THAI NGUYEN UNIVERSITY
UNIVERSITY OF INFORMATION AND COMMUNICATION TECHNOLOGY

SOCIALIST REPUBLIC OF VIET NAM
Independence - Freedom - Happiness

COURSE SYLLABUS

(Training level: Undergraduate)

Vietnamese Course Title: Phương pháp phát triển phần mềm hướng đối tượng

English Course Title: Object oriented software development methodology

Course Code: OSE131

Major: Software Engineering; Information Technology.

Training Program: Bachelor; Engineer.

Version: 2021

1. General Information

- Number of credits: 03 (Theory: 02; Practice: 01)
- Types of Knowledge:

General Education		Basic core courses		Major core courses		Concentration courses		Others
						Software Engineering; Information Technology.		
Required □	Optional □	Required □	Optional □	Required □	Optional □	Required ☒	Optional □	Alternative Course of Graduation Thesis □

- Pre-requisite: None
- Co-requisite: Object-oriented programming,

2. Time Allocated

Total: 60 Periods	Theory: 28 Periods
	Discussion/ Group Presentation: 0
	Assignment/ Essay/ Practice: 0/0/28 Periods
	Number of Tests: 03 Number of Theory Tests: 02 Periods: 02 Number of Report: 1 Periods: 02
	Self-Study:105 Periods Other Activities: 0

3. Departments in Charge: Department of Software Engineering – Faculty Information Technology

4. Lecturer's Information

No.	Lecturer name	Phone number	Email	Note
1	MSc. Nguyen Van Viet	0912660246	nvviet@ictu.edu.vn	Leader
2	Ph.D. Nguyen Van Nui	0964719929	nvnui@ictu.edu.vn	Member
3	MSc. Nguyen Hong Tan	0943252165	nhtan@ictu.edu.vn	Member
4	MSc. To Huu Nguyen	0989146142	thnguyen@ictu.edu.vn	Member

No.	Lecturer name	Phone number	Email	Note
5	MSc. Bui Anh Tu	0914400246	batu@ictu.edu.vn	Member
6	Ph.D. Nguyen The Vinh	0987560071	ntvinh@ictu.edu.vn	Member

5. Facility Requirements: Having a projector in the classroom.

6. Course Description:

Object oriented software development methodology. The course is intended to provide students with in-depth knowledge related to the key elements of object-oriented software engineering (process technology, engineering execution methods, tools and software declarative development environment, etc.). Language used to illustrate is a unified language UML.

The module equips students with the knowledge, methods and skills to capture requirements, specify, analyze and design, install and deploy an object-oriented software system, using model language.

7. Objectives

Objectives	Description	PLOs	Competency Level
G1	Apply software development principles, processes, and supporting tools in software specification, analysis, and design.	1.4	3
G2	Applying personal skills to effectively coordinate work and lead teams	3.1	3
	Apply presentation skills to clearly present software design ideas	3.2	3
G3	Apply knowledge and skills in object-oriented software development to design, deploy, and operate application software	4.3	3

8. Learning Outcomes

Objectives	CLOs	Description of CLOs	PLOs	Proficiency level
G1	G1.1	Apply basic knowledge of the software development process in the software development process	1.4	3
	G1.2	Apply software development models in the software development process	1.4	3
	G1.3	Apply the RUP process in the software development process	1.4	3
	G1.4	Apply principles, concepts of object-oriented, exploit the application software starUML, Rada Rose effectively	1.4	3
	G1.5	Apply the steps in the object-oriented software development process to a specific problem	1.4	3
G2	G2.1	Apply personal skills to effectively assign and perform work in the group	3.1	3
	G2.2	Apply presentation skills to clearly present software design ideas	3.2	3
G3	G3.1	Apply knowledge and skills of object-oriented software development to design software systems	4.3	3
	G3.2	Apply knowledge and skills in object-oriented software development to install and operate software	4.3	3

9. Scientific Ethics

Actively participate in theoretical classes in class, do exercises assigned by teachers, fully participate in practical hours in the spirit of improving self-discipline, self-control and completing regular tests. All acts of cheating in learning and assessment will be according to regulations.

