

FACULTY OF CHEMISTRY

SUBJECT CARD

Name of subject in Polish: Projektowanie i studium wykonalności procesu technologicznego
 Name of subject in English: Design and feasibility study of technological process
 Main field of study: Chemical technology
 Specialization: Technology of fine chemicals
 Profile: practical
 Level and form of studies: 2nd level, full-time
 Kind of subject: obligatory
 Subject code: TCC024019
 Group of courses: NO

	Lecture	Classes	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU)				30	
Number of hours of total student workload (CNPS)				90	
Form of crediting				crediting with grade	
For group of courses mark final course with (X)					
Number of ECTS points				3	
including number of ECTS points for practical (P) classes				3	
including number of ECTS points for direct teacher-student contact (BK) classes				1	

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES

None

SUBJECT OBJECTIVES

- C1 Introducing students to investment project cycle from the stage of the initial idea until the plant is in operation.
- C2 Presentation of issues relating to fundamental aspects of the pre-investment studies which allow to examining the project idea step by step and presentation of alternative solutions.
- C3 To gain knowledge on the identification of investment opportunities include general and specific opportunities studies ready to present for potential investors.
- C4 Understanding the nature and role of the preliminary assessment of the investment idea in the form of a pre-feasibility study.
- C5 Presentation of the different stages of a feasibility study needed to make investment decisions and formulate the final version of the technical and economic project.
- C6 To gain knowledge of product marketing, providing the necessary material inputs, locating the plant at the optimal site and human resource, technical and organizational planning.
- C7 Knowledge of the financial viability of the project, planning the structure of overhead costs and the planning and balancing of project realization.

SUBJECT LEARNING OUTCOMES**relating to knowledge:**

PEK_W01 – knows the investment project cycle from the stage of the initial idea until the plant is in operation and understands the interrelationship between three distinct phases: the pre-investment, the investment and the operational phase.

PEK_W02 – has knowledge and is able to describe the stages of pre-investment phase includes identification of investment opportunities (opportunity studies), analysis of project alternatives and

preliminary project selection as well as project preparation (prefeasibility and feasibility studies).		
PEK_W03 – has knowledge about identifying investment opportunities based on area, industrial sector and resource-based studies and specific project opportunity studies which should follow the initial identification of general investment opportunities.		
PEK_W04 – knows the key concepts and issues related to the pre-feasibility study taking into account a detailed analysis of variants in the following main fields (components) of the study: project or corporate strategies, market and marketing concept, raw materials and factory supplies, location, site and environment, engineering and technology, organization and overhead costs, human resources, labour costs, project implementation schedule and budgeting.		
PEK_W05 – has knowledge of the individual stages of a feasibility study taking into account the market analysis, outline of marketing concept, identification and description of the location, including ecological and environmental impact, a description of the socio-economic and cultural environment, characteristics of raw materials and other inputs needed for operating the plant.		
PEK_W06 – is able to develop the functional and physical layout for the industrial plant, production program, is able to determine the production capacity of the plant and corresponding investment expenditures as well as the costs arising during the operational phase.		
PEK_W07 – knows how and is able to plan the organization needed to manage and direct all activities of the plant and create a structure of overhead costs.		
PEK_W08 – knows how and is able to specify implementation schedule and budget of project as well as describe the characteristics of the main implementation work tasks as well as the major constraints that normally have a particular impact on project implementation.		
PEK_W09 – knows the basic aspects of financial analysis of industrial project investment and has knowledge of evaluation concept.		
PROGRAM CONTENT		
Project		Number of hours
Proj 1	The investment project cycle: the pre-investment, the investment and the operational phase and promotion of industrial investment projects	2
Proj 2	Basic aspects of pre-investment studies	2
Proj 3	General and specific project opportunity studies	2
Proj 4	Pre-feasibility studies	2
Proj 5	The feasibility study - project background and basic idea	2
Proj 6	The feasibility study – market analysis and marketing concept	2
Proj 7	The feasibility study – raw materials and supplies, location, site and environment	2
Proj 8	The feasibility study – engineering and technology	2
Proj 9	The feasibility study – organization and overhead costs	2
Proj 10	The feasibility study – human resources	2
Proj 11	The feasibility study – implementation planning and budgeting	2
Proj 12	The feasibility study – financial analysis and investment appraisal	2
Proj 13	Presentation of the feasibility study for selected industrial process	2
Proj 14	Presentation of the feasibility study for selected industrial process	2
Proj 15	Presentation of the feasibility study for selected industrial process	2
	Total hours	30
TEACHING TOOLS USED		
N1. lecture with a multimedia presentation		
N2. individual preparation and multimedia presentation		
EVALUATION OF SUBJECT LEARNING OUTCOMES ACHIEVEMENT		
Evaluation (F – forming (during semester),	Learning outcomes	Way of evaluating learning outcomes

P – concluding (at semester end)	number	achievement
F1	PEK_W01-PEK_W09	Elaboration + multimedia presentation of the feasibility study for selected industrial process
PRIMARY AND SECONDARY LITERATURE		
<p><u>PRIMARY LITERATURE:</u></p> <p>[1] Behrens W., Hawranek P.M., Manual for the preparation of industrial feasibility studies, UNIDO, Warszawa 2003.</p> <p>[2] Overton R., Feasibility Studies Made Simple, Martin Books, Australia, 2007.</p> <p>[3] Stevens R.E., Sherwood P.K., How to prepare a feasibility study: a step-by-step guide including 3 model studies, Prentice-Hall, 1982</p> <p>[4]</p> <p><u>SECONDARY LITERATURE:</u></p> <p>[1] Skrzypek J., Zasady konstrukcji studium wykonalności lub biznesplanu dla projektów współfinansowanych ze środków UE, Twigger, Warszawa 2007.</p> <p>[2] Skrzypek J., Projekty współfinansowane ze środków UE : od pomysłu do studium wykonalności : praca zbiorowa, Twigger, Warszawa 2005.</p> <p>[3] Filar E., Skrzypek J., Biznesplan, Poltex, Warszawa 2000.</p> <p>[4] Johnson H., Ocena projektów inwestycyjnych. Maksymalizacja wartości przedsiębiorstwa, Wyd. Liber, Warszawa 2000.</p> <p>[5]</p>		
SUBJECT SUPERVISOR (NAME AND SURNAME, E-MAIL ADDRESS)		
dr inż. Marta Huculak-Mączka, marta.huculak@pwr.edu.pl		