

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 2017 through December 2019. **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.**
- 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 23/02/2017

Course Module Title and Number	Previous Code	SAQA Credits	Format	Availability per Semester					
				2017		2018		2019	
Civil Engineering Informatics: (natalies@sun.ac.za)				1	2	1	2	1	2
Software techniques for graphs and networks 811	MT09	15	Semester	As required / On demand					
System design of an open engineering platform	MT15	15	Semester	As required / On demand					
Development of applications based on an open engineering platform	MT16	15	Semester	As required / on demand					
Construction Engineering and Management: (janw@sun.ac.za)				1	2	1	2	1	2
¹ Construction Management Programme 811		30	Block	11 June-7 July		To be confirmed		X	
Construction Management		15	Block				X		
Construction contract law		15	Block				X		
Construction Risk Management		15	Block			X			
Infrastructure Asset Management		15	Block	20-21 Feb 3-5 May				X	
Infrastructure Procurement		15	Block			X			
Financial & Economic Management		15	Block		21-22 Aug. 23-25 Oct.				X
Leadership and the Environment (Engineering Management (51373-842))		15	Block		23-25 Aug. 26-27 Oct.				X
Project Management (Engineering Management (51373-812))		15	Block	3-7 April				X	

¹ 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					
				2017		2018		2019	
Geotechnical Engineering : (jmyburgh@sun.ac.za)				1	2	1	2	1	2
Applied Geo mechanics 811	G03	15	Block		10-14 July				
Advanced Geotechnics 811	G04	15	Block	26-30 June					
Foundation Design 811	G01	15	Block	15-19 May					
Soil Behaviour 841	G02	15	Block	13-17 March					
Pavement Engineering : (jmyburgh@sun.ac.za)				1	2	1	2	1	2
Advanced Bitumen Technology 811	P08	15	Block	18-21 April					
Flexible Pavement Design 841	P02	15	Block	23-27 Jan.					
Pavement Construction 841	P03	15	Block						
Pavement Evaluation & Rehabilitation 811	P06	15	Block						
Pavement Management Systems 841	P05	15	Block		28 Aug. - 1Sept.				
Pavement Materials I 811 (Granular & Cemented)	P01	15	Block						
Pavement Materials II 811 (Asphalt)	P04	15	Block						
Pavement Materials III 811 (BSM-foam/emulsion)	P09	15	Block						
Rigid Pavement Design 811	P07	15	Block						
Structural Engineering : (natalies@sun.ac.za)				1	2	1	2	1	2
Probability and Risk Analysis in Civil Engineering 811	MT02	15	Semester			As required / On demand			
Continuum mechanics and finite element methods 841	MT04	15	Semester						
Structural Dynamics 811	MT11	15	Semester						
Advanced Structural Steel Design 811	MT12	15	Semester						
Advanced Structural Concrete Design 811	MT13	15	Semester		17-19 Jul 28-29 Aug.				
Seismic Design of building structures	MT14	15	Block		9-13 Oct				
Advanced Mechanics of Materials and Modelling	MT05	15	Semester		As required / On demand				
Structural Optimization		8	Block						
Cement-based Materials		15	Semester						

Course Module Title and Number	Previous Code	SAQA Credits	Format	Availability per Semester					
				2017		2018		2019	
				1	2	1	2	1	2
Transportation Engineering : (mahsa@sun.ac.za)				1	2	1	2	1	2
Geometric Road Design 811	T01	15	Block			x			
Public Transport 841	T02	15	Block		6-10 Nov.			x	
Traffic Engineering 841	T03	15	Block	29 May-2 Jun				x	
Traffic Flow Theory 811	T05	15	Block			x			
Transport Economics 811	T07	15	Block	13-17 March				x	
Transportation Planning 811	T06	15	Block				x		
Transportation Safety 811	T04	15	Block				x		
Intelligent Transport Systems 811	T08	15	Block		14-18 Aug.				x
Human Factors in Traffic Collisions		15	Block		4-8 Sept.				x
Water Engineering : (merentia@sun.ac.za)				1	2	1	2	1	2
Hydraulic Structures	W01	15	Block*	16-19 May				x	
Storm Water Hydraulics		15	Block		28-31 Aug				
Water and Drainage systems	W02	15	Block		X				x
Flood Hydrology	W05	15	Block*				Aug		
Water Resources Analysis and Management	W06	15	Block*		Aug				Aug
Pipeline Hydraulics & Pump station design	W07	15	Block*	29 May- 1 Jun				x	
Sewer Systems		15	Block*	12-14 June					
Water Networks and Services Planning	-	15	Block*				Jun/Jul		
Water and Wastewater Treatment	W08	15	Block	6-8 Feb.				x	
Special Hydraulics	-	15	Block*			x			
Special Hydrology	-	15	Block*						
Introduction to Port Engineering (short courses)	W04	15	Block		14-18 Aug			x	
Introduction to Coastal Engineering (short courses)	W03	15	Block			x			
Numerical simulation of fluids		15	Semester	x		x		x	

2017 ONWARDS					2017				2018				2019			
TNPA PORT & COASTAL ENGINEERING POSTGRADUATE PROGRAMME					Semester		Semester		Semester		Semester		Semester		Semester	
Module		Code	SAQA Credit	Type	1	2	3	4	1	2	3	4	1	2	3	4
Introduction: Coastal Eng. (Short Course)	B+C	W03-0	1	Block						W03-0						
Coastal Processes & Field Data Collection	C	W03-1	1	Quarter	W03-1				W03-1							
Numerical and Physical Modelling	C	W03-2	1	Quarter		W03-2					W03-2					
Coastal & Port Structures	C	W03-3	1	Quarter			W03-3					W03-3				
Coasts & Ports and the Environment	C	W03-4	1	Quarter				W03-4						W03-4		
Introduction: Port Eng. (Short Course)	B+C	W04-0	1	Block		W04-0								W04-0		
Port Planning and Design	C	W04-1	1	Quarter		W04-1					W04-1					
Port Management	E	W04-2	1	Quarter			W04-2								W04-2	
Port Infrastructure and Equipment	E	W04-3	1	Quarter	W04-3					W04-3						
Dredging and Port Maintenance	E	W04-4	1	Quarter				W04-4					W04-4			
Numerical Simulation of Fluids	E	App.M.	1	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: 6 weeks with one 4-hour lecture/week normally on Tuesday morning (Coastal) or Thursday morning (Port) followed by exam in the 7th week

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 submitting thesis.

- M Eng. (Structured) need to pass all 8 modules (4 coastal & 4 port modules) + attendance of both Block courses as prerequisite for submitting a project report.