10. Detailed Contents

Period	Contents	References	CLOs	Competency Level	Teaching Methodology	Assessment Methodology
1,2,3	**Chapter 1: Overview of the software development process**					
	A/ Content of classroom learning: (3) **- Content of theoretical education** 1.1. The concept of software development process 1.1.1. Solution, request 1.1.2. Design 1.1.3. Program 1.1.4. Test	[1] [2] [3] [4] [5] [6] [7]	G1.1 G1.2 G1.3	3 3 3	Present; Raise and solve problems; discussion groups	Judging by comments;
	B/* The contents to be self-study at home: *(6) Learn the classifications of software requirements	[1] [2] [3] [4] [5] [6] [7]	G1.1 G1.2 G1.3	3 3 3	Guided self-study	
4,5,6	**Chapter 1: Overview of the software development process** *(continued)*					
	A/ Content of classroom learning: (3) **- Content of theoretical education** 1.2 Some models for building software development process 1.3. RUP software development process	[1] [2] [3] [4] [5] [6] [7]	G1.1 G1.2 G1.3	3 3 3	Present; Raise and solve problems; discussion groups	Judging by comments;
	B/ The contents to be self-study at home: (6) Practice installing and removing some basic application software	[1] [2] [3] [4] [5] [6] [7]	G1.1 G2.1 G2.2	3 3 3	Guided self-study	Motivational assessment/ diligence assessment
7,8,9	**Practice 1: Instructions for installing and exploiting the features of the StarUML or Rational Rose Software**					

Period	Contents	References	CLOs	Competency Level	Teaching Methodology	Assessment Methodology
	A/ Content of classroom learning: (3) Lecturers: Guide students to install and exploit practical software such as StarUML, Rational Rose Students do the assigned practical exercises under the guidance of the instructor.	[1] [2] [5]	G1.1 G1.2 G1.3	3 3 3	Raise and solve problems; Hands-on instruction directly on the projector.	Evaluation of the implementation process
	B/* The contents to be self-study at home:** ***(6) Complete the exercises in the advanced exercises in the workbook.	[1] [2] [5]	G1.1 G1.2 G1.3	3 3 3	Guided self-study	Motivational assessment/ Combined with due diligence
10, 11, 12	**Chapter 2: Object Oriented Basics**					
	A/ Content of classroom learning: (3) **- Content of theoretical education** 2.1. The concept of object-oriented 2.2. Classes, Objects, Properties, Methods, Constraints, Relationships 2.3. Classification and Inheritance	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5	3 2	Present; Raise and solve problems; Direct operation on the projector	Judging by comments; check, evaluate the process
	B/* The contents to be self-study at home:** ***(6) • Install the software and repeat the basic operations that have been instructed in class	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5	3 2	Guided self-study	Motivational assessment/ Combined with due diligence
13, 14, 15	**Practice 2. Using software to build system Use Case diagrams**					
	A/ Content of classroom learning: (3) **- Practical teaching content:** Lecturers: Guide students to do practical exercises in searching and building Use case diagrams Students do the assigned practical exercises under the guidance of the lecturer.	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5	3 2	Present; Raise and solve problems; Direct operation on the projector	Judging by comments; check, evaluate the process
	B/* The contents to be self-study at home:** ***(6) • Students review knowledge in class and do practice exercises at home	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5	3 2	Guided self-study	Motivational assessment/ Combined with due diligence
16, 17, 18	**Chapter 2: Object Oriented Basics** (*continued)*					

