



**ROYAL INSTITUTE OF TECHNOLOGY - KTH**  
**School of Architecture and the Built Environment,**  
**Department of Urban Planning & Environment**  
**1H1146 Sustainable Project Management ©**

**(The Project Management course with the “Highest Profile of Actors in Scandinavia”)**

**Course Status**

This is an elective Course for Environmental Engineering and Sustainable Infrastructure Master Students. This course is also open to all other KTH students (3<sup>rd</sup> and 4<sup>th</sup> years and masters) from the Dept. of Surveying, Architecture and the Built Environment, Industrial Economics and Civil Engineering, as well as for exchange students. There is also a possibility for PhD candidates to participate (permission of instructor).

**Academic Level**

Graduate Level – Masters Level	
KTH Credits	5
ECTS Credits	7.5
Time	Period 3
Lectures & Exercises	30h
Workshops	30h
Field Trips	3 Days
Level	D
Grading	3, 4, 5
Language	English

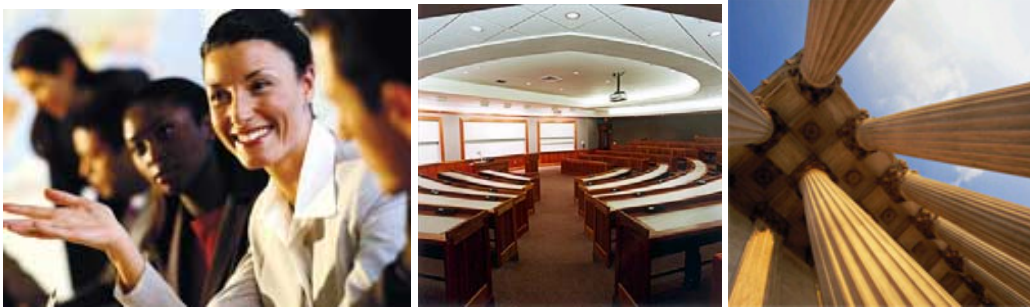
**Course Staff**

Head Teacher and Course Coordinator: Assistant Professor Tigran Haas, PhD. Tel. +46 8 7908504 (tigran@infra.kth.se); Teaching Assistants: Camilla Cortes, MSc./MCP, Vigya Sharma, MSc. and Feras Hammami, MSc. (PhD Fellows).

**Course Introduction and Goals**

Project management is studied in the course as an integrated approach to handling the dynamics of projects during their life cycle and in regards to *quality, time, cost and scope* (Sustainable PM approach). A cyclic concept of project design and implementation is studied through the use of different models. The course focuses on the innovative role that project management process has in handling various projects. Projects provide the link between what the organizations are doing today and what is it likely they will be doing in the future. Different infrastructure projects from around the world are examined from their initial idea through design and subsequent implementation and follow-up. Actors in the course include representatives of major Swedish corporations and multi-national companies such as: AstraZeneca, Nokia, Saab, ABB, Ericsson, Skanska, SAS, H&M, Volvo, Bombardier and Scania. Their objectives are scrutinized from a

*sustainable development* viewpoint by examining factors including adherence to distributive justice, welfare of the country and environmental protection. Project settings range from regional environments in Sweden to international collaborative efforts in Europe and in the developing countries. Group work (in exercises and workshops/labs) is used as one pedagogic tool; students improve their ability to identify key issues and major points, act as moderators in group deliberations, and as rapporteurs in plenum sessions. Students also learn the art of working in project management teams and working under a project manager. The final Examination is done in the form of an individual classic exam that combines the Problem-Based Learning (PBL) task.



## ***Sustainable Project Management***

### **Learning Outcomes**

Attending Sustainable Project Management course will enable you to develop the insights and skills you need to define, plan, and assign work in a project; to coordinate project efforts, regardless of scale and complexity; monitor and evaluate results; to manage project risk; and critically evaluate budgets and schedules. You will be able to apply these insights and practical skills to project situations through individual and group exercises.

### **After completing the course the students will be specifically able to:**

- Integrate and apply different project management models to specific project demands and settings.
- Analyze current procedures in dealing with projects through PBL corporate case studies by the application of contemporary project management theories and models.
- Be able to implement project management methods in a cross-sectoral project environment.
- Respond more dynamically in various project environments and be able to identify complex challenges in small and large-scale infrastructure projects.
- Acquire intermediary skills in handling and working with Microsoft Project Software 2003.

### **Course Structure**

- The Theory Block (Lectures and Short PBL Exercises on Principles of Project Management)
- The Environmental Block (ISO Standards and Environmental Practices in Companies)
- The Real-Life Practice Block (Study trips and short reports + International Companies Interactive Presentations and Discussions)
- The On-Site Experience Block (Studying large PM infrastructure project at first hand)
- The LFA Workshops Block (Logical Framework Approach dynamic group work and presentation in after sessions)

- The MS Project 2003 Lab/Workshop Work (Project Management Group Task Report)
- The Future Perspectives Block (Videos and Future Studies Lectures)
- The Assessment Block (Short Minute Papers, Plenum Sessions, Peer Review Sessions and Written Examination)

### **Course Themes**

Project Cycles, Design Methodology, Project Management, Project Leadership, Environmental Quality Management, Logical Framework Approach, Project Risk, Strategic Planning and Management, Project Scheduling and Planning, Critical Path Method (CPM), Work Breakdown Structure, Program (WBS), Evaluation and Review Technique (PERT) and others;

### **Course Labs and Workshops**

Course Labs include the use of Microsoft Project 2003 and center around an environmental logistics project management task. Students will work in groups that will be headed by a project manager. The final outcome will be a Structured PM Report that will be presented at Plenum sessions where groups will be able to criticize each others work and as well get critique from the course staff and invited professionals in the field. The workshop deals with Logical Framework Approach (LFA). LFA provides a set of designing tools that, when used creatively, can be used for analysis, planning, designing, implementing and evaluating projects. LFA provides a structured, logical approach to setting priorities and determining the intended results and activities of a project. The Workshops also entail group work. Although workshops are a group effort, individual performance of each student in the group counts towards final examination and final mark.

