

**NORTHWESTERN UNIVERSITY**

**The Robert McCormick School of Engineering and Applied Science  
Department of Civil Engineering  
Master of Project Management Program**

Winter Quarter 2008/09

**CIV ENG 349 – ENVIRONMENTAL PROJECT MANAGEMENT  
COURSE DESCRIPTION/SYLLABUS**

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**COURSE DESCRIPTION**  
**CIV ENG 349 – ENVIRONMENTAL PROJECT MANAGEMENT**  
Winter Quarter 2008/09

**OBJECTIVE:** This course is designed to provide an individual with the fundamental background and tools for a responsible environmental management role in an industrial, consulting engineering or governmental setting. The course concentrates on the roles and responsibilities of environmental project managers in dealing with previously created environmental (legacy) issues; responding to current environmental requirements; and, anticipating future environmental needs. Through the use of case studies and student participation projects, this course links managerial, regulatory and technical aspects of environmental management.

**CONTENT:** The course is organized around the following modules/topical areas:

Roles, Issues and Regulations: This module reviews development of U.S. environmental laws and regulations; development of international rules/regulations (Europe, Asia and newly emerging economies); and, how various groups (e.g. industrial, governmental, consulting, special interest) interpret, enforce and respond to regulations. Roles and responsibilities of the environmental manager are reviewed, as they pertain to business management, conflict resolution, leadership, group dynamics, ethics and responsible environmental management (versus environmentalism).

Past Environmental Problems: This module looks at environmental problems from past operations and closed or abandoned facilities/sites. The module covers the development of Superfund regulations and risk-based cleanup objectives. Topics that are presented include: trends in regulatory enforcement and interpretation; the politics of Brownfield development; and trends in clean-up technologies and alternatives. A case study and field trip (weather permitting) to a remediation site is planned.

Current Environmental Issues: This module reviews management of current EHS (Environmental Health & Safety) management issues. Included among the current issues are: regulatory compliance; health and safety; work-place and community right-to-know; pollution control/prevention; waste minimization; and product/environmental stewardship.

Future Environmental Needs: This module examines developing environmental issues and how a responsible environmental manager may need to deal with them. Issues that will be reviewed include: trends in organizational structures; sustainability; climate change, GHG/carbon footprint; compliance negotiation; international regulatory and certification programs; green building initiatives; impacts from global competition; and trends in environmental capitalism.

**MATERIALS:** There is no text book for the course. Reading/reference materials will be provided in a course packet, on reserve in the library or via the internet. Students will be required, at times, to research and present course materials (i.e. articles, research summaries) during class sessions.

Classroom sessions are designed to bring a broad range of perspectives to the topic being discussed in each session. The sessions include presentations by the instructor, roundtable discussions of the subject matter and classroom participation projects.

## SCHEDULE

**The course will be presented over 10 weeks in weekly 3-hour sessions from 6:30 - 9:30 PM. The Final Exam Session is reserved as a make-up date to be used, if necessary.**

WEEK #1 – 1/08: Roles/Issues/Regulations

Course Introduction & Orientation

Roles and issue: Perspectives in Environmental Project Manager Roles and Environmental Management Issues

WEEK #2 – 1/15: Roles/Issues/Regulations

Dispute resolution

Team Dynamics,

Environmental Regulations history and current issues/trends

WEEK #3 – 1/22: Past Environmental Problems

Legacy Issues – market drivers and trends in cleanups: Superfund; Brownfield Development; Risk-based corrective actions

WEEK #4 -- 1/29: Current Issues

Environmental Health & Safety (EHS) management current practices and perspectives: Health & Safety, Air and Water, Ecological issues

WEEK #5 -- 2/5: Current Issues

**Mid-term exam/project – EHS Scorecard**

Guest lecturer (tentative), Daniel Sullivan Pharmacia, Director, Environmental Affairs, Global ES&H

WEEK #6 – 2/12: Future Issues/Trends

Voluntary Compliance – evolving regulatory and certification programs; Evolving EHS organizations; Environmental Justice

WEEK #7 – 2/19: Future Issues/Trends

Global warming/carbon footprint

Sustainability

Environmental Capitalism (credit trading, product stewardship, process development, etc.)

Green building initiatives

WEEK #8 – 2/26: Case Studies

Accidental Discharge

EHS Organizations

**Final Exam Setup**

WEEK #9 – 3/5:

Contracting Issues

**Final Exam Proposals**

WEEK #10 – 3/12: **Final Exam (extended hours)**

Final exam – Final Class Presentations

Class critique, class closeout.

WEEK #11 – 3/19 Make-up date (if necessary) or Final Exam Date

**Course Materials:** Reading materials will be provided in a course packet or on reserve in the library. Additional materials will be provided as necessary. Each session will start with the expectation/assumption that you have read all the materials supplied. Also, each student is expected to bring an article for each class sessions that pertains to subject being discussed/presented. As part of the overall class subject matter, each student will contribute to the general discussion the thoughts, information and issues presented in the article. This will allow us bring a wide range and variety of thought to the topic being discussed in each session.

**Grading:** The course grade will consist of the following areas:

- Attendance
- Assignments
- Class Discussions: You will be evaluated on your contributions to the general discussions in class. Emphasis will be placed on carefully thought out ideas and questions, not on how much you speak.
- Class Participation Projects: There will be several class participation projects that will require preparation and in-class role-playing. You will be evaluated on how carefully you have thought out your issues and they pertain to role that you will play in the project.
- Final Class Project: The final class participation project will be treated as a final exam that will encompass one full period at the end of the course.