Period	Contents	References	CLOs	Competency Level	Teaching Methodology	Assessment Methodology
	A/ Content of classroom learning: (3) **- Content of theoretical education** 2.4. Abstract classes 2.5. Relationships 2.6. Classification of classes 2.7. Designs 2.8. Element	[1] [2] [3] [4] [5] [6] [7]	G1.5	2	Present; Raise and solve problems; Direct operation on the projector	Judging by comments; check, evaluate the process
	B/* The contents to be self-study at home:** ***(6) Repeat the basic operations that were instructed in class. Apply it to the exercises in the workbook.	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5 G2.1 G2.2	3 2 3 3	Guided self-study	Motivational assessment/Combined with due diligence
19,20,21	**Practice 3. Specify the Use cases and attach the specification files to the corresponding Use cases**					
	A/ Content of classroom learning: (3) **- Practical teaching content:** Lecturers: Guide students to do practical exercises in searching and building Use case diagrams Students do the assigned practical exercises under the guidance of the lecturer.	[1] [2] [3] [4] [5] [6] [7]	G1.5 G2.1 G2.2	2	Present; Raise and solve problems; Direct operation on the projector	Judging by comments; check, evaluate the process
	B/ The contents to be self-study at home: (6) Advanced section exercises in the workbook.	[1] [2] [3] [4] [5]	G1.4 G1.5 G2.1 G2.2	3 2 3 3	Guided self-study	Motivational assessment/Combined with due diligence
22,23,24	**Chapter 3: Modeling requirements**					
	A/ Content of classroom learning: (3) **- Content of theoretical education** 3.1. Requirement modeling 3.2. Types of charts in UML 3.2. Types of charts in UML **Periodic Test No.1**	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5	3 2	Present; Raise and solve problems; Direct operation on the projector	Judging by comments; check, evaluate the process
	B/ The contents to be self-study at home: (6) Repeat the basic operations that were instructed in class. Apply it to the exercises in the workbook.	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5 G2.1 G2.2	3 2 3 3	Guided self-study	Motivational assessment/Combined with due diligence

Period	Contents	References	CLOs	Competency Level	Teaching Methodology	Assessment Methodology
25,26,27	**Practice 4. Build Activity Diagrams and Interactive Diagrams for Use Cases**					
	A/ Content of classroom learning: (3) **- Practical teaching content:** Lecturers: Guide students to do practice exercises with activity charts and interactive charts Students do the assigned practical exercises under the guidance of the lecturer.	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5 G3.1 G3.2	2 3 3 3	Present; Raise and solve problems; instructions for direct operation on the projector; Practice test on computer. Judging by comments; inspect and evaluate the process; evaluate the test by score.	Judging by comments; check and evaluate the process; evaluate the test by score.
	B/ The contents to be self-study at home: (6) • Complete the exercises in the advanced exercises in the workbook.	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5 G2.1 G2.2	3 2 3 3	Guided self-study	Motivational assessment/ Combined with due diligence
28,29,30	**Practice 5. Build Activity Diagrams and Interactive Diagrams for Use Cases (*continued*)**					
	A/ Content of classroom learning: (3) **- Practical teaching content:** Lecturers: Guide students to do practice exercises with activity charts and interactive charts Students do the assigned practical exercises under the guidance of the lecturer.	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5 G2.1 G2.2	3 2 3 3	Present; Raise and solve problems; instructions for direct operation on the projector; Practice test on computer. Judging by comments; inspect and evaluate the process; evaluate the test by score.	Judging by comments; check and evaluate the process; evaluate the test by score.
	B/ The contents to be self-study at home: (6) • Complete the exercises in the advanced exercises in the workbook.	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5 G2.1 G2.2	3 2 3 3	Guided self-study	Motivational assessment/Combined with due diligence
31,32,33	**Chapter 4: Analysis of object-oriented software**					

