COURSE GUIDE

Subject name	**Virtual enterprises**
Course of study	**Quality and Production Management**
The form of study	**Full-time**
Level of qualification	**First**
Year	**IV**
Semester	**VII**
The implementing entity	**Department of Information Management Systems**
The person responsible for preparing	**dr hab. inż. Klaudia Smoląg, Prof. PCz**
Profile	**General academic**
ECTS points	**4**

TEACHNING METHODS – NUMBER OF HOURS PER SEMESTER

LECTURE	CLASS	LABORATORY	PROJECT	SEMINAR
30		**15**		

COURSE AIMS

C1. Characteristics of organization virtualization processes.
C2. Presenting and discussing the principles of virtual enterprise functioning.
C3. Indicating informatic and information solutions that support work of virtual employees.

ENTRY REQUIREMENTS FOR KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. Student can use basic terms connected with organization's functioning on the market.
2. Student possesses basic knowledge in the scope of knowledge on enterprise management processe.s
3. Student knows basic applications of Office package.
4. Student can freely express their opinions on the forum.
5. Student should be able to cooperate in the group.

LEARNING OUTCOMES

EU1. Student can define organization virtualization processes and can characterize them.
EU2. Student can define the term of virtual enterprise and indicate characteristic features of this type of enterprise.
EU3. Student knows ICT solutions that support work of remote employees and can make use of them.
EU4. Student can characterize the teleworker and virtual teams.

COURSE CONTENT

Type of teaching – LECTURES	**Number of hours**
W1-W2. Traditional and virtual space - similarities and differences.	2
W3-W4. Influence of ICT technologies on virtualization processes development.	2
W5-W6. Characteristicsof virtualization processes.	2
W7-W8. The concept and term of virtual enterprise.	2
W9-W10. Characteristic features of virtual enterprise.	2
W11-W15. Structures of virtual enterprises.	5
W16-W18. Areas of virtual enterprises functioning.	3
W19-W22. Work at virtual enterprise - teleworking and virtual teams.	4
W23-W24. Influence of virtual organizations on contemporary economy functioning.	2
W25-W27. Social aspects of virtual enterprise functioning.	3
W28-W30. Examples of virtual enterprises functioning.	3
Type of teaching – LABORATORY	**Number of hours**

L1. Introductory classes - principles of carrying out laboratory exercises, introduction to software, computer room statute.	1
L2-L3. Virtualization measurement methods - comparative analysis of selected methods.	2
L4-L5. Analysisof available solutions in the scope of ICT in virtual enterprise – analysis of mobile equipment and applications for portable devicesdedicated to remote employees work.	2
L6. Analysis of selected internet portals that support remote work.	1
L7-L8. Joint work on Office documents in OneDrive service.	2
L9-L10. Practical application of Google documents.	2
L11-L12. Application of mind mapping software - supporting knowledge management processes among remote employees.	2
L13-L14. E-learning systems in virtual enterprise - scope of application.	2
L15. Final test.	1

TEACHNING TOOLS

1. Handbook and scripts.
2. Audio-visual equipment.
3. Mind Mapping Software, Google Docs.
4. Office.
5. E-learning system.
6. Laboratory instructions.

WAYS OF ASSESSMENT (F – FORMATIVE, P – SUMMATIVE)

F1. Project tasks
F2. Observation of students' work in the classroom.
F3. Evaluation of reports on performed tasks (using Office package in OneDrive service and Google documents, mind mapping software).
P1. Written exam.

STUDENT WORKLOAD

Form of activity		**Average number of hours for realization of the activity**		
		[h]	ECTS	ECTS
Contact hours with the teacher	Lecture	30	1.2	1.8
Preparation to classes		15	0.6	
Contact hours with the teacher	Laboratoty	15	0.6	1.2
Preparation to laboratory		15	0.6	
Getting acquainted with the indicated literature		15	0.6	0.6
Consultation		10	0.4	0.4
TOTAL NUMBER OF HOURS / ECTS POINTS FOR THE COURSE		**100**	**4**	

BASIC AND SUPPLEMENTARY RESOURCE MATERIALS

Basic resources

1. Luz Marı´a Priego-Roche, Agne`s Front, Dominique Rieu, A framework for virtual organization requirements, Requirements Eng 21, 2016, pp. 439-460.
2. Tohidi H., Mehdi Jabbari M. The process of virtual organization formation, Procedia Technology 1, 2012, pp. 539-543.
3. Smoląg K. Virtual Organization of Work Space - a System Grasp, Eastern Macedonia and Thrace Institute of Technology, Department of Accounting and Finance, Kavala Greece, 2017, pp. 29-36.
4. Smoląg K., Kiełtyka L. Conditionings of manager's work in a virtual organization. [in:] Teczke J. (eds.) State, Society and Business – Development of Contemporary Management. Cracow University of Economics, Kraków 2016, pp.121-128.

