

Course title : Geoinformation systems in decision making

Course Basic Information			
Academic Unit:	Faculty of Civil Engineering		
Course title:	Geoinformation systems in decision making		
Level:	Master		
Course Status:	Elective		
Year of Study:	Year 2; Semester 3		
Number of Classes per Week:	2+0		
ECTS Credits:	3 ECTS		
Time /Location:	According to the Timetable		
Teacher:	Prof.ass.dr. Ymer Kuka		
Contact Details:	ymer.kuka@uni-pr.edu		
Course Description:			
Course Description:	<p>This course tends to give the student the concepts and applications of the decision support system, including type of decisions, type of decision makers, modeling decisions, decisions within organizations, rule based expert systems, and simulation as a DSS applications. This module also covers practical issues in DSS such as using Integer and Linear Programming as applications of modeling and solving choices and uncertainties of real-world decision problems.</p>		
Course Goals:			
Course Goals:	<ol style="list-style-type: none"> 1) To provide students with the main concepts of Decision Support System (DSS) and management sciences 2) To study the components of DSS and the main players who participate in the decision process 3) To study management science models especially linear and integer programming, network and decision tree 4) To explain key area contributing to DSS such as knowledge acquisition, expert system and knowledge base system 5) To study group decision support and groupware technologies within organizations 		
Expected Learning Outcomes:			
Expected Learning Outcomes:	<ul style="list-style-type: none"> • Knowledge and understanding • Cognitive skills (thinking and analysis) • Communication skills (personal and academic) • Practical and subject specific skills (Transferable Skills) 		
Student Workload (should be in compliance with student's Learnings Outcomes)			
Activity	Hours	Day/ Week	Total
Lectures	2	15	30
Theory/ Lab Work/Exercises	1	15	15

Practical Work			
Consultations with the teacher			
Field Work			
Test, seminar paper	1	5	5
Homework			
Self-study (library or home)	1	10	10
Preparation for final exam	2	5	10
Assessment time (test, quiz, final exam)			
Projects, presentations, etc.	1	5	5
Total			75

Teaching Methods:	<ul style="list-style-type: none"> - Lecture - Discussion during lectures - Exercises - Work in group
Assessment Methods:	<p>Prerequisite for assessment: more than 50% attendance in lectures and positive evaluation of seminar paper by the lecturer.</p> <p>First Evaluation: 10%</p> <p>Second Evaluation: 10%</p> <p>Homework or other engagement: 5%</p> <p>Attendance 20%</p> <p>Final Exam 55%</p> <p>Total 100%</p>

Primary Literature:	<p>Lovett A., Appleton K. 2008. GIS for environmental decision making. CRC Press.</p> <p>Okunoye A. 2003. Large-Scale Sustainable Information Systems Development in a Developing Country. IGI Global.</p>
Additional Literature:	<p>John A. Lawrence, Jr and Barry A. Pasternack, Applied Management Science. 2nd Edition, John Wiley & sons Inc. (2002)</p> <p>National Research Council. 2003. Using remote sensing in State and Local government – Information for management and decision making. The National Academies Press.</p>

Designed teaching plan	
Week	Title of the Lecture
Week 1:	General Introduction of DSSs
Week 2:	DSS process and components
Week 3:	Decision and decision makers
Week 4:	Decision Theory and simple models
Week 5:	Decision in organisations
Week 6:	Modelling decisions process
Week 7:	First evaluation: The qualifying first colloquium
Week 8:	Introduction to management science models
Week 9:	Introduction to linear and integer programming models
Week 10:	Applications to linear and integer programming
Week 11:	Introductions to Simulation

Week 12:	Discrete Event Simulations as a DSS application
Week 13:	Introduction to Intelligent Systems
Week 14:	Rule based Expert Systems
Week 15:	Second evaluation: The qualifying second colloquium

Academic Policies and Code of Conduct

We start and finish class on time.

Tools used during class must be cleaned and stored away at the end of class.

Mobile/smart phones, and other electronic devices (e.g. iPods) must be turned off (or on vibrate) and hidden from view during class time.

Laptop and tablet computers are allowed for quiet use only; other activities such as checking personal e-mail or browsing the Internet are prohibited.

Note | If a student has more than 3 class assignments evaluated below 50% he/she loses the right on taking the final exam. Evaluation is done from 0-100 %.