Period	Contents	References	CLOs	Competency Level	Teaching Methodology	Assessment Methodology
	A/ Content of classroom learning: (3) **- Content of theoretical education** 4.1. Introduce 4.2. Develop system ideas and goals 4.3. Definition of related parties 4.4. Defining the implementation process	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5	3 2	Present; Raise and solve problems; instructions for direct operation on the projector;	Judging by comments; process check
	B/ The contents to be self-study at home: (6) Repeat the basic operations that were instructed in class. Apply it to the exercises in the workbook.	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5	3 2	Guided self-study	Motivational assessment/Combined with due diligence
34,35,36	**Practice 6. Constructing an analysis class diagram**					
	A/ Content of classroom learning: (3) **- Practical teaching content:** Lecturers: Guide students to do practical exercises to build class diagrams Students do the assigned practical exercises under the guidance of the lecturer. Test No. 2	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5 G3.1 G3.2	3 2 3 3	Present; Raise and solve problems; instructions for direct operation on the projector; inspect and evaluate the process; evaluate the test by score.	Judging by comments; check and evaluate the process; evaluate the test by score.
	B/* The contents to be self-study at home:** ***(6) • Complete the exercises in the advanced exercises in the workbook.	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5	3 2	Guided self-study	Motivational assessment/ Combined with due diligence
37,38,39	**Chapter 4: Analysis of object-oriented software** *(continued* **)**					
	A/ Content of classroom learning: (3) **- Content of theoretical education** 4.5. Interests of stakeholders 4.6. Define use case 4.7. Specification of use cases 4.8. Definition of use cases 4.9. Collect and study documents 4.10. Requirements specification 4.11. Description of the system interface	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5	3 2	Present; Raise and solve problems; instructions for direct operation on the projector;	Motivational assessment/ Combined with due diligence
	***B/* The contents to be self-**	[1]		3		Motivational

Period	Contents	References	CLOs	Competency Level	Teaching Methodology	Assessment Methodology
	study at home: ***(6)*** Repeat the basic operations that were instructed in class. Apply it to the exercises in the workbook.	[2] [3] [4] [5] [6] [7]	G1.4 G1.5	2	Guided self-study	assessment/ Combined with due diligence
40,41,42	**Practice 7 Building an analytical class diagram**					
	A/ Content of classroom learning: (3) **- Practical teaching content:** Lecturers: Guide students to do practical exercises to build class diagrams Students do the assigned practical exercises under the guidance of the lecturer. **Periodic Test No.2**	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5	3 2	Present; Raise and solve problems; instructions for direct operation on the projector;	Judging by comments; process check
	B/ **The contents to be self-study at home:** ***(6)*** • Complete the exercises in the advanced exercises in the workbook.	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5	3 2	Guided self-study	Motivational assessment/ Combined with due diligence
43,44,45	**Chapter 5: Object-oriented software design**					
	A/ Content of classroom learning: (3) **- Content of theoretical education** 5.1. Design Elements 5.2. Design mechanism 5.3. Real-time architecture 5.4. Design UC	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5 G3.1 G3.2	3 2 3 3	Present; Raise and solve problems; instructions for direct operation on the projector;	Judging by comments; process check
	B/ **The contents to be self-study at home:** ***(6)*** Repeat the basic operations that were instructed in class. Apply it to the exercises in the workbook.	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5 G3.1 G3.2	3 2 3 3	Guided self-study	Motivational assessment/ Combined with due diligence
46,47,48	**Practice 8. Building a Design Class Diagram**					
	A/ Content of classroom learning: (3) **- Practical teaching content:** Lecturers: Guide students to do practical exercises on design class diagrams Students do the assigned practical exercises under the guidance of the lecturer.	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5 G3.1 G3.2	3 2 3 3	Present; Raise and solve problems; instructions for direct operation on the projector;	Judging by comments; process check
	B/ **The contents to be self-**	[1]	G1.4	3	Guided self-study	Motivational

