

Course 4: Supervising engineering students

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He is Telecommunications Engineer and Dr. in Telecommunication Engineering by Universidad Politecnica de Madrid. He is Associate Professor at UPM and the Director of Cooperation for Development of the University. He is lecturer of the Master in Technology for Human Development and Cooperation of the UPM and researcher of the Centre of Innovation in Technology for Development of the same University. He is the President of the Group of Education for Development of the Spanish Council of Cooperation. He was President of the NGO: Engineer Without Borders of Spain from 2003 until 2007. His main area of interest is the applications of Information and Communication Technology for the Human Development.

Syllabus

Overview

This course is designed to prepare academics to support engineering students who are interested in integrating concepts of the global dimension into their own education. Since a common method of integration is through a self-selected thesis project, the majority of sessions in this module will address how to effectively prepare and support a student to conduct research on a global-dimension-related thesis topic. This includes a session on the process of supervision at a general level, and also includes modules on action research and other methods appropriate for engineering for development research, fieldwork preparation, and reporting procedures, which meet academic and stakeholder communication requirements. In addition, participants will learn how to support students interested in developing further skills, experiences, or careers in engineering for development.

Learning outcomes:

By the end of the course the participant will be able to:

1. Apply knowledge of theories and dynamics of the supervision to improve the quality and effectiveness of their own practice.
2. Awareness of specific skills and competencies required for supervision in a developing-country context.
3. Construct a set of guidelines informing the planning and reporting stages of a research project in a developing-country context, including planning stakeholder feedback and



fieldwork preparation.

The course at a glance:

Session	Week	Topic covered
1	1	The supervision process at the stage of a MS/BS thesis - Supervising an individual/a group
2	1	Volunteering and/or preparation for a professional career
3	2	Action and research preparation and following up
4	2	Field work preparation and following up
5	3	Academic reporting and feedback to stakeholders and society
0	3	Final Exam

Estimated time commitment

This course will run for 3 weeks beginning on May 5th, 2014. In total, the course should take approximately 20-25 hours to complete, including readings, assignments and activities. Each session is equivalent to two hours in the classroom plus 3 hours of personal study, broken down as follows.

N.	Activity	Estimated time commitment
1	Reading & Coursework	100 minutes
2	Explore Further Materials	60 minutes
3	Review Quizzes	20 minutes
4	Academic Activity	90 minutes
5	Participation in Discussion Forums	(Minimum of) 30 minutes



Course structure:

New lecture materials will be posted every Monday. Once posted, materials will be up for the duration of the course.

Each week, lecture material for two sessions will be posted. The lecture materials for each session will be comprised of one assigned reading, an Academic Activity, and a set of web resources, carefully selected to help participants deepen their understanding of the topics covered.

Session Review Quizzes will be posted online twice per week. They will be graded and passing the Review Quizzes is a requirement for passing the course. (For more information on course grading, please read the section entitled "Passing the Course").

The Academic Activity, included with each session, is designed to test your ability to put into practice what you have learnt during the sessions. **Only 2 of the 5 available Academic Activities will be graded. The course coordinator will announce the Academic Activities to be graded at the beginning of the course.** You will only be required to complete the 2 graded activities.

The Final Exam will take place in the last week of the course. It will be comprised of 30 questions covering all of the course material. Passing the Final Exam is a requirement of the course.

In addition to the graded activities, a discussion forum will run throughout the duration of the course. Each week, the course coordinator will post a discussion question related to the session topics. Participation in the discussion forum is not required to pass the course, and participants' discussion contributions will not be graded. However, students are **strongly encouraged** to participate in the discussion forum as the discussion and debate which will take place in the forums will greatly enhance student learning and topic engagement.

Quizzes/Assignments/Final exam:

Review Quizzes

There are 5 quizzes in total, each comprised of 10 questions and worth 10 possible points. 2 review quizzes will be posted each week, evaluating participants understanding of the weekly session topics. All quizzes count towards the final grade and can be attempted twice. The quiz format is a mixture of True/False and Multiple Choice questions.

