

Industrial Engineering Program

1. COURSE NUMBER AND NAME	IE 492 – Engineering Management
2. CREDITS AND CONTACT HOURS	3 Credits. 3 Contact Hours
3. COURSE INSTRUCTOR	Lucie Thibeaud Tchouassi
4. TEXT BOOK	Gido, J. and Clements, J., <i>Successful Project Management</i> , 4 th Edition, South-Western Publishing, 2009. Sepulveda, J., Souder, W. and Gottgfried, B., <i>Schaum’s Outline of Theory and Problems of Engineering Economics</i> , McGraw- Hill, 1984.
4A. OTHER MATERIAL	Articles, videos and websites providing supplemental information and material. Examples: http://projmanmeth.blogspot.com/ - Project Management Methodologies; Fundamentals of Engineering Reference Handbook; http://nraoiekc.blogspot.com/2012/02/engineering-economy-or-engineering.html - Industrial Engineering Knowledge Center “Engineering Economics Video Lectures”
5A. CATALOG DESCRIPTION	An introduction for engineering majors to the fundamentals of engineering economics and the management process for engineering and development. Major topics include capital investment justification methods, project organization, scheduling and control techniques, legal, quality, and staffing issues.
5B. PREREQUISITES	Junior or Senior Standing
5C. REQUIRED, ELECTIVE OR SELECTED ELECTIVE	Elective
6A. SPECIFIC OUTCOMES OF INSTRUCTION	The students will: <ol style="list-style-type: none"> 1 Learn the fundamentals of engineering economics and be able to incorporate the time value of money in economic analyses (a, k). 2 Be able to analyze alternatives on the basis of their economic feasibility (e, k). 3 Learn project management techniques (g, k). 4 Be able to identify non-technical aspects that are necessary for engineering operations to be successful (h, k). 5 Learn the capabilities of project management software (i, j, k).
6B. CRITERION 3 OUTCOMES ADDRESSED	The mapping of the five (5) outcomes of instruction of item 6A to the Criterion 3 outcomes (a-k) is as follows: <ol style="list-style-type: none"> 1. a) Students use mathematics fundamentals to complete assignments and term project. k) perform cost/benefit analysis homework, ethical decisions reading assignments, evaluation of team members, case studies and examination 2. e) Case study, problem solving and examination; students use the appropriate resources to locate information needed to solve problems; students work together in team to formulate strategies to solve term project related problems; j) Homework assignments that required student examine present time; k) perform cost/benefit

	<p>analysis homework, ethical decisions reading assignments, evaluation of team members, case studies and examination.</p> <p>3. g) students engage in discussion regarding various aspect of project management, the decision making process, the various features of project management software and their importance; term project requiring the students to work in group, communicate effectively and present their finding in a report and visual presentation; k) students complete cost/benefit analysis homework, quizzes and exams, reading assignments involving NSPE code of Ethics and reviewing examples of ethical lapses.</p> <p>4. h) assignments involving planning and coordinating; Case studies and examination; students discuss practices within various industries; k) students complete case studies and term project that use software and planning, schedule and other project management related foundations.</p> <p>5. i) students take the responsibility to meet with teammate on group project; discuss various features of project management software and provide opinion on the importance of various segments; use the various software for management, coordination and illustration of their projects; j, k) students engage in discussions, perform assignments that involve current issues; students use the internet to further explore how it can facilitate project communication.</p>
<p>7. TOPICS COVERED</p>	<ol style="list-style-type: none"> 1. The role of engineering economics in decision making and ethical consideration 2. Time value of money 3. Compounding factors 4. Project selection and evaluation methodologies 5. Rate of return analysis 6. Depreciation, taxes and economic feasibility 7. Project management fundamentals 8. Project life cycle 9. People: The key to project success 10. Project planning 11. Project scheduling 12. Schedule control 13. Resource considerations 14. Cost planning and performance 15. Project management software 16. Project communication and documentation