Period	Contents	References	CLOs	Competency Level	Teaching Methodology	Assessment Methodology
	study at home: ***(6)*** Complete the exercises in the advanced exercises in the workbook.	[2] [3] [4] [5] [6] [7]	G1.5 G2.1 G2.2	2 3 3		assessment/ Combined with due diligence
49,50,51	**Chapter 5: Object-oriented software design (***continued)*					
	A/ Content of classroom learning: (3) **- Content of theoretical education** 5.5. Subsystem Design 5.6. Class Design 5.7. Database Design **Periodic Test No.3**	[1] [2] [3] [4] [5] [6] [7]	G1.3 G2.1 G2.2	3 3 3		Judging by comments; check, evaluate the process
	B/ **The contents to be self-study at home:** ***(6)*** Self-study and practice searching and using services and utilities on computer networks.	[1] [2] [3] [4] [5] [6] [7]	G1.3 G2.1 G2.2	3 3 3	Guided self-study	Motivational assessment/ Combined with due diligence
52,53,54	**Practice 9. Database building**					
	A/ Content of classroom learning: (3) **- Practical teaching content:** Lecturers: Guide students to do the exercises in the workbook. Students do the assigned practical exercises under the guidance of the lecturer	[1] [2] [3] [4] [5] [6] [7]	G1.3 G2.1 G2.2	3 3 3	Present; Raise and solve problems; instructions for direct operation on the projector;	Judging by comments; process check
	B/ **The contents to be self-study at home:** ***(6)*** • Complete the exercises in the advanced exercises in the workbook.	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5 G2.1 G2.2	3 3 3 3	Guided self-study	Motivational assessment/Combined with due diligence
55,56,57	**Chapter 6: Principles of object-oriented software development**					
	A/ Content of classroom learning: (3) **- Content of theoretical education** 6.1 Principles of software design 6.2. Class Design Principles 6.3 Cohesion Principles 6.4. Coupling Principles 6.5 Architectural principles	[1] [2] [3] [4] [5] [6] [7]	G3.1 G3.2	3 3	Lesson Discussion groups;	Judging by comments; process check
	B/ **The contents to be self-**	[1]	G2.1	3	Guided self-study	Motivational

Period	Contents	References	CLOs	Competency Level	Teaching Methodology	Assessment Methodology
	study at home: ***(6)*** Complete the exercises in the advanced exercises in the workbook.	[2] [3] [4] [5] [6] [7]	G2.2 G3.1 G3.2	3 3 3		assessment/ Combined with due diligence
58,59,60	**Practice 10. Synthesis of models in analysis and design**					
	A/ Content of classroom learning: (3) **- Practical teaching content:** Lecturers: Guide students to do the exercises in the workbook. Students do the assigned practical exercises under the guidance of the lecturer. - Group exercise report	[1] [2] [3] [4] [5] [6] [7]	G1.4 G1.5 G2.1 G2.2 G3.1 G3.2	3 3 3 2 3 3 3 3	Present; Raise and solve problems; instructions for direct operation on the projector; Test report	Judging by comments; process check; Test report
	B/ **The contents to be self-study at home:** ***(6)*** Complete the exercises according to the instructor's instructions	[1] [2] [3] [4] [5] [6] [7]	G1.2 G1.3 G1.4 G1.5 G2.1 G2.2 G3.1 G3.2	3 3 3 2 3 3 3 3	Guided self-study	Motivational assessment/ Combined with due diligence

11. Student Assessment: 10 Score Scale.

11.1 . Test Plan:

No.	Contents	Time (Period)	CLOs	Proficiency level	Assessment methods	Assessment Tool	Weight %
Attendance							**10**
Regular Test Score							**30**
1	Chapter 2, 3	24	G1.1 G1.2 G1.3 G1.4 G1.5	3 2 3 3	Written	Periodic Test No. 1	10
2	Chapter 4	36	G2.2 G3.1 G3.2	3 3 3	Practice	Periodic Test No. 2	10
3	Chapter 1-5	51	G1.3 G1.4 G1.5 G2.1 G2.2 G3.1 G3.2	3 3 3 3 3 3 3 3 3	Group presentations	Periodic Test No. 3	10
Final Examination							**60**
	Chapter 1-5		G1.1 G1.2 G1.3 G1.4 G1.5 G3.1 G3.2	3 3 3 3 3 3 3	Written	Final Examination	60

