

Projektowanie systemów informatycznych - opis przedmiotu

Informacje ogólne	
Nazwa przedmiotu	Projektowanie systemów informatycznych
Kod przedmiotu	11.3-WK-IIEP-PSI-W-S14_pNadGenLP3ME
Wydział	Wydział Matematyki, Informatyki i Ekonometrii
Kierunek	Computer science and econometrics
Profil	ogólnoakademicki
Rodzaj studiów	pierwszego stopnia z tyt. licencjata
Semestr rozpoczęcia	semestr zimowy 2019/2020

Informacje o przedmiocie	
Semestr	5
Liczba punktów ECTS do zdobycia	4
Typ przedmiotu	obowiązkowy
Język nauczania	polski
Sylabus opracował	

Formy zajęć					
Forma zajęć	Liczba godzin w semestrze (stacjonarne)	Liczba godzin w tygodniu (stacjonarne)	Liczba godzin w semestrze (niestacjonarne)	Liczba godzin w tygodniu (niestacjonarne)	Forma zaliczenia
Wykład	30	2	-	-	Egzamin
Laboratorium	30	2	-	-	Zaliczenie na ocenę

Cel przedmiotu

Acquainted with the theoretical and practical aspects of the analysis and design of information systems with the use of methodologies, techniques and tools supporting project management.

Wymagania wstępne

Computer programming and Information Technologies.

Zakres tematyczny

Lecture

1. Scope of material, literature and discussion of the form and content of completing the course (2 hours)
2. Methodological basis for creating information systems: types of systems, scope and components of the methodology of creating. Classification of creation methodologies. (4 hours)
3. System life cycle: cascade, spiral, incremental. (2 hours.)
4. Phases of the cycle: planning, analysis, design, implementation, use of systems. (2 hours.)
5. Modifications of the system life cycle: prototyping, application packages, "agile" methodologies. (2 hours)
6. Planning of IT systems: planning goals, planning process, formulation of computerization strategies, feasibility study, methods of situational analysis, project team. (2 hours.)
7. Client-server model and three-tier architecture in the implementation of IT systems. (2 hours.)
8. Methods and techniques of designing information systems - entity relationship models, data flow diagrams, data dictionaries / indexes, decision techniques, structure diagrams. UML diagrams in modeling the structure and dynamics of object-oriented systems. (4 hours)
9. Object-oriented methodology - UML techniques and models in designing information systems. (4 hours)
10. Social methodologies. (2 hours.).
11. Computer aided creation of information systems (2 hours)
12. Packages supporting project management: essence and generations, types of packages on the software market. (2 hours.)

Laboratory

1. Introduction, overview of the scope of the material and the form of passing the laboratory (2 hours)
2. Stages of the software life cycle as project documentation - examples (2 hours)
3. Basic functionalities of the IT system in business practice (2 hours)
4. Life cycle of an IT system - Gant diagram in MicrosoftProject (2 hours)
5. Modeling of the transaction system "Shop" - MSVisio in modeling (2 hours)
6. Designing a database for given requirements - customer profile, product profile (2 hours)
7. Designing the user interface and event programming in MS Excel (2 hours)
8. Implementation of the functionality of the "Shop" system in VisualBasic (2 hours)
9. System structure modeling - Eclipse and class diagram design (2 hours)
10. JDBC and databases - connection to the database and queries from Eclipse (2 hours)
11. Application server and three-tier architecture in the implementation of the transaction system (6 hours)
12. Testing and verification of the "Shop" system (2 hours)
13. Checking the message and giving the laboratory credit (2 hours)

Metody kształcenia

Lecture with elements of multimedia presentations, talk, discussion, work in groups. Working with packages: MSPProject, MSExcell, MSAcces, Eclipse. Programming in Java.

Efekty uczenia się i metody weryfikacji osiągania efektów uczenia się

Opis efektu	Symbole efektów	Metody weryfikacji	Forma zajęć
The student is able to interact and work in a team.	K_U09	obserwacja i ocena aktywności na zajęciach	Laboratorium
The student knows the basic life cycles of software and the techniques of structural and object-oriented methodologies in software development.	K_W09	- egzamin - ustny, opisowy, testowy i inne - test	- Wykład - Laboratorium
The student knows how to choose the software life cycle to the existing requirements and limitations.	K_U21	- egzamin - ustny, opisowy, testowy i inne - test	- Wykład - Laboratorium
The student understands the need for systematic work, also in a team, on long-term projects.	K_W05	test	Laboratorium
The student has a general knowledge of information systems.	K_W01	- egzamin - ustny, opisowy, testowy i inne - test	- Wykład - Laboratorium
The student has basic analytical skills and design necessary in dealing with specialists in the field of problem and the IT industry, is able to specify requirements for the system and can use the notation object consistent with the UML to the extent necessary for the implementation of information systems in the three-tier architecture, uses and CASE tools in the implementation of simple IT systems.	K_U23 K_U27 K_U28 K_U34	test	- Wykład - Laboratorium

Warunki zaliczenia

- Assessment of the degree of preparation for laboratory exercises and reports from the laboratories carried out.
- Written test with point thresholds and tasks allowing to assess whether the student achieved the learning outcomes to a minimum degree.
- Written exam consisting of test questions and tasks, verifying knowledge of models, techniques and methods.

The condition for passing the course is a positive assessment from the laboratory and the exam. The final grade in the subject includes the laboratory grade (60%) and the exam grade (40%), assuming that the student achieved all the assumed learning outcomes sufficiently.

Literatura podstawowa

- R. Barker, C. Longman, CASE Method, modelowanie funkcji i procesów, WNT, 1996.
- V. Sthern, C++ Inżynieria Programowania, Helion, Gliwice 2004.
- J. Cogswell, Tworzenie użytecznego oprogramowania, Warszawa 2005.
- J. Górski, Inżynieria oprogramowania w projekcie informatycznym, Warszawa 2000.

Literatura uzupełniająca

- P. Benon-Davies, Inżynieria Systemów Informacyjnych, WNT, 1999.
- J. Roszkowski, Analiza i projektowanie strukturalne, Wydawnictwo Helion, 1998.
- C. L. Hall, Techniczne podstawy systemów klient-serwer, WNT, 1996.

Uwagi

Zmodyfikowane przez dr Alina Szelecka (ostatnia modyfikacja: 21-11-2020 06:10)

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