

## **APPENDIX I : SCHEDULE FOR COURSE MODULES**

Postgraduate course modules offered by the Department of Civil Engineering, University of Stellenbosch

- The table below indicates when modules are scheduled to be presented over the 3 year period from January 2018 through December 2020. **Provisional dates** are indicated where available. These are updated regularly in the electronic version of this Brochure on the Civil Engineering website (p.1), under Programmes/Postgraduate and must be confirmed with the Secretary of the hosting division.
- In the table below course modules are listed alphabetically, firstly according to field and secondly to course module title. Notes regarding the content of course modules are provided in Appendix II in the same order. (Please note that a list of 'Forthcoming M Eng (R) Block Courses' arranged according to date, is also available on the website.)
- **Compulsory and recommended combinations for the respective fields of specialisation are indicated in Section 6 of the Brochure.**
- **MEng candidates will be registered on an 8 level code and PDE students will be registered on a 7 level code.**
- Unless indicated otherwise (refer to numbered footnotes) all the courses below are presented on the Campus of Stellenbosch University at the Faculty of Engineering.
- Enquiries and registration regarding the courses below can generally be made by e-mail to the reference provided with each field or by default to the Secretary of every division indicated in the Table below.
- Full time students must complete four semesters of Mentorships or Assistantships during the period of Postgraduate Studies.
- **Candidates may be required to pay for course notes, lunches, handbooks or other study material with regard to block courses or studies in general. These fees are paid directly to the Secretary of the relevant division and do not form part of your Tuition Fees.**

This schedule was last updated on 02/08/2018

All Course Enquiries: Ms Janine Myburgh and Ms Tsholo Seroalo

E-mail: [civilcourses@sun.ac.za](mailto:civilcourses@sun.ac.za) (Short course registration); [civilacademic@sun.ac.za](mailto:civilacademic@sun.ac.za) (Course registration)

Course Module Title and Number	Previous Code	SAQA Credits	Format	Availability per Semester					
				2018		2019		2020	
<b>Civil Engineering Informatics</b>				<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>
Software techniques for graphs and networks 811	MT09	15	Semester	As required / On demand					
<b>Construction Engineering and Management</b>				<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>
<sup>1</sup> Construction Management Programme (874 13861)		30	Block	17 Jun – 13 Jul		X			
Construction Project Management (10821-812)		15	Block		22-24 Aug 24-25 Oct		X		X
Engineering and Construction I (Law) (10824-842)		15	Block	19-20-21 Feb 7-8 May		X			
Project Risk Management (10851-812)		15	Block	22-23 Feb 9-10-11 May		X			
Infrastructure Management (13002-811)		15	Block						
Infrastructure Procurement (13003-811)		15	Block						
Project Economics and Finance (58157-812)		15	Block						
Leadership and Environment (13686-874)		15	Block						
Project Management (Engineering Management (51373-812))		15	Block						

<sup>1</sup> The CMP is an extremely intensive high level management course of 4 weeks, offered annually. A substantial course fee applies also to registered postgraduate students. Admittance for Degree purposes subject to special selection criteria.

Course Module Title and Number	Previous Code	SAQA Credits	Format	Availability per Semester					
				2018		2019		2020	
<b>Geotechnical Engineering</b>				1	2	1	2	1	2
Applied Geo mechanics (10814-812)	G03	15	Block		9-13 July				
Advanced Geotechnics (10809-812)	G04	15	Block	14-18 May					
Foundation Design (10829-812)	G01	15	Block	9-13 April					
Soil Behaviour (10861-842)	G02	15	Block	19-23 March					
<b>Pavement Engineering</b>				1	2	1	2	1	2
Advanced Bitumen Technology (10785-812)	P08	15	Block						
Flexible Pavement Design (10826-842)	P02	15	Block						
Pavement Construction (10841-842)	P03	15	Block	3-6 April					
Pavement Evaluation & Rehabilitation (11206-812)	P06	15	Block	29 Jan–2 Feb					
Pavement Management Systems (10844-842)	P05	15	Block						
Pavement Materials I (Granular & Cemented) [10845-812]	P01	15	Block						
Pavement Materials II (Asphalt) [10846-812]	P04	15	Block						
Pavement Materials III (BSM-foam/emulsion) [10848-842]	P09	15	Block						
Rigid Pavement Design (10857-812)	P07	15	Block		17-21 Sept				
<b>Structural Engineering</b>				1	2	1	2	1	2
Probability and Risk Analysis in Civil Engineering (10850-812)	MT02	15	Block	To be confirmed				As required / On demand	
Continuum mechanics and finite element methods (10822-842)	MT04	15	Semester	x		x		x	
Structural Dynamics (10866-812)	MT11	15	Semester	x		x		x	
Advanced Structural Steel Design (10811-812)	MT12	15	Semester	x				x	
Advanced Structural Concrete Design (10810-812)	MT13	15	Semester			x			
Seismic Design of building structures (11652-813)	MT14	15	Block				x		
Advanced Mechanics of Materials and Modelling	MT05	15	Semester		x				x

