

Department of Civil Engineering

Curriculum for the Degree of Ph.D. in Civil Engineering,

Major: *Structural Engineering*

The complete Ph.D. program consists of 15 coursework units and 21 thesis units.

A - Courses: (15 Units)

1610700	Advanced Engineering Math II	3
1612702	Finite Element II	
1612704	Advanced Concrete Technology	3
1612706	Advanced Reinforced Concrete Structures	3
1612536	Theory of Plasticity	3
1612604	Random Vibration	3
1612530	Stability of Structures	3
1612600	Earthquake Engineering	3
1612539	Computational Methods in Analysis of Structures	3
1612708	Theory of Shells	3
1612712	Theory of Boundary Elements	3
1612714	Fracture Mechanics	3

At least 5 of these courses should be taken

B - The Ph.D. students must pass the written and oral comprehensive exam after the completion of their coursework.

C – Thesis (21 Units)

9010724	Thesis	6
9010724	Thesis	6
9010724	Thesis	6
9010724	Thesis	3

Department of Civil Engineering

Curriculum for the Degree of Ph.D. in Civil Engineering,

Major: *Water Engineering*

The complete Ph.D. program consists of 15 coursework units and 21 thesis units.

A - Courses: (15 Units)

1610700	Advanced Engineering Math II	3
1614702	Advanced Hydrodynamics	3
1614704	Water Resources Quality Models	3
1614706	Water Resources systems Analysis II	3
1614708	Advanced Water and Wastewater Networks Design	3
1614710	Computational Hydraulics	3
1614712	Advanced Hydrogeology	3
1614716	Special Topics	3

At least 5 of these courses should be taken

B - The Ph.D. students must pass the written and oral comprehensive exam after the completion of their coursework.

C – Thesis (33 Units)

9014724	Thesis	6
9014724	Thesis	6
9014724	Thesis	6
9014724	Thesis	3