Politechnika Krakowska im. Tadeusza Kościuszki

Karta przedmiotu

obowiązuje studentów rozpoczynających studia w roku akademickim 2017/2018

Wydział Mechaniczny

Kierunek studiów: Mechanika i Budowa Maszyn — Profil: Ogólnoakademicki

Forma sudiów: stacjonarne — Kod kierunku: M

Stopień studiów: I

Specjalności: Zaawansowana mechanika obliczeniowa (Advanced Computational Mechanics)

1 Informacje o przedmiocie

Nazwa przedmiotu	Ethics for engineers
Nazwa przedmiotu w języku angielskim	Ethics for engineers
Kod przedmiotu	WM MIBM oIS A4 17/18
Kategoria przedmiotu	Przedmioty ogólne
Liczba punktów ECTS	2.00
Semestry	2

2 Rodzaj zajęć, liczba godzin w planie studiów

Semestr	Wykład	Ćwiczenia	Laboratorium	Laboratorium komputerowe	Projekt	Seminarium
2	30	0	0	0	0	0

3 Cele przedmiotu

Cel 1 Introduction of basic ethical concepts and ideas required for the understanding of social and nontechnological conditions and aspects of engineering.

Cel 2 Presentation of three main ethical theories: ethics of character, ethics of duty (deontology) and ethics of utility.

Cel 3 Presentation of the fundamental prinicples of engineering ethics and developing the competences of applying them to practical cases.

Cel 4 Developing the attitude of the proffesional responsibility and the awareness of social and human aspects of engineering

4 Wymagania wstępne w zakresie wiedzy, umiejętności i innych kompetencji

1 None

5 Efekty kształcenia

EK1 Wiedza A student explains the aims and methods of ethics, can define its main concepts and problems.

EK2 Wiedza A student can describe the assumptions, methods and results of the ethics of character, ethics of duty and ethics of social utility; can explain their sense in examples along with their importance for engineering ethcis.

EK3 Wiedza A student describes the main principles of engineering ethics and explains their meaning with relevant case studies. Explains the general method of analysis and the idea of responsiblity and responsible action.Efekt kształcenia 3

EK4 Umiejętności A student can cary out an independant analysis of a case or a problem; can develop a valid argument and search for a right solution.

EK5 Kompetencje społeczne A student can actively take part in a discussion and identify appearing problems, can foresee the consequences, adopts the attitude of responsibility and can solve the problem.

6 Treści programowe

Wykład		
Lp	Tematyka zajęć Opis szczegółowy bloków tematycznych	Liczba godzin
W1	Morality and normative ethics, the subject, methods and aims of ethics, the basic ethical concepts, ethics and practice in the world of technology.	2
W2	The methods and results of ethics based on the idea of the developing of character and dispositions of a man. Selected classic version, methods of arguing and their importance for engineering ethics.	5
W3	The assumptions, methods and results of ethics based on the idea of duty (deontological theories). Selected classic versions, methods of arguing in practical cases; conflicts of duties and ethical dilemmas, idea of duty versus social utility and its importance for engineering ethics.	4
W4	The assumptions, methods and results of ethics based on the idea of consequences (utilitarianism). Selected classic versions, methods of arguing in practical cases; the concept of responsibilty, results and care, the idea and conditions of responsible action.	6
W5	Engineering ethics according to FEANI code, other codes and virtue ethics; a model of human action, reasons for action and decision making	4

Wykład		
Lp	Tematyka zajęć Opis szczegółowy bloków tematycznych	Liczba godzin
W6	The main principles of engineering ethics: public safety, the safety and organization of the work place, the care for the environment, the principles of honesty and integrity in proffesional judgements, decisions and actions, justice and respect for human dignity, the principle of continuus professional developement, the principle of responsibility and its particular importance.	4
W7	Case studies: a general method for analysis of cases; principles of engineering ethics in cases, construction, communication and other disasters; the importance of correct professional judgement and responsible action.	5

7 Narzędzia dydaktyczne

N1 Wykłady

N2 Prezentacje multimedialne

N3 Dyskusja

N4 Narzędzie 4

8 Obciążenie pracą studenta

Forma aktywności	Średnia liczba godzin na zrealizowanie aktywności
Godziny kontaktowe z nauczycielem akademickim, w tym:	
Godziny wynikające z planu studiów	30
Konsultacje przedmiotowe	2
Egzaminy i zaliczenia w sesji	0
Godziny bez udziału nauczyciela akademickiego wynikające z nakładu pracy studenta, w tym:	
Przygotowanie się do zajęć, w tym studiowanie zalecanej literatury	6
Opracowanie wyników	0
Przygotowanie raportu, projektu, prezentacji, dyskusji	12
case study	10
Sumaryczna liczba godzin dla przedmiotu wynikająca z całego nakładu pracy studenta	**60**
Sumaryczna liczba punktów ECTS dla przedmiotu	2.00

