COURSE SYLLABUS

Information System Analysis and design

Course code: 220103

1. General information

Course type		*Number of credits*	*Number of learning periods*
General	□	Theory: 02 Exercise: Practice: 01	Theory: 30 Exercise: Practice: 30
Basic	□		
Specialized	☑		
Required	☑		
Elective	□		

***Learners*:**

Level	Bachelor
Discipline	Information Technology

Course requirements:

Prerequisites	Database
Parallels	None
Other requirements	None

2. Learning resources:

Books	[1] Scott Tilley (2020). *Systems Analysis and Design*. Cengage.
References	[2] Alan Dennis Barbara, Haley Wixom, Roberta M. Roth (2012). *System Analysis And Design, fifth edition.* John Wiley & Sons, Inc. [5] Thạc Bình Cường (2009). *Phân tích thiết kế hệ thống thông tin.* NXB Khoa học và kỹ thuật

	[4] Nguyễn Văn Ba (2002). *Phân tích thiết kế Hệ thống thông tin*. NXB ĐHQG Hà Nội
Other learning materials	[5] SAP, *PowerDesigner 16.6* (2016) [6] Microsoft, *Visual Studio 2018*

3. Course description

The course provides students specialized knowledge on information systems and their development process. *The course also aims to provide opportunities to practice professional skills including requirement capturing, analysis and designing information systems.* Additionally, the course develops students' appropriate awareness and attitudes on information systems as well as required soft skills related to course content.

4. Course learning outcomes (CLOs)

After finishing the course, students will be able to:

		Satisfy LOs of the program	***Satisfy LOs of the ABET***
❖ ***Topic 1: Disciplinary Knowledge and Reasoning***			***B.1.1*** ***B.1.2*** ***B.1.3*** ***B.1.4*** ***B.1.5*** ***B.1.6***
L1.	Present overview about information systems.	*1.3.1*	
L2.	Describe components of an information system.		
L3.	Utilize analysis and design tools in information system modelling.		
L4.	Utilize learned knowledge to build a specific information system		
❖ ***Topic 2: Personal and Professional Skills and Attributes***			
L5.	Problem identification and formulation	*2.1.1*	
L6.	Modeling	*2.1.2*	
L7.	Survey of print and electronic literature	*2.2.1*	
❖ ***Topic 3: Interpersonal Skills: Teamwork and Communication***			
L8	Team operation	*3.1.2*	
L9	Written communication	*3.2.3*	

L10	Oral presentation and interpersonal communications	*3.2.6*	
❖ ***Topic 4: Conceiving, Designing, Implementing and Operating Systems in The Enterprise, Societal and Environmental Context – The Innovation Process***			
L11	The impact of engineering on society	*4.1.2*	
L12	Setting system goals and requirements	*4.2.2*	
L13	Utilization of knowledge in design	*4.3.3*	
L14	Designing the implementation process	*4.4.1*	
L15	Test, verification, validation, and certification	*4.5.1*	
L16	System improvement and evolution	*4.5.4*	

5. Course content

Course content	***CLOs***	***Number of learning periods***		
		Theory	***Practice***	***Others***
Chapter 1. Information system overview	**L1**	**04**		
1.1. Basic concepts				
1.2. Tools to be used in information system development process				
1.3. Overview about information system development				
14. Stakeholders of information system development process				
1.5. Information system design methods				
☐ ***Personal and Professional Skills and Attributes***	*L5(I), L6(I)*			
☐ ***Interpersonal Skills: Teamwork and Communication***				
☐ ***CDIO in the enterprise, societal and environmental context***	*L11(I)*			
Chapter 2. System requirement descriptions	**L2**	**04**	**02**	