Structural Optimization		8	Block						
Cement-based Materials		15	Semester	X				X	

Course Module Title and Number	Previous Code	SAQA Credits	Format	Availability per Semester					
				2018		2019		2020	
				1	2	1	2	1	2
<b>Transportation Engineering</b>									
Geometric Road Design (10831-812)	T01	15	Block		5-9 Nov				X
Public Transport (10853-842)	T02	15	Block			X			
Traffic Engineering (10874-812)	T03	15	Block			X			
Traffic Flow Theory (10875-812)	T05	15	Block	28 May- 1 Jun				X	
Transport Economics (21008-812)	T07	15	Block			X			
Transportation Planning (10877-812)	T06	15	Block	13-16 March				X	
Transportation Safety (10878-812)	T04	15	Block		25-28 Sept				X
Intelligent Transport Systems (13004-841)	T08	15	Block				X		
Human Factors in Traffic Collisions (11423-814)		15	Block				X		
<b>Water Engineering</b>									
Hydraulic Structures (10834-812)	W01	15	Block*						
Storm Water and Drainage systems (10858-842)		15	Block			X			
Flood Hydrology (10827-812)	W05	15	Block*		27-29 Aug				X
Water Resources Management (10879-842)	W06	15	Block*				X		
Pipeline Hydraulics & Pump station design	W07	15	Block*						
Sewer Systems (12999-811)		15	Block*						
Water Networks and Services Planning (13000-811)	-	15	Block*						
Water and Wastewater Treatment	W08	15	Block			X			
Special Hydraulics (10862-812)	-	15	Block*						
Special Hydrology (10864-842)	-	15	Block*						
Port Engineering short course	W04	-	Block						
Coastal Engineering short course	W03	-	Block		27-31 Aug				
Numerical simulation of fluids		15	Semester						

YEAR					2018				2019				2020			
TNPA PORT & COASTAL ENGINEERING POSTGRADUATE PROGRAMME					Quarter				Quarter				Quarter			
Module		Code	SAQA Credit	Type	1	2	3	4	1	2	3	4	1	2	3	4
Coastal Processes & Field Data Collection (65498-822)	C	W03-1	15	Quarter		W03-1							W03-1			
Numerical and Physical Modelling (65501-823)	C	W03-2	15	Quarter		W03-2								W03-2		
Coastal & Port Structures (65528-854)	C	W03-3	15	Quarter			W03-3								W03-3	
Coasts & Ports and the Environment (65536-855)	C	W03-4	15	Quarter						W03-4						
Port Planning and Design (65552-832)	C	W04-1	15	Quarter	W04-1									W04-1		
Port Management (65560-833)	E	W04-2	15	Quarter						W04-2						
Port Infrastructure and Equipment (65579-864)	E	W04-3	15	Quarter	W04-3								W04-3			
Dredging and Port Maintenance (65587-865)	E	W04-4	15	Quarter					W04-4							
Coastal Eng. Short Course	B+C	W03-0	-	Block			W03-0								W03-0	
Port Eng. Short Course	B+C	W04-0	-	Block							W04-0					
Numerical Simulation of Fluids	E	App.M.	15	Semester	App.M				App.M				App.M			

**LEGEND:**

C = Compulsory Module, E = Elective Module, B = Block

Block course: 1 week full time attendance within the semester (Port & Coastal students do not attain credits with Block Courses but must attend them)

Module: 3.5 weeks with one 4-hour lecture normally on Tuesday mornings and on Thursday mornings followed by assessment.

Modules from other Departments or Faculties

- Full timers and part timers have same module load (no compulsory extra courses for full timers)
- M Eng. (Research) need to pass 5 modules minimum (5 of which are compulsory) + attendance of both Block Courses as prerequisite for subn
- M Eng. (Structured) need to pass all 8 modules (4 coastal & 4 port modules) + attendance of both Block courses as prerequisite for submitting