CLOs	Contents						Test Method			
	Periods 1-9	Periods 10-24	Periods 25-42	Periods 43-48	Periods 49-54	Periods 55-60	Written assessment I	Practice assessment II	Report Assessment III	End of Course exam
G1.1	x						x			x
G1.2	x						x			x
G1.3	x				x		x		x	x
G1.4		x	x	x	x	x	x		x	x
G1.5		x	x	x	x	x	x		x	x
G2.1		x	x	x	x	x		x	x	
G2.2		x	x	x	x	x		x	x	
G3.1			x	x		x		x	x	x
G3.2			x	x		x		x	x	x

11.2 Assessment Rubrics

* Rubric 1: Attendance

Criteria assessment	Weight (%)	Very good (8.5-10)	Good (7.0-8.4)	Average (5.5-6.9)	Below average (4.0-5.4)	Poor (0-3.9)
Full participation in classes	70	Full class attendance	Absence from 1-9%	Absence from 10-15%	Absence from 16-20%	Absence from 20% (banned from exams)
Activeness in lessons, self-study	30	Participate in questions, discussions very actively, Complete all the assignments	Participate in asking questions, discussion, doing exercises quite actively	Participate in asking questions, discussions, and doing exercises less actively.	Participate in asking questions, discussions, doing exercises with teachers' help.	Only take part in class, but not participate in asking questions, discussions, doing exercises in active ways.

*** Rubric 2: Periodic Test No.1** ***(****Allotted time: 50 minutes; Form: written; Total of Questions: 02; Score Scale: 10****)***

Evaluation criteria		Weight (%)	Quality Level Description				
Question	CLOs		Very good	Good	Average	Below average	Poor
			(8,5-10 point)	(7,0-8,4 point)	(5,5-6,9 point)	(4,0-5,4 point)	(0-3.9 point)
1	G1.1 G1.2 G1.3	50	Nice and clear presentation. Content solves 90-100% of the requirements well	Clear presentation . Content that solves 70 to less than 90% of requests	Pretty clear presentation. Content solves from 50 to less than 70% of the requirements set	The presentation is not clear. Content that solves from 40 to less than 50% of the requirements set	The presentation is not clear. Content that solves less than 40% of requests

Evaluation criteria		Weight (%)	Quality Level Description				
Question	CLOs		Very good	Good	Average	Below average	Poor
			(8,5-10 point)	(7,0-8,4 point)	(5,5-6,9 point)	(4,0-5,4 point)	(0-3.9 point)
2	G1.4 G1.5	50	Nice and clear presentation. Content solves 90-100% of the requirements well	Clear presentation . Content that solves 70 to less than 90% of requests	Pretty clear presentation. Content solves from 50 to less than 70% of the requirements set	The presentation is not clear. Content that solves from 40 to less than 50% of the requirements set	The presentation is not clear. Content that solves less than 40% of requests

*** Rubric 3: Periodic Test No.2** ***(****Allotted time: 50 minutes; Form: Practice; Total of Questions: 03; Score Scale: 10****)***

Evaluation criteria		Weight (%)	Quality Level Description				
Question	CLOs		Very good	Good	Average	Below average	Poor
			(8,5-10 point)	(7,0-8,4 point)	(5,5-6,9 point)	(4,0-5,4 point)	(0-3.9 point)
1	G3.3	40	Nice and clear presentation. Content solves 90-100% of the requirements well	Clear presentation. Content that solves 70 to less than 90% of requests	Pretty clear presentation. Content solves from 50 to less than 70% of the requirements set	The presentation is not clear. Content that solves from 40 to less than 50% of the requirements set	The presentation is not clear. Content that solves less than 40% of requests
2	G3.4 G3.5	40	Nice and clear presentation. Content solves 90-100% of the requirements well	Clear presentation. Content that solves 70 to less than 90% of requests	Pretty clear presentation. Content solves from 50 to less than 70% of the requirements set	The presentation is not clear. Content that solves from 40 to less than 50% of the requirements set	The presentation is not clear. Content that solves less than 40% of requests
3 (Teacher's additional questions)	G2.1 G2.2	20	Answer well 90-100% of the requirements according to the questions asked by the lecturer	Answer correctly from 70 to less than 90% of the requirements according to the questions asked by the lecturer	Answer correctly from 50 to less than 70% of the requirements according to the questions asked by the lecturer	Answer correctly from 40 to less than 50% of the requirements according to the questions asked by the lecturer	Answer less than 40% of the questions asked by the lecturer