5. Smoląg K. Personalization of Employee's Knowledge in Virtual Labour Space. Polish Journal of Management Studies, Vol. 6, Czestochowa University of Technology, 2012, p. 174-183.
6. Smoląg K., Virtualization of business processes in enterprises: selected aspects, [in:] Kiełtyka L. (eds.) IT Tools in Management and Education. Selected Problems. The Publishing Office of Czestochowa University of Technology, Częstochowa 2011, pp. 190-203.

Supplementary resources

1. Kiełtyka L., Jędrzejczyk W., Kucęba R., Smoląg K. (eds.) Use of selected communication technologies in value management organization. Serie Monographs No 234, The Publishing Office of Czestochowa University of Technology, Częstochowa 2012, p. 200.
2. Luis M. Camarinha-Matosa, Ana Ineˆs Oliveirab, Michele Sesanac, Nathalie Galeanod, Damjan Demsare, Fabiano Baldof and Toni Jarimog, A framework for computer-assisted creation of dynamic virtual organisations, International Journal of Production Research Vol. 47, No. 17, 1 September 2009, pp. 4661-4690.
3. Liang-Chuan Wu., Chorng-Shyong Ong, Yao-Wen Hsu, Knowledge-based organization evaluation, Decision Support Systems 45, 2008, pp. 541-549.
4. Naoufel Cheikhrouhoua, Abdel-Rahman H. Tawilb, Alok Choudhary, Modelling competencebased virtual organisations using the unified enterprise competence modelling language, International Journal of Production Research, 2013 Vol. 51, No. 7, pp. 2138-2159.

TEACHERS (NAME,SURNAME, ADRES E-MAIL)

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MATRIX OF LEARNING OUTCOMES REALISATION

Learning outcome	Reference of given outcome to outcomes defined for whole program (PRK)	Course aims	Course content	Teaching tools	Ways of assessment
EU1	K_W01, K_W02, K_W03, K_W04, K_W05, K_W08, K_U01, K_U02, K_U03, K_U04, K_U05, K_K02	C1	W1-W3, W11-W13, L1-L15	1, 2	F1, F2, P1
EU2	K_W01, K_W02, K_W03, K_W04, K_W05, K_W08, K_U01, K_U02, K_U03, K_U04, K_U05, K_K02	C2	W 4-W10, W12-W15, L1-L15	1,2	F1, F2, P1
EU3	K_W01, K_W02, K_W03, K_W04, K_W05, K_W08, K_U01, K_U02, K_U03, K_U04, K_U05, K_K02	C3	W2, L3L15	1, 2, 3, 4, 5, 6	F1, F2, F3, P1
EU4	K_W01, K_W02, K_W03, K_W04, K_W05, K_U01, K_U02, K_U03, K_U04, K_U05, K_K02	C2	W11-W30, L4-L15	1, 2, 3, 5	F1, F2, P1

FORM OF ASSESSMENT – DETAILS

	grade 2	grade 3	grade 4	grade 5
EU1	Student cannot define organization virtualization processes and characterize them.	Student can defineselected organization virtualization processes but cannot characterize any of them.	Student can define selected organization virtualization processes and can characterize some of them.	Student can correctly defineorganization virtualizationprocesses and characterize them. Student can present selected techniques of virtualization level measurement.
EU2	Student cannot define the term of virtual enterprise and cannot indicate characteristic	Student can define the term of virtual enterprise but cannot indicate characteristic features of this type of	Student can define the term of virtual enterprise and can indicate characteristic features of this type of	Student can define the term of virtual enterprise and can indicate characteristic features of this type of

	features of this type of enterprise.	enterprise.	enterprise.	enterprise. Student can refer discussed issues to practical economic situations.
EU3	Student does not know ICT solutions that support work of remote employees.	Student knows selected ICT solutions that support work of remote employees but cannot use them in practice.	Student knows selected ICT solutions that support work of remote employees and can use some of them in practice.	Student knows selected ICT solutions that support work of remote employees and can use them in practice, indicating their role and importance in virtual enterprise functioning.
EU4	The student can not characterize the teleworker and virtual teams.	The student can selectively characterize a telecommuter and virtual teams.	Student is able to characterize the teleworker and virtual teams.	Student is able to characterize telecommuter and virtual teams. Can refer the discussed issues to practical situations in organizations.

ADDITIONAL USEFUL INFORMATION ABOUT THE COURSE

1. Information where presentation of classes, instruction, subjects of seminars can be found, etc. - presented to students during first classes, if required by the formula classes are sent electronically to the e-mail addresses of individual dean groups.
2. Information about the place of classes - Information can be found on the website of the Faculty of Management.
3. Information about the timing of classes (day of the week / time) - Information can be found on the website of the Faculty of Management.
4. Information about the consultation (time + place) - Information can be found on the website of the Faculty of Management.