2.1 Capturing requirements of organizations				
2.2 Requirement capturing methods				
2.3 Summary and report requirements				
☐ ***Personal and Professional Skills and Attributes***	*L5(U), L6(U), L7(U)*			
☐ ***Interpersonal Skills: Teamwork and Communication***	*L8(U), L9(U), L10(U)*			
☐ ***CDIO in the enterprise, societal and environmental context***				
Chapter 3. Data analysis and design	**L3, L4**	**12**	**8**	
3.1 Entity relationship model				
3.2 Extended entity relationship model				
3.3 Issues in analysis process				
3.4 Checking rules for entity relationship model				
3.5 Data Documentation				
3.6 Mapping from conceptual data model to logical data model				
☐ ***Personal and Professional Skills and Attributes***	*L5(U), L6(U), L7(U)*			
☐ ***Interpersonal Skills: Teamwork and Communication***	*L8(U), L9(U), L10(U)*			
☐ ***CDIO in the enterprise, societal and environmental context***	*L12(U), L13 (U)*			
Chapter 4. Processing analysis and design	**L3, L4**	**05**	**10**	
4.1 Business function diagram				
4.2 Data flow diagram				
☐ ***Personal and Professional Skills and Attributes***	*L5(U), L6(U), L7(U)*			
☐ ***Interpersonal Skills: Teamwork and Communication***	*L8(U), L9(U), L10(U)*			

☐ ***CDIO in the enterprise, societal and environmental context***	*L12(U), L13(U), L14(U)*			
Chapter 5. User interface design	**L3, L4**	**05**	**10**	
5.1 Overview				
5.2 Design of main interface				
5.3 Design of input				
5.4 Design of output				
5.5 Design of dialogs				
☐ ***Personal and Professional Skills and Attributes***	*L5(U), L6(U), L7(U)*			
☐ ***Interpersonal Skills: Teamwork and Communication***	*L8(U), L9(U), L10(U)*			
☐ ***CDIO in the enterprise, societal and environmental context***	*L12(U), L13(U), L14(U), L15(U), L16(U)*			
Summary of skills in course level				
☐ ***Personal and Professional Skills and Attributes***	*L5(U), L6(U), L7(U)*			
☐ ***Interpersonal Skills: Teamwork and Communication***	*L8(U), L9(U), L10(U)*			
☐ ***CDIO in the enterprise, societal and environmental context***	*L11(I);L12(U), L13(U), L14(U), L15(U), L16(U)*			

6. Teaching and learning methods:

ID	Teaching method/technique		Description
M1.	Lecturing	☑	
M2.	Questions – Answers	☑	
M3.	Group-based Learning	☑	Students study, discuss and report on selected topics
M4.	Problem-based Learning	☐	

M5.	Project-based Learning	☑	Students implement selected projects by groups
M6.	Case studies	☐	
M7.	Role play	☐	
M8.	Demo	☑	Student memorize operations and apply them into exercises
M9.	Simulations	☐	
M10.	Debate	☑	Students debate about selected topics
M11.	Game	☐	
M12.	Brainstorming	☐	
M13.	Think-Pair-Share	☐	

7. Course assessment

ID	Assessment activity		Quantity	Weight	LOs assessed
T1.	Text-based midterm exam	☑		25%	*L1 □ L4*
T2.	Text-based final exam	☑		50%	*L1 □ L4*
T3.	Practice midterm exam	☐			
T4.	Practice final exam	☐			
T5.	Report	☑		25%	*L1□ L4*
T6.	In-class exercises	☑		25%	*L1 □ L4*
T7.	Homework assignments	☑		25%	*L1□ L4*
T8.	Question – Answer	☐			
T9.	Term Project	☑		50%	*L1□ L4*

T10.	Final Exam	☐			
Formula for Overall score	***Progress assessment*:** select at least two assessments from (T1, T5, T6, T7) ***Final assessment:*** T2 or T9 **Overall score = Progress assessment score + Final assessment score**				

8. Course requirements and expectations

8.1. Requirements on attendance

- Students are responsible for attending all classes. In case of absence due to force majeure circumstances, there must be sufficient and reasonable evidence.
- Students who do not attend more than 20% of the class sections, whether for reason or not, are deemed not to have completed the course and must re-enroll in the following semester.

8.2. Requirements and expectations on student behaviors

- Students must show their respects for teachers and other learners.
- Students must be on time. Students who are late more than five minutes will not be allowed to attend the class.
- Students should not make noise and interfere with others in the learning process.
- Students should not eat, chew gum, and use devices such as cell phones, music players during class hours.
- Laptops and tablets can only be used in class for the purpose of learning.
- Students who violate the above principles will be asked to leave the class and considered absent from the class.

8.3. Requirements on learning issues

Issues related to applying for score reservation, scoring complaints, scoring, exam disciplines are done according to the Learning Regulation of Tra Vinh University.

9. Tentative course instructor

Pham Minh Duong

DEAN **DEPARTMENT HEAD** **LECTURER**

Pham Minh Duong