Academic activities

Each session includes an academic activity for practicing key concepts learnt. Only 2 academic activities will be evaluated for grading. The course coordinator will indicate at

the beginning of the course which activity will be evaluated, as well as provide detailed instructions and evaluation criteria. The completed activity must be uploaded on the platform upon completion. Activities can be attempted only once; they worth a maximum of 10 points each, for a total of 20 points.

Final exam

The final exam consists of a mix of 30 True/False and Multiple Choice questions covering all the course topics. It worth a maximum of 30 points. It can be attempted twice.

Passing the Course

To pass the course you should:

- Have submitted all review quizzes before the due date
- Have submitted the academic activities before the due date
- Have submitted the final exam before the due date
- Obtain a grade of at least 70 points in total

Grading Policy

Students who successfully complete the course will be offered a Statement of Accomplishment according to the following grading policy.

Grading Policy	
Statement of accomplishment	at least 70 points
Statement of accomplishment with distinction	at least 90 points

Course 4: Supervising engineering students – COURSE TIMELINE

Course Start: May 26th

Sessions	Learning Outcomes By the end of the course you will be able to:		Due GA (Graded Activity)
Orientation	<ul style="list-style-type: none"> • Navigate the course • Know the other participants 	WEEK 0	<ul style="list-style-type: none"> • Read carefully the Syllabus • Complete the orientation questionnaire • Introduce yourself to others participants (Forum)
1. The supervision process at the stage of a MS/BS thesis - Supervising an individual/a group	<ul style="list-style-type: none"> • Know a set of good advising practices. • Ability to identify actions that may negatively affect the supervision of students. • Identify the main differences between advising an individual and a group, and will learn how to stimulate the best results from them. 	WEEK 1	<ul style="list-style-type: none"> • Reading & Coursework 1 (Release 26.05) • Quiz 1 (Release 27.05 – Due 30.05) GA • Discussion Forum (Release 27.05)
2. Volunteering and/or preparation for a professional career	<ul style="list-style-type: none"> • Make students aware of the opportunities available in international cooperation and of the value of such experiences; • Focus and strengthen students’ motivations; • Ability to concretely get students started with their projects; and • Ability to monitor, supervise and appraise the experience. 		<ul style="list-style-type: none"> • Reading & Coursework 2 (Release 26.05) • Quiz 2 (Release 30.05 – Due 03.06) GA • Academic Activity 1 (Release 29.05 – Due 04.06) GA

<p>3. Action and research preparation and following up</p>	<ul style="list-style-type: none"> • Knowing which aspects are fundamental to an international cooperation thesis • Ability to teach students how to clearly define their objectives • Knowing how to make a timetable 	WEEK 2	<ul style="list-style-type: none"> • Reading & Coursework 3 (Release 02.06) • Quiz 3 (Release 03.06 – Due 06.06) GA • Discussion Forum (Release 03.06) • Reading & Coursework 4 (Release 02.06) • Quiz 4 (Release 06.06 – Due 10.06) GA • Academic Activity 2 (Release 05.06 – Due 11.06) GA
<p>4. Field work preparation and following up</p>	<ul style="list-style-type: none"> • Recognising and defining factors influencing risk in field work; • Know how to develop and utilise tools such as checklists, risk assessments and calendarisation for effective preparation and follow up of field work; • Designing and establishing plans for collecting and storing field work data. 		WEEK 3
<p>5. Academic reporting and feedback to stakeholders and society</p>	<ul style="list-style-type: none"> • Generate communication messages from the research carried out; • Define, encompass and reach the target audience; • Examine different kinds of communication formats and products which can be generated by the research itself; • Find the most appropriate communication channels for the investigation undertaken; • Set out a communication plan which develops alongside the research process as a whole. 	<ul style="list-style-type: none"> • Exam (Release 03.05 – Due 10.06) GA • Post-course evaluation survey (Release 10.06) 	
<p>Final exam</p>			