**ENGINEERING ETHICS AND ATTITUDE**

Copies of the approved Course Syllabus are located at:

[www.mik.pte.hu](http://www.mik.pte.hu)

**Course Code:** PMRKGNM201OA-EA-00

**Semester:** Autumn

**ETCS Credits:** 2

**Lectures per Week:** 2

**Evaluation:** Signature (with grade)

**Prerequisites:** English language

**Instructor: Dr. András Timár** professor emeritus

**Office**: 7624, Pécs, Boszorkány u. 2. Office No B305

**Phone**: +36 70 318 1020

**E-mail**: timara@hu.inter.net

**Lecturer:** **Dr. András Gulyás,** associate professor

**E-mail:** gulyas. andras@mik.pte.hu

**General Course Description and Learning Objectives:**

Engineering Ethics and Attitudes is designed to introduce students of Civil Engineering to the concepts, theory and practice of ethics. They will be prepared to understand the foundation of classical moral theory and decision making in the context of engineering applications. Engineering ethics combines societal, economic and environmental factors in order to produce a set of rules that could lead an engineer to make decisions that protect the public interest regardless of any pressures that they may encounter while serving for corporate organization. Students are enabled to recognize and properly evaluate ethical challenges that they may face in their professional careers through knowledge and exercises (discussing Case Studies from real life) that deeply challenge and finally strenghten their decision making abilities and ethics. Ethic problems examined by Case Studies seldom have a single clear-cut correct answer, but may have many solutions, where some considered to be better than others. Therefore, ethical problems can be treated similarly to open-ended engineering design problems, where multiple solutions exist.

**Methodology:**

- **Lectures**: will give detailed explanation to the basic knowledge of the main ethical and moral problems related to the engineering practice, presenting appropriate case studies

- **Practical home-work**: In compliance with a prescribed structure (see attached), students will prepare a short (max. 3 pages) written analysis (Case Study) of an ethical case from their own professional experience; it should be sent to the Instructor in Word format as an E-mail attachment for evaluation not later than COB at 10th of December 2016

- **Exams:** Accumulated knowledge is tested in a final written examination (test)

**Schedule:**

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| --- | --- |
| **Week** | **Topic of lecture** |
| **1st** | The Importance of Ethics in Engineering; Philosophy, Religion and Ethics |
| **3rd** | Moral Analysis & Decison Making; Virtues & Habits Internal & External Morality  |
| **5th** | Moral Responsibility & Legal Regulation – Bribery and Corruption  |
| **7th** | Attitude and Behaviour; Truth and Whistle-blowing; Plagiarism and Copyright  |
| **11th** | The Role and Development of Codes of Ethics for Civil Engineer  |
| **13th** | Conflict of Interest; Equal Treatment: Fairness in Tendering, Contracting and Supervising |
| **15th** | Final examination (test) |

**Attendance:**

It is required to attend all lectures (it is to be controlled), while attendance will impact the grade (max. 20%). Unexcused absences will adversely affect the grade and in case of absence from more than 30% of the total number of lectures will be grounds for failing the class. To be in class at the starting time and stay there until the scheduled end of the lecture is required, delayed arrival or early departure of more than 20 minutes will be considered as an absence. In the case of an illness or family emergency, the student must present a valid excuse, such as a doctor's note.

**Grading:**

20% - Attendance

30% - Preparation of a Case Study related to engineering ethic, accepted by the instructor

50% - Final examination

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| --- | --- | --- | --- | --- | --- |
| **Grade** | **5** | **4** | **3** | **2** | **1** |
| **Percentage** | **100%-85%** | **84%-74%** | **73%-63%** | **62%-51%** | **50%-0%** |

**Students with Special Needs:**

Students with a disability and needs to request special accommodations, please, notify the Deans Office. Proper documentation of disability will be required. All attempts to provide an equal learning

environment for all will be made.

**Readings and Reference Materials:**

**Fleddermann, C.B.** (2011): Engineering Ethics. Prentice Hall, 4th edition

**Van de Poel, I., and L. Royakkers** (2011): Ethics, Technology, and Engineering: An Introduction. Wiley-Blackwell

**Dave Robinson** (2012): Introducing Ethics for Everyday Life: A Practical Guide. Icon Books Ltd, UK

**C. Ben Mitchell** (2013): Ethics and Moral Reasoning: A Student's Guide. Crossway, Illinois, USA

Code of Professional Conduct of the European Council of Civil Engineers (ECCE)

<http://www.ecceengineers.eu/about/code_of_conduct.php>

**Code of Ethic of the American Society of Civil Engineers (ASCE)**

 <http://www.asce.org/code-of-ethics/>

**ATTACHMENT**

**Structure and Chapters of a Case Study in Engineering Ethics**

1. Short and matter of fact **description of an event/story observed in your professional or private experience**, having any relationship with required and respected ethical norms, following a chronological approach (what happened, when and how). A case study or series of events already presented, analysed and evaluated already by anybody else (copied from the internet or any other external source) is strictly forbidden! **Plagiarism discovered by the instructor leads to refusal of the entire work.**

2. Presentation of the presumed ethical/moral **dilemmas, conflicts of interests and decision making process** of the actors participating in the story, with special emphasis of the neglected and/or duly respected ethical principles, norms and requirements (to be enumerated).

3. Demonstration of the **possible solutions of the ethical problems** encountered and their eventual consequences, pointing out, why reality was (or wasn’t) different from theoretical opportunities.

4. Elaboration of **your personal opinion**: how would have been possible to find out an ethical solution, decrease ethical risks or avoid unethical behaviour (if any). Make proposals aiming to avoid or reduce probability of similar ethical conflicts in the future.

The Case Study doesn’t exceed 3500 words (title page + 3 pages) and should be prepared in electronic form (Microsoft Word is the preferred software program). Use Times New Roman font, size eleven (11) point. Margins are 1 inch or 2.5 cm all around. Number the pages consecutively, beginning with the title page as page 1. Title page must contain the title of the study and the author’s name and code.

**The duly signed work has to be sent as and E-mail attachment to the Instructor not later then COB at 10th of December 2016. Address:** timara@hu.inter.net