CPIT-456 Syllabus

Catalog Description

CPIT-456 Software Economics
Credit: 3 (Theory: 3, Lab: 0, Practical: 1)
Prerequisite: CPIT-251
Classification: Elective

The objective of this course is to explore concepts in software economics. Topics include important economic concepts in the process of software development, building software development team and empowering them, continuous improvement of procedures in building software process, production tasks in the process of applications development, economies of scale operations related to software development, optimizing restricted operations and cost estimation to build software, models of integrated operations, spiral model to build software, and risk management in building software.

Class Schedule

Meet 50 minutes 3 times/week or 80 minutes 2 times/week

Lab/Tutorial 90 minutes 1 times/week

Textbook

Roger Pressman, Bruce Maxim, , "Software Engineering: A Practitioner's Approach", McGraw-Hill Education;(2014-01-23)

ISBN-13 9780078022128 **ISBN-10** 0078022126

Grade Distribution

Week	Assessment	Grade %
6	Exam 1	15
12	Exam 2	15
13	Graded Lab Work	10
14	Group Project	20
16	Exam	40

Topics Coverage Durations

Topics	Weeks
Software Planning	4
Empirical Estimations	2
Software Risk Management	2
Scheduling	2
Software People, Product and Process	2
Software Process Improvement	2

Last Articulated

December 18, 2017

Relationship to Student Outcomes

a	b	c	d	e	f	g	h	i	j	k	l	m	n
			x				x	x			x	x	x

Course Learning Outcomes (CLO)

By completion of the course the students should be able to

1. Examine economic characteristics (n)
2. Analyze the requirements of choosing development team work. (d)
3. Apply processes and procedures related to the software development for the economic side. (d)
4. **Evaluate the economics and scale of operations and improvement restricted to operations and procedures. (n)**
5. **Examine the principles of COCOMO I and COCOMO II for software cost estimation. (m)**
6. Examine the spiral model of software development and how to use it in the process of software development. (i)
7. **Analyze the risks associated with the process of building software. (n)**
8. Compare and contrast the nature of software project management with other engineering project management. (l)
9. Examine needs for project planning in all software projects. (n)
10. Examine how graphical representations (Bar and activity charts) can be used by the project managers. (n)
11. **Examine how to measure the project velocity. (n)**
12. Examine some of the issues involved in selecting and retaining staff in a software development company. (d)
13. Examine the factors that influence individual motivation and their implication for software project managers. (h)
14. **Examine key issues of team working, including team composition, team cohesiveness, team communication and team organization. (n)**
15. Apply the structure of People Capability Maturity Model- a model that is a framework for enhancing the capability of software engineering in an organization. (m)
16. Apply the principles of software process improvement. (m)
17. Evaluate how software process factors influence software quality. (m)

Coordinator(s)

Prof. Rizwan Qureshi, Professor