



Three and a half Day Course on Design of Hydraulic Structures

Monday 9 to Thursday 12 March 2009

Venue: STIAS, University of Stellenbosch, Stellenbosch, SOUTH AFRICA

ECSA Continuing Professional Development (CPD) accredited course*

PRELIMINARY PROGRAMME

Start Time	Duration	Description	Presenter	Organization
09-Mar-09				
Monday				
7:30 to 8:30	(Min)	Registration		
8:30 to 8:35	5	Welcome and introduction	Prof Gerrit Basson	Univ of Stellenbosch
8:35 to 9:30	55	Planning and site selection	Johann Geringer	DWAF
9:30 to 10:30	60	Roller compacted concrete (RCC) & masonry dams	Dr Quentin Shaw	ARQ
10:30 to 11:00	30	Tea		
11:00 to 11:45	45	Design of river abstraction works to limit sediment diversion	Prof Gerrit Basson	Univ of Stellenbosch
11:45 to 12:45	60	Tunnel, Intake Tower Hydraulics, river crossings and outlets	Chris Viljoen	Vela VKE
12:45 to 13:45	60	Lunch		
13:45 to 14:45	60	Energy dissipation structures and outlet works hydraulics	Dr Mike Shand	Ninham Shand
14:45 to 15:15	30	Tea		
15:15 to 16:15	60	Ingula hydropower case study	Frans Louwinger	Eskom
10-Mar-09				
Tuesday				
8:00 to 8:30	30	Late Registration		
8:30 to 9:15	45	Riprap for erosion protection against wind wave action at dams	Eddie Bosman	Univ of Stellenbosch
9:15 to 10:15	60	Irrigation canal design, control structures & rehabilitation	Kobus van Deventer	DWAF
10:15 to 10:45	30	Tea		
10:45 to 11:45	60	Control Gate selection and design		
11:45 to 12:45	60	Flow gauging weir design	Dr Pieter Wessels	DWAF
12:45 to 13:45	60	Lunch		
13:45 to 14:45	60	RCC case study: De Hoop Dam design & construction	Henry-John Wright	DWAF
14:45 to 15:30	45	Dam Spillway design: Analytical, physical and mathematical models	Prof Gerrit Basson	Univ Stellenbosch
15:30 to 16:00	30	Tea		
16:00 to 17:00	60	US Hydraulics Laboratory visit: LUSIP, Berg River Dam, abstraction works, etc.	Prof Gerrit Basson	Univ of Stellenbosch
11-Mar-09				
Wednesday				
8:00 to 8:30	30	Late Registration		
8:30 to 9:30	60	Lessons learned from the planning, design, construction, operation & maintenance of dams	Alan Chemaly	DWAF
9:30 to 10:00	30	Water Resources planning in SA	Solly Mabuda	DWAF
10:00 to 10:30	30	Tea		
10:30 to 11:30	60	Design of Concrete Faced Rockfill Dams (CFRD)	Danie Badenhorst	BKS
11:30 to 12:15	45	Berg River Dam Project: Spillway, Outlet works, Crump weir and Supplement Scheme	Tente Tente	TCTA
12:15 to 17:00	285	Visit Berg River Dam intake and spillway, Supplement Scheme & gauging weirs in groups	Tente Tente/Dr Pieter Wessels	TCTA/DWAF
12-Mar-09				
Thursday				
8:00 to 8:30		Late Registration		
8:30 to 8:35	5	Workshop on Revision of SANCOLD Guidelines on Freeboard for dams: Background of WRC project	Prof Gerrit Basson	Univ of Stellenbosch
8:35 to 9:15	40	Literature Review of Freeboard guidelines and wind wave freeboard requirements	Eddie Bosman	Univ of Stellenbosch
9:15 to 9:45	30	Analytical methods to determine wind wave height and freeboard	Janus Basson	Univ of Stellenbosch/BKS
9:45 to 10:15	30	Tea		
10:15 to 10:45	30	Mathematical model calculation of wind wave heights using SWAN	Tente Tente	Univ of Stellenbosch/TCTA
10:45 to 11:30	45	Hydrodynamic model simulation of unsteady flow in reservoirs: oscillations, setup, seiches	Christiaan Visser	Univ of Stellenbosch
11:30 to 12:15	45	Risk based approach based on UK study DEFRA to combine Freeboard components for dams	Gert Cloete/Prof Johan Retief	Univ of Stellenbosch/ NAMWATER
12:15 to 13:00	45	Discussion & Conclusion	Prof Gerrit Basson	Univ of Stellenbosch

