COURSE SYLLABUS

1. Program information

1.1. Institution	Petroleum - Gas University of Ploiesti
1.2. Faculty	Petroleum Refining and Petrochemistry
1.3. Department	Petroleum Processing Engineering and Environmental Protection
1.4. Field of study	Chemical Engineering
1.5. Study cycle	Master
1.6. Study program	Chemical Engineering for Refineries and Petrochemistry

2. Course information

2.1. Course title	Ethics and academic integrity		
2.2. Course coordinator	Assist. prof. Ph.D. Eng. Movileanu Daniela Luminiţa		
2.3. Laboratory / seminar coordinator	Assist. prof. Ph.D. Eng. Movileanu Daniela Luminiţa		
2.4. Year of study	II		
2.5. Semester *	3		
2.6. Evaluation type	V		
2.7. Course type - formative category **	DC	2.8. Type of subject matter ***	C

* the semester number is in accordance with the curriculum;

** fundamental = DF; domain = DD; speciality = DS; complementary = DC; thoroughgoing = DA; synthesis = DSI.

*** compulsory = C; optional = O; elective = E

3. Total estimated time (teaching hours per semester)

3.1. Number of hours per week	3	of which: 3.2.course	2	3.3. Seminars/laboratories	1	3.4Project	-
3.5 Total hours from curriculum	30	of which: 3.6.course	20	3.7 Seminars/laboratories	10	3.8Project	-

3.9 Time distribution	hours
Study of textbook, course support, bibliography and notes	15
Further reading in the library, on online platforms and fieldwork	11
Preparing seminars/laboratories, homework, portfolios and essays	14
Tutoring	0
Examinations	2
Other activities	0

3.10. Total hours of individual study	42
3.11. Total hours per semester	72
3.12. Number of credits	4

3. Prerequisites (where applicable)

4.1. of curriculum	➢ graduated bachelor
4.2. of skills	➢ basic knowledge of using computer technologies for data acquisition, processing of data and documentation

4. Requirements (where applicable)

5.1. of course	➢ Course room with video projector
5.2. of seminars/laboratory	➢ Seminar room with video projector

5. Specific competences

Professional competences	PC1. Description, analysis and advanced utilization of engineering concepts and fundamental theories in petroleum refining. PC2. Characterization of physical and chemical structural properties, of petroleum products by complex analytic methods. PC3. Equipment, process and plant design. PC4. Real time control of processes and plants in chemical industry. PC5. Modeling, simulation and design of chemical processes.
Cross-curricular competences	TC1.Documentation, information and scientific literature research. TC2. Independent and autonoms achievement of individual professional tasks. TC3. Advanced knowledge of computer, internet and specific chemical engineering software. TC4. Management organization and planning of professional teams and organizations.

6. Course objectives (based on the competence grid)

7.1. General objective	➢ knowledge and understanding of the issues, concepts and principles of ethics and academic integrity; ➢ developing documentation skills; ➢ developing skills for understanding and analysis of technical and scientific documents (patents, scientific papers) of various degrees of difficulty;
7.2. Specific objectives	➢ knowledge and application of the principles and norms of professional ethics and deontology; ➢ identification and analysis of academic ethics and integrity issues, use and citation of sources, objective presentation of data; ➢ understanding the importance of performing replicable and reliable research and appreciation of factors that lead to rigorous research; ➢ application of critical thinking in solving ethical problems; ➢ expression of a responsible attitude towards the scientific field to optimal and creative capitalization of their own potential; ➢ teamwork, interpersonal communication and the assumption of specific roles.