9 Sposoby oceny

Ocena formująca

F1 Aktywnośc na zajęciach

Ocena podsumowująca

P1 Kolokwium

P2 Projekt

Warunki zaliczenia przedmiotu

W1 Aktywny udział w zajęciach, zaliczenie kolokwium i pracy pisemnej

Kryteria oceny

Efekt kształcenia 1	
Na ocenę 2.0	Student doesn't know basic concepts and methods of ethics.
Na ocenę 3.0	A student knows basic ethical concepts and methods
Na ocenę 3.5	A student knows basic ethical concepts and methods and can formulate the assumptions and results of each method.
Na ocenę 4.0	A student knows basic ethical concepts and methods and can formulate the assumptions and results of each method along with the relevant argument.
Na ocenę 4.5	A student knows basic ethical concepts and methods and can formulate the assumptions and results of each method along with the relevant argument, can illustrate and explain each them with a relevant case study.
Na ocenę 5.0	A student knows basic ethical concepts and methods and can formulate the assumptions and results of each method, can illustrate and explain each them with a relevant case study and use the methods in a creative way to the problems of the civilization and technology.
Efekt kształcenia 2	
Na ocenę 2.0	A student cannot explain the basic assumption of the ethics of character, deontology and ethics of social utility,
Na ocenę 3.0	A students knows assumptions, methods and results of the ethics of character, ethics of duty and ethics of utility
Na ocenę 3.5	A students knows assumptions, methods and results of the ethics of character, ethics of duty and ethics of utility and can explain their meaning with the cases selected by himself/herself.
Na ocenę 4.0	A students knows assumptions, methods and results of the ethics of character, ethics of duty and ethics of utility and can explain their meaning in all classic examples.

Na ocenę 4.5	A students knows assumptions, methods and results of the ethics of character, ethics of duty and ethics of utility and can explain their meaning in all classic examples; can identify social, human and other nontechnological conditions and aspects of contemporary civilization
Na ocenę 5.0	A students knows assumptions, methods and results of the ethics of character, ethics of duty and ethics of utility.and can explain their meaning in all classic examples; can identify social, human and other nontechnological conditions and aspects of contemporary civilization, can creatively argue and search for new solutions of the problems
Efekt kształcenia 3	
Na ocenę 2.0	A student cannot explain the main principles of engineering ethics
Na ocenę 3.0	A student knows the main principles of engineering ethics, the general method of the analysis of cases and the idea of responsibility.
Na ocenę 3.5	A student knows the main principles of engineering ethics, the general method of the analysis of cases and the idea of responsibility and can explain their meaning in selected examples.
Na ocenę 4.0	A student knows the main principles of engineering ethics, the general method of the analysis of cases and the idea of responsibility and can explain their meaning in many examples.
Na ocenę 4.5	A student knows the main principles of engineering ethics, the general method of the analysis of cases and the idea of responsibility, and can explain their meaning in many examples including unsual and controversial cases.
Na ocenę 5.0	A student knows the main principles of engineering ethics, the general method of the analysis of cases and the idea of responsibility and can explain their meaning in many examples including unusual and controversial cases, can argue in an creative and independenet way.
Efekt kształcenia 4	
Na ocenę 2.0	A student cannot cary out an analysis of a case or a problemin engineering ethics.
Na ocenę 3.0	A student can idependently cary out an analysis of a typical case or problem in the light of the principles.
Na ocenę 3.5	A student can idependently cary out an analysis of a typical case or problem in the light of the principles, can discuss and compare its possible solutions.
Na ocenę 4.0	A student can idependently cary out an analysis of a typical case or problem in the light of the principles, can discuss and compare its possible solutions, can defend his/her solution in a discussion
Na ocenę 4.5	A student can idependently cary out an analysis of a typical case or problem in the light of the principles can discuss and compare its possible solutions, can defend his/her solution in a discussion.

Na ocenę 5.0	A student can idependently cary out an analysis of a typical case or problem in the light of the principles, can discuss and compare its possible solutions, can defend his/her solution in a discussion, can take responsibility for its consequences and creatively search for a new solutions
Efekt kształcenia 5	
Na ocenę 2.0	A student is not able to take part in a discussion.
Na ocenę 3.0	A student rarely takes part in a discussion
Na ocenę 3.5	A student takes part in a discussion and identifies the problems of social, human and environmental aspects of technology.
Na ocenę 4.0	A student takes part in a discussion and identifies the problems of social, human and environmental aspects of technology and can present a corret argument
Na ocenę 4.5	A student takes part in a discussion and identifies the problems of social, human and environmental aspects of technology, can present a corret argument, foresees the consequences of his choices and takes responsibility for them.
Na ocenę 5.0	A student takes part in a discussion and identifies any of the problems of social, human and environmental aspects of technology, can present a corret argument in a creative way, foresees the direct and indirect consequences of his choices and takes responsibility for them.

10 Macierz realizacji przedmiotu

Efekt kształcenia	Odniesienie danego efektu do szczegółowych efektów zdefiniowanych dla programu	Cele przedmiotu	Treści programowe	Narzędzia dydaktyczne	Sposoby oceny
EK1	K1_UP11 K1_K05	Cel 1	W1 W2 W3 W4 W5 W6 W7	N1 N2 N3	F1 P1 P2
EK2	K1_UP11 K1_K05	Cel 2	W1 W2 W3 W4 W5 W6 W7	N1 N2 N3 N4	F1 P1 P2
EK3	K1_UP11 K1_K05	Cel 3	W1 W2 W3 W4 W5 W6 W7	N1 N2 N3 N4	F1 P1 P2
EK4	K1_UP11 K1_K05	Cel 4	W1 W2 W3 W4 W5 W6 W7	N1 N2 N3 N4	F1 P1
EK5	K1_UP11 K1_K05	Cel 4	W1 W2 W3 W4 W5 W6 W7	N1 N2 N3 N4	F1 P1 P2

11 Wykaz literatury

Literatura podstawowa

[1] M. Martin R Schinzinger — *Ethics in Engineeringł*, New York, 1996, McGraw_Hill Companies

[2] C. Harris, M. Protchard, M . Rabins — *Engineering Ethics*, Belmont, 2005, Wadsworth

12 Informacje o nauczycielach akademickich

Osoba odpowiedzialna za kartę

dr Marek, Ryszard Pyka (kontakt: mpyka@pk.edu.pl)

13 Zatwierdzenie karty przedmiotu do realizacji

(miejscowość, data) (odpowiedzialny za przedmiot) (dziekan)