*** Rubric 4: Periodic Test No.3** *(Time to do the test: 50 minutes; Form: Reporting; Total number of questions; Score Scale: 10)*

Evaluation criteria		Weight (%)	Quality Level Description				
Criteria	CLOs		Very good	Good	Average	Below average	Poor
			(8,5-10 point)	(7,0-8,4 point)	(5,5-6,9 point)	(4,0-5,4 point)	(0-3.9 point)
Content report	G1.3 G1.4 G1.5 G3.1 G3.2	40	Meet 90-100% of the requirements, yes expanded, with references cited	Meet 80-90% request, yes expanded, citing incomplete references	Meet 70-80% enough love bridge	Meet 50-60% of requests bridge	Answer less than 50% of the request
Skill present	G2.1 G2.2	5	Make it clear, self believe, theory serve, deliver save people listen well	Make it clear, self trust, exchange listener	Clarify , little communication listener	Wordless, unconfident, little communication listener	Whisper, not confident, no delivery save people to listen
Answer ask	G1.3 G1.4 G1.5 G3.1 G3.2	40	Right answer all of question	Right answer over 2/3 sentences ask	Right answer over 1/2 sentence ask	Right answer over 1/3 of sentences ask	Right answer less than 1/3 of sentences ask
Participation perform	G2.1	5	100% finished member real family show/submit display	~80% finished member real family show/submit display	~60% finished member real family show/submit display	~50% finished member real family show/submit display	Unders ~50% finished member real family show/submit display

*** Rubric 5: Final Examination** ***(****Allotted time: 90 minutes; Form: Written; Total of Questions: 03; Score Scale: 10****)***

Evaluation criteria		Weight (%)	Quality Level Description				
Question	CLOs		Very good	Good	Average	Below average	Poor
			(8,5-10 point)	(7,0-8,4 point)	(5,5-6,9 point)	(4,0-5,4 point)	(0-3.9 point)
1	G1.1 G1.2 G1.3	30	Nice and clear presentation. Content solves 90-100% of the requirements well	Clear presentation. Content that solves 70 to less than 90% of requests	Pretty clear presentation. Content solves from 50 to less than 70% of the requirements set	The presentation is not clear. Content that solves from 40 to less than 50% of the requirements set	The presentation is not clear. Content that solves less than 40% of requests
2	G1.4 G1.5	30	Nice and clear presentation. Content solves 90-100% of the requirements well	Clear presentation. Content that solves 70 to less than 90% of requests	Pretty clear presentation. Content solves from 50 to less than 70% of the requirements set	The presentation is not clear. Content that solves from 40 to less than 50% of the requirements set	The presentation is not clear. Content that solves less than 40% of requests
3	G3.1 G3.2	40	Nice and clear presentation. Content solves 90-100% of the requirements well	Clear presentation. Content that solves 70 to less than 90% of requests	Pretty clear presentation. Content solves from 50 to less than 70% of the requirements set	The presentation is not clear. Content that solves from 40 to less than 50% of the requirements set	The presentation is not clear. Content that solves less than 40% of requests

12. Reading List

- Main Syllabus

[1] Department of Software Engineering – University of Information and Communication Technology, 2021, Lecture on Object-Oriented Software Development Methodology, Internal circulation.

- References

[2] Developing Software with UML, 2002, Addison-wesley

[3] Doan Van Ban, Object-oriented analysis and design using UML, Education Publishing 2005.

[4] Dang Van Duc, Software development using UML, Education Publishing 2002.

[5] Huynh Van Duc, Introduction to UML, Labor and Social Publishing 2006.

[6] Rational. Object-Oriented Analysis and Design with UML. SYBEX Inc., 2003.

[7] IBM. Mastering Object-Oriented Analysis and Design with UML 2.0. IBM 2004

13. 1st Approval Date: 06/09/2021

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

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