 272. NOTE that ENGS 201 and ENGS 203 may not be offered in like semesters to CONS 172 and CONS 272 and this substitution may alter program course sequencing.

[3] GER = General Education Elective: Students must accomplish 7 separate GER categories: GER 3, 4, 5, 6, 7,8, or 9. Depending on Program Elective selection students may need to take one or more 300/400 level GER courses in order to reach 45 upper division credits.

[4] Writing Intensive Course

[5] CONS Course: Five (5) courses are required by all students in the program. These courses are: CONS 285 Engineering Geology, CONS 322 Hydraulics, CONS 385 Hydrology & Hydrogeology, CONS 386 Water Quality, and CONS 387 Water & Wastewater Treatment. They are being referred to as CONS Courses because they will be offered on a rotational basis, every 2, 3, or 4 semesters depending on enrollment.

[6] Program Elective - Focus on Structural Civil Engineering Tech: A list of approved Program Electives is provided below. Students wanting to focus more on structural civil engineering technology must take a total of 7 Program Electives. At least 1 must be one of the classes marked *S (CONS 304, CONS 324, or CONS 370). Students may take additional courses designated as *S, which is highly encouraged. Students are strongly advised to take CONS 222. Students must be sure that enough 300/400 level courses are taken to fulfill the minimum requirement of 45 upper division courses. For students focusing on structural civil eng., 5 of their 6 additional program electives must be 300/400 level. In addition to CONS 222, one additional program elective could be 100/200 level, but only with advisement. Course selection must be under advisement of and with approval of the assigned academic program advisor or program coordinator.

[7] Program Elective - Focus on Environmental Engineering Tech: A list of approved Program Electives is provided below. Students wanting to focus on environmental engineering technology must take a total of 6 Program Electives. They must take the 2 courses marked with *E (CHEM 155 and BIOL 150) and 4 additional program electives, with strong advisement that two of these be CONS 350 and MATH 141. It's advised that CHEM 155 be taken in Semester 4 if possible, putting off the Semester 4 GER until a later semester. It's advised that BIOL 150 be taken in Semester 5 or sooner if possible. Students may take a course designated with a *S as an additional program elective. Students must be sure that enough 300/400 level courses are taken to fulfill the minimum requirement of 45 upper division courses. All 4 additional program elective courses must be upper division, and one upper division GER must be taken to fulfill the 45 requirement. If MATH 141 is taken a second GER must be upper division or an additional upper division elective course must be taken. Course selection must be under advisement of and with approval of the assigned academic program advisor or program coordinator.

Required CONS Courses

Course #	Course Name	Credit
CONS 285	Engineering Geology	4
CONS 322	Hydraulics	4
CONS 385	Hydrology and Hydrogeology	4
CONS 386	Water Quality	4
CONS 387	Water and Wastewater Treatment	3

Approved Program Electives

Course #	Course Name	Credit
***S - Students on Structural Path Must Take At Least 1**		
CONS 304 *S	Reinforced Concrete Design	3
CONS 324 *S	Structural Steel Design	3
CONS 370 *S	Timber Design	3
***E - Students on Environmental Path Must Take Both**		
BIOL 150 *E	College Biology I	4
CHEM 155 *E	College Chemistry II	4
Other Program Electives		
CONS 222	Construction Estimating	2
CONS 316	Foundation Design	3
CONS 338	Advanced Mechanics of Materials	3
CONS 350	Introduction to GIS	3
CONS 366	Structural Steel Detailing	3
CONS 368	Building Electrical and Mechanical Systems	3
CONS 372	Highways and Transportation	3
CONS 375	Structural Engineering Design	3
CONS 472	Advanced Highway Design	3
CONS 432	Civil Drafting and Design	3
CONS 226	Bridge Building	1
CONS 485	Solid Waste Management	3
CONS 486	Soil and Groundwater Remediation	3
CONS 487	Water Resources Management	3

Approved Program Electives Continued

Course #	Course Name	Credit
Other Program Electives Continued		
AREA 110	Intro to Alternative Energy	3
AREA 320	Exp. and Meas. I	3
AREA 322	Passive Solar Building	3
AREA 340	Geothermal Energy	3
AREA 370	Exp. and Meas. II	3
BIOL 155	College Biology II	4
BIOL 209	Microbiology	4
CHEM 301	Organic Chemistry I	4
CHEM 302	Organic Chemistry II	4
EADM 201	Fund. Of Emergency Manag.	3
ESCI 320	Weather, Climate, and Climate Change	3
LEST 388	Environmental Law	3
MATH 141	Statistics	3
MATH 341	Statistics II	3
MECH 220	Engineering Materials lecture	3
MECH 340	Thermodynamics	3
MECH 341	Intermediate Fluid Mechanics	3
SOET 352	Advanced REVIT and BIM Management	3
SOET 430	Systems Analysis	3
MECH XXX	Other Mech. Tech. approved course	3 or 4
AREA XXX	Other ARES approved course	3 or 4
ELEC XXX	Other Elec. Tech. approved course	3 or 4