Note: * CPD commenced in January 2006 whereby all professional engineering persons are required to obtain 25 credits over a 5 year cycle, with a minimum of 3 credits per year, for renewal of registration with ECSA from 2007. This course is a Category 1 activity and offers 3.5 credits. A maximum of 4 credits may be accumulated under this category per year. For more details see www.ecsa.co.za

SCOPE

This 3.5 day course on the Design of Hydraulic Structures has been structured to address planning, design and construction aspects of the hydraulic design of dams, spillways and energy dissipation structures, river abstraction works, irrigation canals, water transfer tunnels, flow gauging weirs, etc. The course includes a visit to the University of Stellenbosch Hydraulics Laboratory and to the Berg River Dam, Supplement Scheme and river flow gauging weirs. Several case studies currently under construction will be presented such as the Ingula Hydropower Project of Eskom, the De Hoop Dam by DWAF and Berg River Dam Project (TCTA & DWAF). The final day of the course will be in the form of a workshop which aims to revise the SANCOLD Guidelines on Freeboard for Dams. Presenters are drawn from government, universities, consulting engineering companies and industry. This popular course was last presented in 2007. Related courses for 2009 could be viewed at www.civeng.sun.ac.za

REGISTRATION FORM – Design of Hydraulic Structures Course 2009

Kindly complete this registration form and fax it to **fax number +27-21 4130447** or mail the form to:

The Secretary, Institute for Water and Environmental Engineering, Department of Civil Engineering, University of Stellenbosch, Design of Hydraulic Structures 2009 Course, Private Bag X1, MATIELAND, 7602, SOUTH AFRICA. Or by email to: msb@aspt.co.za

On receipt of the completed registration form, an invoice will be faxed or emailed to participants within 3 working days. Payment can be made electronically (details will be provided on the invoice) or by cheque, to be made payable to **University of Stellenbosch.**

CLOSING DATE FOR REGISTRATION AND PAYMENT: 26 February 2009

Title	<input type="text"/>	Surname	<input type="text"/>	Name	<input type="text"/>
Company	<input type="text"/>				
	VAT registration number:		Business registration number		
	Postal address:		Street address:		
Tel	()		Fax	()	
Email	<input type="text"/>		Delegate	Y/N	
Special dietary requests	<input type="text"/>		Presenter	Y/N	
Name/Email of person regarding payment	<input type="text"/>		Student	Y/N	

FEES: R6400-00 for 3.5 days (Includes tea, lunch, course notes, transport & presentations)

R5800-00 for 2.5 to 3 days; R5100-00 for 1.5 to 2 days; R3400-00 for 1 day; R500 for 12 Mar only

Indicate dates of attendance: Mar 9 Mar 10 Mar 11 Mar 12

The fee for late registration after 26 February 2009 will be 20 % more than the above fees.

Cancellations will be accepted in writing and without penalty, up to 10 working days prior to commencement of the course. Participants cancelling in writing less than 10 working days prior to commencement of the course will be liable for a 50% cancellation fee. Following registration without attendance and without written cancellation, delegates will be held responsible for the full course cost.

I HAVE READ AND AGREE TO THE CONDITIONS OF REGISTRATION AS STIPULATED ABOVE

Signature: _____

Date: _____

Enquiries can be directed to:

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