7. Contents

8.1. Course	Time	Teaching methods	Comments
Ethics, deontology and integrity – introductory notices, terminology, history. The role of ethics and integrity in the academic field	2	Lecture, conversation and debate	
Intellectual fraud: terminology, legal regulations. Plagiarism. Authorship, ownership and plagiarism in the digital age. Scientific communication and deontology.	2		
Relations in the community and with the society; students' behavior	2		
The code of academic ethics and deontology. Regulation of organization and functioning of the university ethics committee	3		
Documentation in scientific research. Ethical challenges caused by fast development of mass media.	2		

Data acquisition, management and sharing; Sloppiness vs Fabrication	2		
Industrial property. Right protection systems: patent, utility model, design, trademark. International treaties in patents field.	2		
Online database of patents and scientific papers	3		
Management of patenting. Legal exploitation of patents. Rights and obligations	2		

Bibliography

1. Constantinescu, M., Mureşan, V., *Institutionalizarea eticii: mecanisme si instrumente*, Editura Universitatii din Bucuresti, 2013
2. ****Ullmann's Encyclopedia of Industrial Chemistry*, 40 Volume Set, *7th Edition*. *Wiley-VCH* (Editor), 2011
*3. ***Kirk-Othmer Encyclopedia of Chemical Technology Fourth Edition, John Wiley & Sons, 1998;*
4. Erhan, V., *Brevetul de Inventie – Obtinere si exploatare*, Editura Lumina Lex, Bucuresti, 1995
5. Sutherland – Smith, W., *Plagiarism. The internet and student learning. Improving Academic Integrity*, Routledge, Taylor and Francis Group, New York and London, 2008
6. Macfarlane, B., *Researching with integrity. The ethics of academic enquiry*, Routledge, Taylor and Francis Group, New York and London, 2009
7. Brennecke, P., *Academic integrity at the Massachusetts Institute of Technology*. *A handbook for students*, 2012

8.2. Seminar / laboratory	Time	Teaching methods	Comments
Specific notices of Code of ethics and academic deontology	2	Conversation, explanation, and debate	
Legal consequences of plagiarism; types of plagiarism; author rights	2		
Content of scientific paper and patent. How to read a patent	2		
Processing of scientific and experimental data for a scientific paper – examples	2		
Technical subject of patents, the origin of invention and novelties. Stages of patent development	2		

Bibliography

1. Constantinescu, M., Mureşan, V., *Institutionalizarea eticii: mecanisme si instrumente*, Editura Universitatii din Bucuresti, 2013
2. ****Ullmann's Encyclopedia of Industrial Chemistry*, 40 Volume Set, *7th Edition*. *Wiley-VCH* (Editor), 2011
*3. ***Kirk-Othmer Encyclopedia of Chemical Technology Fourth Edition, John Wiley & Sons, 1998;*
4. Erhan, V., *Brevetul de Inventie-Obtinere si exploatare*, Editura Lumina Lex, Bucuresti, 1995
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6. Macfarlane, B., *Researching with integrity. The ethics of academic enquiry*, Routledge, Taylor and Francis Group, New York and London, 2009
7. Brennecke, P., *Academic integrity at the Massachusetts Institute of Technology. A handbook for students*, 2012
8. ***European University Institute, Code of ethics in academic research, IUE 533/17 (CA480) REV.1
9. Doss, H, Popkin, G., *Ethics. Case studies*, edited APS physics, https://www.aps.org/programs/education/ethics/upload/Ethics-Case-Studies-Teacher-Edition.pdf

8.3. Project	Time	Teaching methods	Comments

Bibliography

9. Correlation of the course contents with the demands of the epistemic community representatives, professional associations and representative employers in the field of the program

The course syllabus was developed in cooperation with representatives of engineering companies in Ploiești and Bucharest that have hired graduates of similar master programs.

10. Evaluation

Activity	10.1. Evaluation criteria	10.2. Evaluation methods	10.3. Percentage of final grade
10.4. Course	Correctness and completeness of acquired knowledge	Oral exam with theoretical questions	50%
	The degree of acquiring the specific language		
10.5. Seminar / laboratory	The interest for individual study and professional development.	A written assignment	40%
	Activities within the seminar classes	Oral exam	10%
10.6 Project			
10.7. Minimum performance standard			
➢ Minimum 5 for each examination subject ➢ Minimum attendance 75%			