THAI NGUYEN UNIVERSITY
UNIVERSITY OF INFORMATION AND COMMUNICATION TECHNOLOGY

SOCIALIST REPUBLIC OF VIET NAM
Independence - Freedom - Happiness

COURSE SYLLABUS

(Training level: *Undergraduate*)

Course Title:

Vietnamese Course Title: **Phân tích và Quản lý yêu cầu**

English Course Title: Analysis and Management of Requirements

Course Code: AMS431

Major: Software Engineering.

Version: 2017

1. General information

- Number of credits: 2 (Theory: 2; Practice: 0)
- Types of Knowledge:

General Education		**Base core courses**		**Major core courses**		**Concentration courses**		**Others**
						Software Engineering		
Required □	Optional □	Required □	Optional □	Required □	Optional □	Required [x]	Optional □	Alternative subject of Graduation Thesis □

- Required courses: Databases, Object-oriented programming, Data Structure, and algorithms.
- Pre-requisite: None
- Co-requisite: None
- Facility Requirements: Classrooms with projectors
- Departments in Charge: Department of Software Technologies

2. Time Allocated

Total: 36	Theory: 22 periods
	Group Discussion/Presentation: 12 periods
	Exercises/Essays/Practices: 0.
	Tests: 02 *+ Theory: Number of Tests:02 Periods: 02* *+Practice: Number of Tests:0 Periods: 0*
Self-study: 60 periods. Other activities: 0 period	

3. Lecturers' Information

No.	Lecturer name	Phone number	Email	Note
1	MSc. Pham Thi Thuong	0912.838.646	ptthuong@ictu.edu.vn	Leader
2	MSc. Nguyen Hong Tan	0943.252.165	nhtan@ictu.edu.vn	Member
3	MSc. Hoang Thi Canh	0168.232.4556	htcanh@ictu.edu.vn	Member
4	MSc. Nguyen Lan Oanh	0948.135.145	nloanh@ictu.edu.vn	Member

4. Objectives

Equip students with the basic and advanced knowledge of software requirements analysis and management, the first step in the product development and maintenance process. Requirements analysis and management is especially important when developing or maintaining large, complex software applications.

The course contributes to the PLOs L7, L9

5. Description of content and output standards:

- Knowledge Standards: *(1) Remember ⇨ (2) Understand ⇨ (3) Apply ⇨ (4) Analyze ⇨ (5) Create.*

- Attitude Standards: *(1) Copy ⇨ (2) Self-manipulation ⇨ (3) Masterfully repeating to the norm ⇨ (4) Combining multiple activities ⇨ (5) Completely proactive*

Notation CLOs	Contents	Level		PLOs
		Knoweldge	Skills	
C1	Get an overview of software requirements analysis and management	2		L7
C2	Applying the Planning method in software requirements management	3	2	L9
C3	Apply knowledge to Analyze and manage NEED-style requirements at the first layer of the requirements pyramid model	3	3	L9
C4	Apply knowledge to identify FEATUREs	3	2	L9
C5	Apply knowledge to identify system takers and Actors and find Use Cases from FEATURES	3	3	L9
C6	Apply knowledge to define SUPL requirements from FEATUREs	3	3	L9
C7	Understand the steps to build Scenarios and Test cases	2	2	L7
C8	Use tools to build and manage requirements types		3	L9

6. Reading List

- Main syllabus:

[1] Lecture Note on Analysis and Management of Requirements, Department of Software Engineering, ICTU

- References:

[2] Peter Zielczynski (2008), Requirements Management Using IBM Rational RequisitePro, IBM Press, ISBN: 0-321-38300-1.

[3] Ian Sommerville's (2005), "Software Engineering"; 7th Ed., Addison – Wesley.

[4] Hull, Elizabeth Jacson, and Jeremy Dick (2005), Requirements Engneering, London: Spinger.

[5] Risk Lutowski (2005), Software Requirements encapsulation, quality, and Reuse, Auerbach Publication.

[6] Tim Kasse (2008), Practical Insight into CMMI®; 2Ed, ISBN-13: 978-1-59693-275-3, ARTECH HOUSE, INC.

