STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Management of Transportation and Logistics Processes**			Code **1010611251010610634**
Field of study **Transport**	Profile of study (general academic, practical) **(brak)**		Year /Semester **3 / 5**
Elective path/specialty **Logistics of Transport**	Subject offered in: **Polish**		Course (compulsory, elective) **obligatory**
Cycle of study: **First-cycle studies**	Form of study (full-time,part-time) **full-time**		
No. of hours Lecture: **2** Classes: **-** Laboratory: **1** Project/seminars: **-**			No. of credits **4**
Status of the course in the study program (Basic, major, other) **(brak)**	(university-wide, from another field) **(brak)**		
Education areas and fields of science and art **technical sciences**			ECTS distribution (number and %) **4 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Student has a basic knowledge related to Operational Research
2	**Skills**	Student is able to think analytically, to interpret the logistics phenomena, and to build simple model of the process using avaialble BPM tool
3	**Social competencies**	Student is aware of the role and importance of making the right decisions and problems concerning transport activities

Assumptions and objectives of the course:

-The objective of the course is to receive the knowledge on process modeling and management that exists in typical transportation and logistics companies. It applies the principles of modeling and process management based on the concept of prof. A.-W. Scheer; the key business process management (BPM) tool used during the course is to ARIS platform.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. Has a basic knowledge of macroeconomics, knows the process of management and its elements, entities and main elements in the process of management, the functioning of the economy, the characteristics of the main markets in the economy - [K1A_W07]

2. Has a structured, theoretically founded knowledge in the field of operations research, including: linear programming, discrete issues - problems of storage and sharing of resources, issues of transportation - [K1A_W08]

3. Has a structured, theoretically founded knowledge in the field of logistics, including: the essence of logistics, the reasons for the development of logistics concepts, structure of logistic systems, logistics management, exploitation of synergies, decision-making problems in micrologistic systems - [K1A_W09]

Skills:

1. Is able to develop a safety manual for the designed system and transport/logistics process. - [K1A_U11]

2. Is able to organize and manage the transport, logistics and freight forwarding process in field of study, especially in the chosen specialization. - [K1A_U16]

Social competencies:

1. Understands the need and knows the possibilities of lifelong learning, knows the need for acquiring new knowledge for professional development - [K1A_K01]
2. Is aware of and understands the importance and impact of non-technical aspects of mechanical engineering activities and its impact on the environment and responsibility for own decisions in short and long-term aspect. - [K1A_K02]
3. Is able to think and act in an entrepreneurial manner, make decisions, work for the development of the employer and the society. - [K1A_K07]
4. Is aware of the transfer of knowledge to society, takes steps to ensure that the information is understandable - [K1A_K08]

Assessment methods of study outcomes

-- The intermediate evaluation is proving to have an overwiev on: principles of process modelling techniques, process notataions and its practical application, using the ARIS process modeling and simulation tool.

- The final assessment is executed based on the multiple-choice test.

Course description

-Introduction to the course - the definition of key terms, including: added value chain value process design, the client, functional and business process orientation, process analysis, the hierarchical structure of the process, identification and analysis process bottleneck phenomena).

Modeling of the current state of the process. The process tree, process improvement loop, ARIS-home concept, the main perspective of thinking about the processes, classification of processes, modeling methodology, VACD and EPC type models, library - repository, an unacceptable combination of events and functions of the process, samples of logistics processes.

Modeling methodology available in ARIS platform. 4 groups of ARIS tools, defining the database login to the database, the database hierarchy, database setup options, define the type of model, object library, the area of modeling. How to start building the model.

Methodology of modeling using ARIS. Linking the process models, management of linking the models using interfaces, copying and linking database models, restore databases.

Analysis of logistics processes. Principles in process analisys and improvement, inspection and classification criteria of the assessment process, how to identify process bottlenecks, bottlenecks in logistics, methods of process analysis and its key measures.

Analysis of logistic processes using ARIS. Defining process reports in ARIS, analysis of reports and report-based decision making.

Analysis of logistic processes using ARIS Simulation. Presentation of the functionality of ARIS Simulation, the creation of a process simulation model, the attributes of the simulation control, generation of the on-line analysis. The use of simulation results to the process redesign, the generation of alternative process design, selecting the best possible option (solution).

Methods of logistics process redesign, incl.: business strategy vs. business processes, Balanced Scorecard - BSC, BSC perspectives, i.e. financial, customer, process innovation and development. Implementation of business process change, redesign scheduling.

Redesign of logistic processes using ARIS BSC. Introduction to the ARIS BSC tools, BSC card design, building cause-and-effect diagram, BSC reporting and report-based processes monitoring.

Suport of logistic processes redesign using ARIS Business Rules Designer. Process model using existing business rules, business rules modeling, analysis of the completeness and consistency of business rules. Testing and validation of the business rules for the process redesign, identification and analysis of conflicts.

Workshop - solving real word problems within projects. The implementation of the selected design task based on the analysis of real cases: modeling - analysis - design and implementation of the changes, monitoring. Project is carried out during the two workshop meetings.

Basic bibliography:

1. Davis R. Business Process Modeling with ARIS. A Practical Guide. Springer-Verlag, London, 2002.

2. Gabryelczyk R., Lasek M., Business process modeling using ARIS Toolset. Katedra Cybernetyki i Badań Operacyjnych Wydziału Nauk Ekonomicznych UW, Warsaw, 1998 (in Polish). 3. Gabryelczyk R., ARIS in business process modeling. Wydawnictwo DIFIN, Warsaw 2006 (in Polish).

3. Sawicki P., Management of transportation and logistics processes. e-papers avialable on, http://www.put.poznan.pl/~piotrs/Dydaktyka/Zptl/Zptl.html

4. Scheer A-W., Business Process Excellence. ARIS in Practice. Springer-Verlag, Berlin Hei-delberg, 2002.

5. Scheer A.-W., ARIS ? Business Process Frameworks, Springer-Verlag, Berlin, 1998.

Additional bibliography:

1. Pfohl H-Ch., Logistics management. Functions and tools. Instytut Logistyki i Magazyno-wania, Poznań, 1998 (in Polish).

2. Hammer M., Champy J., Reengineering the corporation. Morgan Kaufmann, 1992.

Result of average student's workload

Activity	Time (working hours)

1. Participation in lectures	30
2. Labs	15
3. Own work	15

Student's workload		
Source of workload	**hours**	**ECTS**
Total workload	60	4
Contact hours	45	3
Practical activities	15	1