## Cleveland State University Washkewicz College of Engineering Bachelor of Civil Engineering NEW FALL 2019

First Year									
Fall Semester	Credits	Major	Gen Ed	Spring Semester Credits Major Gen Ed					
ENG 100 or ENG 101 College Writing I	3		W/C	ESC 102 Technical Writing or ENG 201 3 W/C					
MTH 181 Calculus I	4	х	M/QL	MTH 182 Calculus II 4 x M/QL					
CHM 261 General Chemistry I	3	х	NS	PHY 241 University Physics I 5 x NS					
CHM 266 General Chemistry Lab I	1	х	NS	ESC 151/152 C prog. or Prog. w Matlab 3 x					
ESC 120 Intro. To Engineering Design	2	х	INTRO						
ESC 100 New Student Orientation*	1	х							
Semester Total	14			Semester Total 15					

Second Year										
Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed			
ESC 201 Statics	3	х		ESC 211 Strength of Materials	3	х				
ESC 250 Differential Equations for Engrs.	3	х		CVE 310 Strength of Material Lab	2	х				
MTH 283 Multivariable Calculus for Engrs.	2	х		CVE 360 Mechanics of fluids & Therm. Sys. for Civil Engineers	4	х				
PHY 242 Univ. Physics II	5	х		GEO 100 Introduction to Geology	3	х				
CVE 211 Surveying	3	х		GEO 101 Introductory Geology Laboratory	1	х				
CVE 212 Surveying lab	2	х		ESC 202 Dynamics	3	х				
Semester Total	18			Semester Total	16					

Third Year									
Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed		
ESC 282 Engineering Economy	3	х	SS	CVE 322 Structural Steel Design	3	х			
CVE 312 Structural Analysis I	3	х		CVE 331 Intro. To Geotechnical Engineering	3	х			
CVE 361 Hydraulic Engineering	3	х		CVE 332 Geotechnical Engineering Lab	2	х			
CVE 362 Hydraulics Lab	2	x		CVE 461 Hydrologic Analysis	3	х			
CVE 371 Environmental Engineering I	3	х		CVE 422 Reinforced Concrete Design	3	х			
CVE 374 Environmental Engineering Lab	2	х		ESC 310 Engineering Stats/ Prob. OR STA 323 Stat. Methods	3	х			
Semester Total	16			Semester Total	17				

Fourth Year									
Fall Semester	Credits	Major	Gen Ed		Spring Semester	Credits	Major	Gen Ed	
CVE 429 Foundation Engineering	3	х			CVE 403 Construction Planning and Estm	3	х		
CVE 446 Transportation Engineering	3	х			CVE 426 Preliminary Design (SPAC)	2	х	SPAC	
PHL 215 Engineering Ethics	3	х	4&H, WA		CVE 427 Capstone Design (WAC)	2	х	WAC	
CVE Tech Elective	3	х			CVE Tech Elective	3	х		
Gen Ed Elective	3		А&Н		Gen Ed Elective	3		SS	
Gen Ed Elective	3		DIV	•	Gen Ed Elective	3		DIV	
Apply for Spring graduation prior to Sep 9th									
Semester Total	18				Semester Total	16			
Degree Total: 130 hours									

Assumptions: college-level readiness in MTH & ENG; no Foreign Language Deficiency

## College/ Program Notes:

The plan above is a suggested guide to ensure that all General Education, College, University, and Major requirements are met within 4 years of study. Students may deviate from the suggested placement of Gen Ed courses, although the M/QL and W/C requirements should be completed during the first year of study.

\*General Electives ensure that a student accumulates the minimum credit hour totals needed for graduation. Students must have a minimum of 128 total credit hours, of which a minimum of 42 credit hours must be upper division (300 or 400-level courses). Depending upon other elective choices made, students may not need as many general electives as indicated above, or may need additional electives.

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## **University Notes:**

Gen Ed Key:

INTRO = Introduction to University Life Requirement (one course)

Writing/Composition Requirement (two courses; C or better required)

M/QL = Mathematics/Quantitative Literacy Requirement (two courses)

NS = Natural Sciences (two courses, one of which must have a lab)

SS = Social Sciences Requirement (2 courses, one of which must be focused outside the US\*\*)

A&H = Arts & Humanities Requirement (2 courses, one must be focused outside the US\*\*) W/C =

DIV = Social Diversity Requirement (2 courses; one US Diversity and one African American Exp.)

WAC/SPAC = Writing/Speaking Across the Curriculum Requirement (3 courses, one in the major)

CAP = Capstone Requirement

\*\* of the SS and A&H courses focused outside the US, one must be focused on Africa, Latin America, Asia or the Middle East (ALAAME)

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