

# CE 491/591 – International Wet-Weather Flow Management

Course pre-requisite is instructor permission  
Monday evening 6:30 to 8 pm to review and discuss modules: MIB 342

**Course Goals:** Learn fundamentals of stormwater management from international experts and other students from around the world through this Internet-based class.

**Prerequisite by Topic:** Basic algebra and drainage design. Depending on modules selected, more advanced background in stormwater modeling and hydrology will be necessary.

**Special Course Information:** This is a special Internet-based course. Four international stormwater experts will be directing this class, Dr. Bill James, Emeritus Professor at the University of Guelph, Ontario, Canada, the overall leader; Dr. Bob Pitt at UA; Dr. Isobel Heathcote, the Dean of Graduate Studies at Guelph, and Dr. Neil Armitage at the University of Cape Town in South Africa. This class is a unique opportunity to collaborate with students and experts from very different cultures. This will not be a basic correspondence class. The class assignments will be coordinated to allow collaboration between the students. We will also meet locally once a week to review the material, assignments, and questions. Students will negotiate with me for the specific units that they will be completing for the class. All students will take the M0 module (preliminary orientation module) and four of remaining 6 modules.

**Textbook:** via Internet.

The home page and the main course material is at:

<http://www.computationalhydraulics.com/courses/ISWM2004/>

In addition, some modules (may have newer updates that posted above) and other links are also posted at:

<http://civil.eng.ua.edu/~rpitt/Class/InternetClass/MainInternetclass.html>

The link to the previous course is:

<http://www.soe.uoguelph.ca/webfiles/wjames/homepage/Teaching/661/wj661HomePage.html>

Important EPA links for the course:

EPA's "Surf your watershed" homepage:

<http://www.epa.gov/surf/>

Clean Water Act homepage:

<http://www.epa.gov/region5/water/cwa.htm>

National Environmental Publications Information System (over 10,000 online EPA documents):

<http://www.epa.gov/nepis/>

EPA stormwater web pages:

<http://www.epa.gov/ebtpages/watestormwater.html>

Urban Watershed Management Branch:

<http://www.epa.gov/ednrmrl/>

in addition, the following URL is for the joint UA/UAB student AWRA page that includes downloadable NURP databases from the EPA and USGS archives. It also includes a lengthy bibliography associated with urban drainage:

<http://www.eng.ua.edu/~awra/download.htm>

Pitt's research web site also contains many of his wet weather flow publications (reports, papers, and

books):

<http://www.eng.ua.edu/~rpitt/Publications/Publications.shtml>

**UA Course Coordinator:** Robert Pitt, P.E., Ph.D., Professor.

<http://www.eng.ua.edu/~rpitt/>

Here are the home pages for the other course instructors:

- Bill James is Emeritus Professor at the University of Guelph, Ontario, Canada:

<http://www.soe.uoguelph.ca/webfiles/wjames/>

- Neil Armitage is at University of Cape Town in South Africa:

<http://www.uct.ac.za/>

- Isobel Heathcote is the Dean of Graduate Studies at the University of Guelph, Ontario, Canada

- Manfred Ostrowski is at Darmstadt Tech University in Germany (prepared previous module using

WASP: <http://www.soe.uoguelph.ca/webfiles/wjames/homepage/Teaching/661/wj661HomePage.html>):

[http://www.tu-darmstadt.de/fb/bi/wb/iHWB/Mitarbeiter/ostrowski/os\\_home.htm](http://www.tu-darmstadt.de/fb/bi/wb/iHWB/Mitarbeiter/ostrowski/os_home.htm)

#	Developer	Posting	Due	Topic
0	Bill	Jan 11	Jan 25	Introduction: preliminaries for all modules; getting connected and started.
1	Bill	Jan 25	Feb 8	Philosophy underlying public water pollution
2	Bob	Feb 8	Feb 29	Objectives for urban drainage design
3	Neil	Feb 29	March 14	The removal of urban solid waste from stormwater drainage
4	Bill and Bob	March 14	March 28	Continuous stormwater management models and model structure (SWMM and PCSWMM)
5	Bob	March 28	April 18	Stormwater controls and water quality modeling (WinSLAMM and WINDETPOND)
6	Isobel	April 18	May 2	Methods of developing area-wide pollution control plans and sustainable use plans in Ontario and elsewhere

First class meeting: Jan. 12

MLK day holiday: Jan 19

Toronto conference week break: Feb 15-22

Spring break: March 26 to April 2

Last class meeting: April 26

There will periodically be Mondays when we will not have class meetings due to travel or holidays. So far, I am scheduled to be out of town on March 1 and April 19 scheduled class days. I will correspond by the class listserv to let you know of other days when class will be cancelled. There is no in-class final scheduled for this class.

However, all material (including all reviews and responses) must be posted on the student web page by the official final date of May 6, 2004. M6 students will need to have their reviews posted by May 6, and their responses will need to be posted by May 9 (when I must submit grades).

The assignments are to be posted on the student's web sites 2 weeks after the module posting date listed above (with the exceptions of M2, due to the Feb 15-22 Toronto conference week, and M5, due to the UA spring break. The reviews are to be posted one week after that, and the responses to the review one week later (with the exception of M6, see above note).

The students are to select the modules they will be doing in consultation with their professor. The following are expected for the UA students:

- All will do M0, the introduction.
- Select either M1 or M2. Since most of the UA students attended the Urban Water class last term, where much of M2 material was covered, it is anticipated that they will all select M1.
- All will do M3.
- Select either M4 or M5.
- All will do M6.

Students are strongly encouraged to read the module materials, and to review the web pages of all other students, even if not preparing the assignment for a specific module.

Each module has:

- About 5 to 10 pages of outline notes to be posted
- About 100 to 300 pages of additional assigned reading - this will be on the Internet.
- An assignment to be posted on the Internet by the student, such as
  - (1) a short review paper, or
  - (2) download a program and sample input data file, run sensitivity on it and report on the results, or
  - (3) a specific calculation.
- Note that students also critic the other students' work and post their critics on the Internet.
- Each instructor will grade their own students' work, but will evaluate all students for their authored module.

Course specifics:

- All students will do assignments and their assignments must be posted on the Internet - every student has their own WebPage and all students read other students' submissions.
- Students are encouraged and expected to work together across the continents.
- All students and instructors must subscribe to the course listserver. From the email addresses where you would like to receive the course email, send an email (just one line) to:

Listserv@listserv.uoguelph.ca

In the text (no subject, no signature) just this line:

Subscribe water-l Your Name

Instead of "Your name" use whatever name you prefer to be called. That is a lower-case L (l) before "Your Name", not a one (1). Follow the instructions and keep copies of them in a special folder.

**Design Activities:** Examine stormwater design guidelines and procedures. Compare special issues affecting our area with conditions elsewhere. Develop suitable design guidelines.

**Computer Activities:** Since this class is an Internet-based class, all of the course material will be delivered via computer and assignments will be posted on the Internet. In addition, the modeling activities rely heavily on computer applications.

**Laboratory Activities:** None.

**Demonstration of Written Communication Skills:** All module assignments are by written project reports that will be posted to the students' individual WebPage.

**Demonstration of Oral Communication Skills:** Oral presentations and discussions are to be given by the students during the weekly meetings.

**Understanding of Ethical, Social, Economic, and Safety Considerations:** Safety issues and environmental protection are fundamental in stormwater management. Various class module assignments will stress ethical issues, especially across international boundaries.