ESCUELA SUPERIOR POLITÉCNICA DEL LITORAL
Faculty of Electrical and Computer Engineering
COURSE SYLLABUS
Informatics Systems Projects Formulation and Evaluation

1. CODE AND NUMBER OF CREDITS

CODE	FIEC05306	
NUMBER OF CREDITS : 4	**Theoretical: 4**	**Practical: 0**

2. COURSE DESCRIPTION

The course will cover in detail the life cycle of a project, from conception to delivery, including the feasibility assessment, proposal, inspection and acceptance by the client, demonstrating the importance of having a project methodology and the application of standards during the development process.

Engineering professionals continually prepare project proposals and participate in development projects. Based on their communication and management skills, and using some techniques, these professionals aim at being successful in their venture by responsibly meeting the project objectives.

3. PRE-REQUISITES AND CO-REQUISITES

PRE-REQUISITES	ICHE02675 ECONOMIC ENGINEERING I
	ICHE03541 ENTREPRENEURSHIP AND TECHNOLOGICAL INNOVATION
CO-REQUISITES	

4. CORE TEXT AND OTHER REQUIRED REFERENCES FOR THE TEACHING OF THE COURSE

CORE TEXT	1. Successful Project Management, Gido & Clements, Thompson, 2012, Fifth Edition
REFERENCES	1. PMBOK, PMI. Four Edition, 2008

5. COURSE LEARNING OUTCOMES

At the end of the course, the student will be able to:

1. Evaluate and select projects for further development,
2. Develop proposals through the requirements requested by a client.
3. Develop plan to continue with schedule, budget and resources for the project.

6. COURSE PROGRAM

I. INTRODUCTION (2 sessions - 4 hours).
- Basic Definitions
- Statistics projects
- Software Project Failure
- Project life cycle

II WORK METHODOLOGIES (4 sessions - 8 hours).
- Software Development Methodologies
- Software development architecture
- Implementation methodologies

III. PROPOSALS AND CONTRACTS (4 sessions - 8 hours).
- Requirements definition
- Basis of Contract
- Components of a proposal
- Components of a contract.

IV. INTELLECTUAL PROPERTY (4 sessions - 8 hours).
- Copyright
- Notice
- Licenses and permits for development and implementation

- Declaration in contracts.

IV. PROJECT PLANNING. (4 sessions - 8 hours).
- Coordination of the project.
- Viewing tasks.
- Task dependency types.
- Preparing the budget.
- Estimating costs.
- Costs Control.
- Measurements.
- The COCOMO model.

V. SCHEDULE. (4 sessions - 8 hours).
- PERT diagrams
- Critical path.
- Gant diagrams.
- Methods for calculating and adjusting schedules.

VI. RISK AND SENSITIVITY ANALYSIS. (2 sessions - 4 hours).
- Setting risk tolerance.
- Risk factors.
- Sensitivity Analysis.

VIII. PROJECT CONTROL. (2 sessions - 4 hours).
- Cost Control
- Quality Control.
- Scope Control

IX. THE DESIGN AND ORGANIZATION. (2 sessions - 4 hours).
- Types of organizational structure.
- Types of group structures. or human factors.

7. WORKLOAD: THEORY/PRACTICE

Two sessions per week and each session is two hours long.

8. CONTRIBUTION OF THE COURSE TO THE EDUCATION OF THE STUDENT

Students will learn, understand, apply and analyze principles and techniques to assess, organize, plan, monitor and evaluate a computer project. Students will be able to explain different models of software development projects, including their various components, so students will be able to apply and recognize them when they occur.

Students will understand financial concepts such as balance, discount rate, tax shield, cash flow. Students will also use financial indicators such as NPV and IRR in order to conduct financial assessments of a project.
Students must also understand the impact of maintaining ethics at each of steps of a software project where they participate, as well as respecting the culture of the organization, institution and country where the projects belong.

BASIC TRAINING	PROFESSIONAL TRAINING	SOCIAL SKILLS DEVELOPMENT
	X	

9. THE RELATIONSHIP BETWEEN THE LEARNING OUTCOMES OF THE COURSE AND THE LEARNING OUTCOMES OF THE DEGREE PROGRAM

LEARNING OUTCOMES OF THE DEGREE PROGRAM*	CONTRIBUTION (High, Medium, Low)	LEARNING OUTCOMES OF THE COURSE**	THE STUDENT MUST:
a) Ability to apply knowledge of computing and mathematics appropriate in this discipline	Low	3	Work with project management tools and financial mathematics concepts
b) Ability to analyze a problem, and identify and define the requirements appropriate for solving computational	Medium	1,2	Know the use of requirements elicitation techniques.

c) Ability to design, implement, and evaluate a computer system, process, component or program that meets the requirements requested	Medium	1,2	Know design tools and evaluation techniques to select the best solution.
d) Ability to work effectively together and achieve a common goal	High	3	Learn to work in teams, and achieve the goal proposed in the project
e) Understanding of professional issues, ethical, legal, security, and social responsibility	High	2	Learn about legal and ethical situations as they must administer contracts
f) Ability to communicate effectively with large audiences	Medium	2	Be a communicator as a project manager.
g) Ability to analyze the local and global computational impact on individuals, organizations and society	Medium	1,2	Be responsible of the social impact of the project being managed.
h) Recognize the need for and an ability to maintain a constant professional development throughout life	Medium	1,2,3	Be constantly trained to work as an IT project manager
i) Ability to use the techniques, skills, and tools necessary for computing practice	Medium	1,2,3	Know the most important techniques and tools.
j) Ability to lead, manage or undertake projects	High	1,2,3	Learn to be a leader in order to be a manager

10. EVALUATION IN THE COURSE

Evaluation activities	
Exams	x
Tests	x
Homework/tasks	x
Projects	
Laboratory/Experiments	
Class participation	x
Visits	
Other	

11. PERSON RESPONSIBLE FOR THE CREATION OF THE SYLLABUS AND THE DATE OF ITS CREATION

Created by	Lenin Freire
Date	18 Feb 2013

12. APPROVAL

ACADEMIC SECRETARY OF THE ACADEMIC DEPARTMENT	DIRECTOR OF TECHNICAL ACADEMIC SECRETARY
NAME: Sra. Leonor Caicedo G.	NAME: Ing. Marcos Mendoza V.
SIGNATURE:	SIGNATURE: ESCUELA SUPERIOR POLITÉCNICA DEL LITORAL Ing. Marcos Mendoza V. DIRECTOR DE LA SECRETARIA TÉCNICA ACADÉMICA
Date of approval by the Directive Council: 2013-334 2013-08-12	

13. VALIDITY OF THE SYLLABUS

RESOLUTION OF THE POLYTECHNIC BOARD:	13-10-269
DATE:	2013-10-17