

Course title: Major Project in Water Resources Engineering and Management				
Course code: WSW 110		No. of credits: 16	L-T-P: 0-0-32	Learning hours: 512
Pre-requisite course code and title (if any): NA				
Department: Coca-Cola Department of Regional Water Studies				
Course Coordinator: Project/ Placement coordinator			Course Instructor: Assigned supervisor(s)	
Contact details: email of assigned supervisors				
Course type: Core			Course offered in: Semester 4	
Course description The course offers a research driven learning approach, guided by realistic and challenging water issues of the industry or in the field – surface and ground water assessment and management, water and waste water treatment and management, water modeling and prediction (quality & quantity), hazard, vulnerability and risk mapping of floods and droughts, water-related disaster management and so on. The course includes a 16-20 weeks of research/ on-job training on a live project or a case study through supervised self-learning approach. Based on the need of the project or case study, the student shall conduct a thorough background study and literature review to formulate the problem statement. This shall be supported by primary and/or secondary data collection on various aspects - scientific, technological, socioeconomic, policy and regulations. The student shall form a set of objectives to address the problem statement followed by proposing a methodology/framework to achieve the set of objectives. The methodology shall include a combination of tasks: Analysis of data, performing water modeling (statistical, numerical and or geospatial), development of policy/design recommendations and/or similar tasks assigned by the host organizations. Finally, the student shall submit a thesis report with the results/findings.				
Course objectives				
<ul style="list-style-type: none"> • To work on ideas that are aligned with the government programmes on water management. • To provide hands-on learning to the students on the real time problems in water discipline that includes scientific, technological, socioeconomic, policy making and/or governance aspects. • To enable the student to work on live projects and come up with the solutions commensurate with the assigned problem. • To impart skills in preparing a detailed report describing the project and the results/findings. • To develop job-oriented specialization relevant for transitioning from academic milieu to a work environment. 				
Course contents				
Module	Topic	L	T	P
1	<ul style="list-style-type: none"> • Broad problem identification on thematic area in consultation with the host industry/organization/internal and external supervisors. • Define overall aims and objective and relevant research questions and research objectives to be addressed. 	0	0	64
2	<ul style="list-style-type: none"> • Primary and/or secondary data collection or other relevant work depending on the objectives. • Systematic review of literature, internal or external reports etc. relevant on the specific problem and create benchmark. • Define methodology to be followed and identify materials/modeling tools to be used for achieving each objective. 	0	0	64
3	<ul style="list-style-type: none"> • Perform laboratory experiments, survey and/or modeling (statistical, numerical and/or geospatial). • Analysis and interpretation of the findings/results/data. • Develop an overall conclusion based on inferences and findings and enlist the limitations of the work. • Preparing a draft thesis with the results and findings from the study. 	0	0	384
Total		0	0	512

Evaluation criteria

- Dissertation (40%)
- Presentation and viva (30%)
- Timeline adherence (10%) [Consisting of: joining report (1%), synopsis and topic (1%), progress report (0.5% each), feedback form (1%), final dissertation (5%)]
- Feedback from the Host Organization/Supervisor (20%)
- If plagiarism is detected using plagiarism checking software (e.g. Turnitin), it will be referred to the Major Project Committee (comprising of supervisors and faculty members), which would take a decision and penalty to be imposed/disciplinary action to be taken. The guidelines for the Major Project Committee are as follows:

Levels of Plagiarism	Percentage of similarity	Maximum percentage marks to be deducted from dissertation/thesis
Level 3	> 60%	Student's registration to the program stands cancelled
Level 2	> 40% ≤ 60%	Student repeats the course next year
Level 1	> 10% ≤ 40%	The student is required to resubmit the report within a week
Level 0	≤ 10%	0%

- The students scoring less than or equal to 50% (or ≤ 50%) overall marks in the evaluation would be considered to have failed in this course. Grading of the Major Project will be absolute in nature and would be done as per the following criteria:

>90	A+
>80≤90	A
>70≤80	B+
>60≤70	B
>50≤60	C+
>45≤50	C
>40≤45	D
≤40	F

Learning outcomes

- Student develops an understanding of real time problems/challenges in water resources management projects and their alignment with the government programmes.
- Student is exposed to live projects through field level and/or secondary data collection, methodology formulation and analysis.
- Student learns and applies relevant scientific methods and modeling techniques (statistical, numerical and/or geospatial) in problem-solving.

Student is trained to effectively communicate and demonstrate the learning through structured thesis/dissertation and oral presentation.

Pedagogical approach

Self-learning; discussion with the supervisors; interaction with experts; field work; laboratory work, etc.

Materials

Peer-reviewed journal articles
 Reputed conference proceedings
 Reports related to the specific project
 Learning materials provided by the host organization

Additional information (if any)

A detailed guideline along with important dates and format will be notified by the department, in advance, with other relevant details.

If there is any change in evaluation criteria/policy, it will be updated in the guideline every year.

Dissertation submission and schedule of presentation will be coordinated by Project/Programme coordinators.

Student responsibilities

Attendance; Discipline; Research Ethics etc.

Course Review: MPEC