NTU Civil Engineering Department
Required Courses Sheet (for Undergraduate Semester 2018)

Criteria A (12 units) - general courses

Course Title	Credits
Chinese (I) (II)	6
Foreign language (I) (II)	6

Criteria B (12 units) – Liberal Education

Criteria C (12 units) – Departmental required general courses

Course Title	Credits
Calculus (general mathematics) (1) (2)(3)(4)	8
General Physics (b)	3
General physics lab	1

Criteria D (49 Units) - Departmental required courses

Curriculum Number	Course Title	Credits
501 10520	Conceptual Design Studio	2
501 10600	Engineering graphics	2
501 10710	Physical Model Design Laboratory	2
501 17010	Surveying (I)	2
501 21100	Applied mechanics	3
501 27120	Surveying practice	1
501 10800	Computer programming	3
501 20010	Engineering mathematics (I)	3
501 20020	Engineering mathematics (II)	3
501 21210	Mechanics of materials	4
501 23000	Fluid mechanics	3
501 23200	Engineering statistics	3
501 23300	Engineering material and soil mechanics lab.	1
501 27900	Engineering material	2
501 36000	Soil mechanics	3
501 32060	Structural theory and fluid mechanics lab	1
501 32320	Reinforced concrete	3
501 32900	Hydrology	3
501 35700	Engineering economics	2
501 34130	Civil Engineering Capstone Challenge	3

Criteria E (14 Units) - Field specialized required courses

Curriculum Number	Course Title	Credits
501 25010	Transportation Engineering	3
501 32410	Structural Theory (I)	3
501 36210	Foundation Engineering	3
501 33360	Hydraulic Engineering	2
501 37800	Construction Management	3

Since year 2009, F-courses are divided into six groups: Criteria F-1 (Civil Engineering Group), Criteria F-2 (Railway Engineering Group), Criteria F-3 (Architectural Engineering Group), Criteria F-4 (Environmental Engineering Group), Criteria F-5 (Natural Disaster Prevention Group), and Criteria F-6 (Wood Construction Minor). Undergraduate students should choose one group and fulfill the group's credit requirement.

Criteria F-1 (12 units, Civil Engineering Group) - 4 out of 9 courses

Curriculum Number	Course Title	Credits	Remarks
501 25020	Transportation Systems	3	
521 U9000	Water Resources Engineering	3	
501 38000	Engineering and Law	3	
501 39960	Engineering Geology and Its Applications	3	
501 40200	Design of Steel Structure	3	
521 U3830	Introduction to Surveying and Geomatics	3	
521 U3190	Object-oriented Programming	3	Just counting one if you take both courses
521 U8800	Visualization in Architecture Engineering Construction	3	
501 49640	Introduction of Seismic Design of Structures	3	

Criteria F-2 (Railway Engineering Group) - 4 out of 9 courses

Curriculum Number	Course Title	Credits	Remarks
521 U8770	Railroad Transportation Engineering	3	Required Course
501 25020	Transportation Systems	3	Required Course, take 1 out of 3 courses
521 U8900	Automation and Robotics	3	
521 U9170	Fundamental Electrical Engineering	3	
521 U3710	Track Engineering	3	2 out of 5 courses
521 U3840	Railway Operations and Management	3	
521 U8910	Mass Rapid Transit System Engineering	3	
521 U8810	High Speed Rail Engineering	3	
521 U8390	Light Rail Transit System Engineering	3	

Criteria F-3 (Architectural Engineering Group) - 4 out of 8 courses

Curriculum Number	Course Title	Credits	Remarks
501 34250	Introduction to Architecture	3	Required Course
501 39400	Human Environment Relations	3	Required Course
521 U9140	Fundamentals of Architectural Design	3	Required Course
501 49620	Architectural Design（1）	6	Required Course unless you take the NTUST courses: Architectural Design (1)(2)
501 49630	Architectural Design（2）	6	
AD1101301 (NTUST)	Architectural Design（1）	3	Required Course unless you take the NTUCE courses: Architectural Design
AD1102301 (NTUST)	Architectural Design（2）	3	
544 M4760	Architectural Programming and Design Guidelines	3	
521 U9060	Building Physics and Sustainable Design	3	
544 U1770	Behavior and System of Architectural Structure	3	

Criteria F-4 (Environmental Engineering Group) - 4 out of 8 courses

Curriculum Number	Course Title	Credits	Remarks
521 U9090	Introduction to Environmental Engineering and Science	3	Required Course
501 39970	Water Supply and Sewerage	3	Required Course, take 1 out of 2 courses
501 39980	Water and Wasterwater Treatment	3	
521 U9100	Environmental Protection	3	
541 M0210	Environmental Chemistry	3	
541 M0460	Environmental Policy and Management	3	
541 M0690	Water Pollution Control	3	
541 M4050	Environmental Planning and Management	3	

Criteria F-5 (Natural Disaster Prevention Group) - 4 out of 8 courses

Curriculum Number	Course Title	Credits	Remarks
521 U3420	Disaster Management and Civil Engineering	3	Required Course
501 39960	Engineering Geology and Its Applications	3	
521 U3860	Rock Slope Engineering	3	
521 U9180	Water Related Disasters, Lessons and Prevention	3	
501 49640	Introduction of Seismic Design of Structures	3	3 out of 7 courses
544 M3850	Disaster Reduction Planning	3	
521 U3830	Introduction to Surveying and Geomatics	3	
521 U3850	Introduction to Geographic Information Systems	3	

課程編號 課程名稱 學分數 備註

Criteria F-6 (Wood Construction Minor) - 4 out of 6 courses

Curriculum Number	Course Title	Credits	Remarks
501 49660	Woodden structure design	3	Required Course
605 30350	Introduction to Traditional Wood Structures in Taiwan	3	3 out of 6 courses
625 U1710	Design and Construction of Wood Structures (I)	3	
626 U1720	Design and Construction of Wood Structures (II)	3	
109 10800	Stage craft (I)	2	
501 32240	Structural Systems for Civil Engineering	3	
501 40200	Design of Steel Structure	3	

NTU Civil Engineering Department Courses Framework (for Undergraduate Semester 2018)	
Criteria A - General courses	12
Criteria B – Liberal Education	12
Criteria C – Departmental required general courses	12
Criteria D - Departmental required professional courses	49
Criteria E - Field specialized required courses	14
Criteria F - Divided into six groups. Undergraduate students should choose one group and fulfill the group's credit requirement.	12
Criteria G - Field specialized elective courses (i.e. curriculum number is 501 or 521)	12
Criteria H - Free-elective courses	8
The least credits for graduation	131