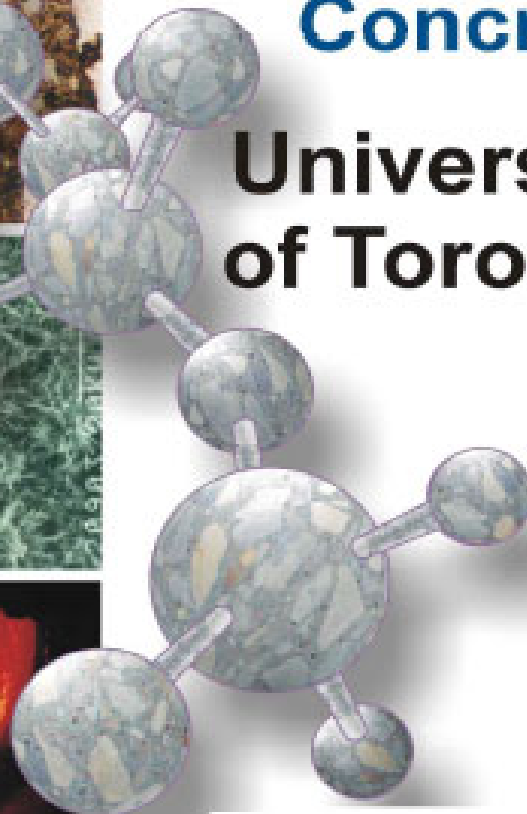


CIV1260

Chemistry of Cement and Concrete

University of Toronto



May 15 - 19, 2023



Department of Civil & Mineral Engineering
University of Toronto, Toronto, Ontario, Canada M5S 1A4
Industry Workshop and Graduate Course CIV 1260 May 15-19, 2023

CHEMISTRY OF CEMENTS AND CONCRETE

Open to both graduate students at the University of Toronto, and other Ontario Universities (for graduate credit), in addition to Graduate students from Universities outside Ontario as well as Cement and Concrete Industry Professionals for a fee (see details).

Course Description

This unique and popular course has been run six times previously and consists of lectures covering chemistry, and physics of the following subjects:

- Cement Manufacture
- Phase Equilibrium & Reactions in Cement Kilns
- Supplementary Cementing Materials
- Crystal Chemistry of Silicates
- Hydration of Cements
- Chemical Admixture Effects on Hydration
- Microstructure of Cement and Hydrates
- Sulphate Reactions and Attack
- Alkali-Aggregate Reactions
- Chloride and Corrosion Reactions
- Chemical Aspects of Freezing, Scaling

Course Coordinator:

R. Doug Hooton, University of Toronto

plus Special Lecturers:

Duncan Herfort, Aalborg Portland, Denmark

Karl Petersen, University of Toronto

Lawrence Roberts, Roberts Consulting, USA

Karen Scrivener, EPFL, Switzerland

Larry Sutter, Michigan Tech. University, USA

Michael Thomas, University of New Brunswick

Prerequisites

The participants are expected to have a reasonably advanced knowledge of cements and concrete technology. Graduate students shall have previously taken CIV514: Concrete Technology or a pre-approved equivalent from another university.

Contact Hours

Approximately 27 contact hours during May 15 - 19, 2023. Lectures and any exercises will be given during morning and afternoon sessions, running from 9 a.m. to 5 p.m. (to noon on Friday). On Monday May 15, class registration starts at 8:30am.

Admission

Applicants should submit the completed registration form, to be in the hands of the Department not later than March 27, 2023. Participation for officially registered University of Toronto graduate students is included in normal tuition. Students from other Ontario universities can pay tuition through the Ontario University exchange program. For industry professionals auditing the course for professional development, fees are C\$2,000CDN (about US\$1,500) including all course materials (via Shopify by credit card, or by cheque payable to the University of Toronto on or before March 27, 2023). For students registered at non-Ontario universities, wishing to audit the course, the fee is C\$900 or you may contact admissions.civmin@utoronto.ca for other options.

Course Materials

PDF copies of PowerPoint presentations will be provided (or available) for download at the beginning of the course and updated later, as necessary. Therefore, participants should bring laptops or tablets.

Evaluation and Graduate Credit

Credit for graduate students will be issued based on active participation in the entire course as well as completion of a take-home examination to be provided after course completion (official marks only issued for Ontario Universities).

Industry professionals will be provided a letter of attendance, if requested.

This course series is sponsored by RILEM and all registered graduate students are eligible to receive a three-year free membership in RILEM.

On-line Registration

<https://civmin.utoronto.ca/civ1260/>

Further Information

Dept. of Civil & Mineral Engineering, University of Toronto, 35 St. George Street, Toronto, Ontario, Canada M5S 1A4 Attn: Phill Snel
tel: 416 946-3837 fax: (416) 978-6813,
email: phill.snel@utoronto.ca
or R. Doug Hooton,
email: hooton@civ.utoronto.ca