University of Houston DOWNTOWN

Bachelor of Science in Engineering Technology in Structural Analysis/ Design (120 hours)

This is a recommended course sequence based on the UHD 2024-25 Undergraduate Catalog for a degree in Structural Analysis/Design which equips students to apply computer technology, modern materials and construction techniques to the overall design of structures, which includes project planning, costs estimates, and management of the project. Courses with asterisks (*) indicate Common Core courses.

First Year

Semester 1	Hours	Grade	Semester 2	Hours	Grade
ENG 1301* (Composition I) *P: A TSIA2 score meeting college readiness in Reading and Writing, or TSIA2 Reading and Writing complete, or TSIA2 Reading and Writing exempt*	3		ENG 1302* (Composition II) *P: A grade of C or better in ENG 1301 or placement by examination.*	3	
PHYS 1307/1107* (General Physics I w/ Lab) *P: Credit or enrollment in MATH 1302 or the equivalent, enrollment in PHYS 1107*	4		MATH 2401* (Calculus I) *P: A grade of C or better in MATH 1505 or placement by exam taken at UHD; Refer to catalog*	4	
ENGR 1329/1129 (Concrete Technology /Lab) *P: Credit or enrollment ENGR 1129*	4		ENGR 1333 (Programming for Engineers) *P: Completion of or enrollment in MATH 2401*	3	
UHD First-year Seminar* *Refer to catalog for approved options*	3		Approved Language, Philosophy, and Culture course* (Summer Option) *P: Refer to catalog for approved options*	3	
			Oral communication Course* *P: Refer to catalog for approved options*	3	
Total Hours	**14**		**Total Hours**	**16**	

Second Year

Semester 1	Hours	Grade	Semester 2	Hours	Grade
ENGR 2308 (Statics) *P: MATH 2401 Corequisite(s): PHYS 1307*	3		ENGR 2304 (Computer-Aided Drafting and Design I)	3	
CHEM 1307/1107* (General Chemistry I w/Lab) *P: Credit or enrollment in MATH 1301 and CHEM 1107, ENG 1301 (or 010 core complete), and one year of high school chemistry or CHEM 1305/CHEM 1105*	4		POLS 2306* (Texas Government) (Summer Option) *P: Enrollment in or completion of ENG 1301 or 010 complete.*	3	
ENGR 2411 (Modern Methods of Engineering Analysis) *P: ENGR 1333*	4		ENGR 2311/2111 (Mechanics of Materials/ Lab) *P: ENGR 2308 and credit or enrollment in ENGR 2111*	4	
Approved American HistoryCourse* *Refer to catalog for approved options*	3		Approve SAD Lower Level Elective	3	
			Approved American HistoryCourse* *Refer to catalog for approved options*	3	
Total Hours	**14**		**Total Hours**	**16**	

Third Year

Semester 1	Hours	Grade	Semester 2	Hours	Grade
ENGR 2306/2106 (Surveying / Lab) *P: C or better in ENGR 2308 and credit or enrollment in ENGR 2106*	4		ENGR 3302 (Engineering Economics) *P: ENGR 1333 and Junior Standing*	3	
ENGR 3311 (Structural Analysis I) *P: ENGR 2311/ENGR 2111*	3		ENGR 3322 (Structural Analysis II) *P: ENGR 3311 and ENGR 2411*	3	
ENGR 3312 *(Reinforced Concrete Design)* *P: ENGR 2311/ENGR 2111*	3		ENGR 4321 (Structural Steel Design) *P: ENGR 3311*	3	
ENGR 3323/3123 (Soil Mechanics / Lab) *P: ENGR 2308 and credit or enrollment in ENGR 3123*	4		ENGR 4322 (Foundation Design) *P: ENGR 3323*	3	
Approved Social & Behavioral Sciences Course* (Summer Option) *Refer to catalog for approved options*	3		ENGR 3332 (Engineering Communication and Ethics) *P: ENG 1302 with grade of "C" or better, and Junior standing*	3	
Total Hours	**17**		**Total Hours**	**15**	

Summer

ENGR 3344 (Traffic & Transportation Engineering) *P: MATH 2401, PHYS 1307*	3

Fourth Year

Semester 1	Hours	Grade	Semester 2	Hours	Grade
Approved Creative Arts course* (Summer Option) *Refer to catalog for approved options*	3		POLS 2305* (Federal Government) (Summer Option) *P: Enrollment in or completion of ENG 1301 or 010 core complete.*	3	
ENGR 3308 (Fluid Mechanics) *P: MATH 2401, PHYS 1307, and ENGR 2411*	3		ENGR 4320 (Prestressed Concrete) *P: ENGR 3312*	3	
ENGR 4333 (Construction Management) *P: ENGR 2306*	3		ENGR 4326 (Dynamics of Structure) *P: ENGR 3311 Corequisite(s): ENGR 4321 or ENGR 3322*	3	
ENGR 4135 (Senior Capstone Design I) *P: ENGR 3312 and ENGR 3311*	1		ENGR 4335 (Senior Capstone Design II) *P: ENGR 4135*	3	
Approved Upper Level SAD elective	3				
Total Hours	**13**		**Total Hours**	**12**	

15 to Finish
Fall: 15 hours • Spring: 15 hours

30 in 3
Fall: 12 hours • Spring: 12 hours • Summer: 6 hours