

# CERTIFICATE IN STRUCTURAL ENGINEERING

This certificate is intended for students in the Department of Civil and Environmental Engineering who want to specialize in the analysis, design, and construction of all types of structures, including buildings and bridges.

There are six required courses or their equivalents:

CivE 127	Statics and Solid Mechanics 1
CivE 204	Solid Mechanics 1
CivE 205	Mechanics of Solids 2
CivE 303	Structural Analysis 1
CivE 313	Structural Concrete Design
CivE 413	Structural Steel Design

Plus at least five of the following courses or their equivalents:

Arch 277	Timber: Design, Structure and Construction
CivE 306	Mechanics of Solids 3
CivE 403	Structural Analysis 2
CivE 505	Structural Dynamics
CivE 507	Building Science and Technology
CivE 512	Rehabilitation of Structures
CivE 414	Structural Concrete Design 2
CivE 415	Structural Systems
CivE 422	Finite Element Analysis
CivE 554	Geotechnical Engineering 3
CivE 596	Construction Engineering

A student must have a minimum average of 70% and a minimum course grade of 60% for the courses specified above to qualify for the certificate.

A student who does not meet the minimum marks criteria for the Certificate in Structural Engineering can petition the Associate Chair, Undergraduate Studies, for an exception to the marks standard and, if approved, be awarded the certificate. Normally, an exception can only be based on inadequate marks in CivE 127, CivE 204 or CivE 205. A certificate will not be awarded to a student who does not meet the standard in third year or higher courses.

UNIVERSITY OF WATERLOO  
Department of Civil and Environmental Engineering

**Application for the Certificate in Structural Engineering**  
*For students entering IA Fall 2014 and earlier*

Name: \_\_\_\_\_ I.D. Number: \_\_\_\_\_  
*Please print in the way you want it to appear on the Certificate*

Term in which 4B will be (was) completed: \_\_\_\_\_

Required Courses	Term in which the course was taken (e.g. 4B, Winter 2000)	Grade
CivE 127     Statics and Solid Mechanics 1		
CivE 204     Solid Mechanics 1		
CivE 205     Mechanics of Solids 2		
CivE 303     Structural Analysis 1		
CivE 313     Structural Concrete Design		
CivE 413     Structural Steel Design		
<b>Elective Courses (At Least 5)</b>		
Arch 277     Timber: Design, Structure and Construction		
CivE 306     Mechanics of Solids 3		
CivE 403     Structural Analysis 2		
CivE 505     Structural Dynamics		
CivE 507     Building Science and Technology		
CivE 512     Rehabilitation of Structures		
CivE 414     Structural Concrete Design 2		
CivE 415     Structural Systems		
CivE 422     Finite Element Analysis		
CivE 554     Geotechnical Engineering 3		
CivE 596     Construction Engineering		
<b>Average</b>		

A student must have a minimum average of 70% and a minimum course grade of 60% for the courses specified above to qualify for the certificate.

If you do not meet the minimum marks criteria for the Certificate in Structural Engineering, you can petition the Associate Chair, Undergraduate Studies, for exception to the marks standard. Please use a separate sheet to justify why you should be awarded the Certificate in Structural Engineering.