7. Score Assessment

- Score Scale: 10-point scale.
- Components Assessment:

Evaluation Time	Components Assessment	Learning Outcomes	Factor	Score	Weight
During the duration of the course	Attendance (b_0)		1	d=($b_0+b_1+b_2$)/3	30%
According to the teaching plan in section 9	Test No.1 (b_1)	C3, C4, C5, C8	1		
	Test No.2 (b_2)	C1, C2, C5, C6, C7	1		
The end of the term.	Final exam	C1, C2, C3, C4, C5, C6, C7, C8		e	70%
Final Score (f)				f = d ×30% + e ×70%	

- Final exam: *Report*

8. Regulations for students

8.1. Student's duties

- Read materials and prepare for each lesson before attending class.
- Complete assigned assignments.
- Prepare the discussion content of the course.

8.2. Regulations on exams and academic studies

- Students must attend classes fully, ensuring at least 80% of class sessions.
- Complete the assigned tasks for the course.
- Participate in the full number of regular tests.

9. Teaching Plan

No.	Period	Contents	Teaching Methodology	CLOs	References
1	3	**Chapter 1. Overview of Requirement analysis and management** 1.1 About the software requirements industry 1.2 Software requirements and related factors 1.3 Analysis and management of software requirements according to the pyramid model.	Presentation; State and solve the problem	C1	[1] (5-30), [2] (1-32), [3] (2-30).
2	3	**Chapter 2. Requirement management planning** 2.1 Software requirements management activities 2.2 Plan software requirements management 2.3 Software requirements management tool 2.4 Set up a software request management project	Presentation; State and solve the problem	C2	[1] (31-49), [2] (33-62), [4] (10-45).
3	3	Discussion: Each group reports essays by topic	Planned presentation and discussion groups under the management of lecturers	C1,C2	[1] (5-49), [2] (1-62).
4	3	**Chapter 3. Inferring requirements** 3.1 Identify project stakeholders 3.2 Software requirements collection techniques	Presentation; State and solve the problem	C3	[1] (50-75), [2] (63-98), [5] (7-50)

No.	Period	Contents	Teaching Methodology	CLOs	References
		3.3 Analysis identifies NEED-type requirements 3.4 Manage NEED floor requirements			
5	3	**Chapter 4. Develop visual documents** 4.1 FEATURE appraisal standards 4.2 Form FEAT-style requirements from NEED-style requests	Presentation; State and solve the problem	C4	[1] (76-89), [2] (99-128), [6] (30-50).
6	3	**Chapter 4** 4.3 Assign properties to FEAT style requests 4.4 Build visual documents for the project 4.5 FEAT style request management	Presentation; State and solve the problem	C4	[1] (76-89), [2] (99-128).
7	3	Discussion: Each group reports essays by topic.	Planned presentation and discussion groups under the management of lecturers	C1, C2, C3, C4	[1] (50-89), [2] (63-128).
8	3	**Chapter 5. Create use cases (UC)** 5.1 Identify the UC and the Actors of the project 5.2 UC model structure 5.3 Specification of UC 5.4 Build scenarios from UC	Presentation; State and solve the problem	C5, C8	[1] (90-108), [2] (129-56)
9	3	Discussion Test No. 1	Student groups present and discuss as planned under the management of lecturers	C3, C4, C5, C8	[1] chapter 1, 2, 3, 4, 5.
10	3	**Chapter 6. Additional specifications** 6.1 Analysis identifies non-functional requirements of software (SUPL) 6.2 Manage nonfunctional requirements (SUPL) according to the required pyramid model	Presentation; State and solve the problem	C6, C8	[1] (90-155), [2] (129-220).
11	3	**Chapter 7. Create test cases from use cases**	Presentation; State and solve the problem	C7	[1] (110-155), [2] (191-220).
12	3	Discussion: Each group reports essays by topic Test No.2.	Student groups present and discuss as planned under the management of lecturers	C1, C2, C5, C6, C7	[1] (90-155), [2] (129-220).

10. Competent Authority Approval: Thai Nguyen University of Information and Communication Technology

5th October, 2017

Vice Rector	Dean	Head of Department	Composer Team
			Pham Thi Thuong
			Nguyen Hong Tan
Ph.D Do Dinh Cuong	**Ph.D Nguyen Hai Minh**	**MSc. Nguyen Hong Tan**	Hoang Thi Canh
			Nguyen Lan Oanh