### **Short PM Course Home Exercises**

Two Project Management Exercises explore the challenges of planning for and managing projects in today's complex, risk filled, ever-changing environment. Examples from real world are presented in the context of Project Management. These exercises focus on project management as a system that enables the organization or the individual to do the right things to facilitate the successful achievement of its business objectives. They are a group work (2 persons in each group) and have to be submitted in written form. The feedback is given after each exercise.

### **Group Work**

Group work is emphasized in the home exercises and labs/workshops. It is used as a pedagogical tool and as a means of exchanging various, worldwide professional experiences between the course participants. It is not just learning and training exercise; it is multi-cultural network of exchanging ideas. Students work in larger 'project management teams' – 6 to 7 persons (exercises and workshops).

### **Course Prerequisites (Permission of Instructor)**

At least three years of undergraduate study in architecture, spatial planning, surveying, civil engineering, energy, geography, economics, law, business administration, management, sociology, political and social sciences, anthropology, population studies, or related subject.

## **Follow-up Courses**

1H1141 Urban Infrastructure

### **Course Requirements and Student Assessment**

- Written Examination (2 credits)
- Group Exercises and Attendance min. 75% (1 credit)
- Workshops and Labs + (2 credits).

Students' performance will be assessed through their active participation in project lab meetings, oral plenum presentations, exercise tasks, lecture attendance, field study trips and final written project management task group reports. They will also be examined individually through a project management exam that will consist of two parts: first general and fundamental understanding of principles part (required for all in order to pass the exam) and second part on a more advanced problem based study (required for those that want higher marks and that have done the first part). Students will also be asked to reflect on their own experiences within the group and via the short exercises and report their individual contributions towards the final task project. This will be possible during the course (two times) and during plenum sessions (one time). A grade of A, B, C, D, E, Fx and F (Where F is Fail and Fx is partial Fail grade) will be assigned. Grades on the written examinations are set by the head teacher, labs/exercises grade by the teaching assistants and final grade by the head teacher.

### **Planned Study Trips and Excursions**

1 Day Study Trip to **Kvaerner Massa Yards and ABB Industry and Marine Group**, Helsinki (Finland). Trip to Finland is subsidized only for students taking the full EESI Masters Program.

### **Times and Course Schedule**

Tuesdays and one Friday (More detailed schedule will be announced at a later date on the course webpage) Official course Start: **19.03.2007. in K1, Teknikringen 56 Entreplan (Chemistry Building) at 10:00.** Maximum number of places: **65**. To apply: contact your study counselor or masters programs secretary Ms. Sofia Norlander at: sofiano@kth.se (Tel: 790 8079) **Last Day for registration for non EESI Students: 7<sup>th</sup> of January, 2006.**

### **Course Literature**

**Project Management** by Gary R. Heerkens Publisher: McGraw-Hill; 1<sup>st</sup> edition (November, 2001) ISBN: 0071379525 and **Project Management** by Harvey Maylor Publisher: Financial Times with Prentice Hall; 3<sup>rd</sup> edition (September, 2003) ISBN: 0-273-65541-8. **The books will be available in the student bookshop at KTH just prior to the course start.**

Additional papers, updated information and documents will be available through the course web page. This page will also be a portal to the KTH webpages BILDA. They will be a interactive and dynamic pool for students attending Sustainable Project Management Course where the instructors and students will interact and exchange information, tasks, ideas and have a general discussion. More details on the course will be available in the course presentation at the first meeting of the course in March as well continually on the course homepage.

## Course Evaluation and Assessment

Short-feedback paper: At the end of each course thematic block (8 Blocks), students will be given an opportunity to provide a short written feedback on particular parts of the course blocks and on certain points they thought were most important (clear) and those not needed and most unclear to them. This will be shortly analyzed on the beginning of each new block. A special course evaluation has been designed exclusively for Sustainable Project Management course. Qualitative Course Commentary (QC<sup>2</sup>) is a an evaluation, though an original one, based upon the course evaluations from the Massachusetts Institute of Technology (MIT), Institute of Technology in Auckland, New Zealand (UNITEC) and the University of Washington, Seattle (UWS). The students will fill in the QC<sup>2</sup> evaluation on the day of the exam and will be able to reflect on the course experience. This will be also followed by a feedback open QC<sup>2</sup> live session with students (those that are interested in attending).

## Course Home Page:

<http://www.infra.kth.se/eesi/> (Through the EESI Program) or

<http://www.infra.kth.se/courses/1H1146/> (Direct Link)

<http://bildakth.se> (Student Course Pool)

**DON'T MISS THIS OPPORTUNITY TO JOIN US FOR A UNIQUE COURSE!**



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