#### 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: Công nghệ .NET

English Course Title: .NET Technology

Course Code: CET331

Major: Information Technology; Software Engineering; Computer science.

Training program: Bachelor; Engineer

Version: 2021

#### **1.** General information

- Number of credits: 03 (Theory: 02, Practice: 01).

- Type of Knowledge:

General Education		Base core courses		Major core courses		Concentra		
<b>D</b> . 1				Information Technology; Software Engineering; Computer science.			Others	
		Required	Optional	Required ⊠	Optional □	Required	Optional □	Alternative Course of Graduation Thesis

- Required course: None
- Pre-requisite: Object-oriented programming
- Co-requisite: None
- 2. Time Allocated

	Theory: 29 periods						
	Group Discussion/Presentation: 0						
Total. 60 namia da	Assignments/Essays/Practices: 28 periods.						
Total: 60 periods	Tests: 03						
	+ Theory: Number of Tests:01 Periods:01						
	+ Practice: Number of Tests:02 Periods:02						
	Self-study: 105 periods						
	Other activities: 0						

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

### 4. Lecturer's Information

No.	Lecturer name	Phone number	Email	Note
1	MSc. Vo Von Truong	0973563273	vvtruong@ictu.edu.vn	Leader
2	MSc. Bui Anh Tu	0914400246	batu@ictu.edu.vn	Member
3	MSc. Tran Hai Thanh	0946600515	ththanh@ictu.edu.vn	Member
4	MSc. Nguyen Thi Dung	0974322455	ntdung@ictu.edu.vn	Member
5	Ph.D. Nguyen The Vinh	0944550550	vinhnt@ictu.edu.vn	Member
6	MSc.Nguyen Thi Tinh	0986060186	nttinh@ictu.edu.vn	Member

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

Practice room: installed Visual Studio, Sql server from version 2019 and above.

### 6. Course Description:

The .Net Technology course provides students with the basics of .NET platform technology, C# programming language, programming-related issues, Windows-based application development and the .NET environment. After finishing the course students have programming skills on the .NET (C# language) background, understand the core issues and have the ability to create basic applications using .NET technology. At the same time, students have some tools to build and develop software, know how to apply their knowledge to solve problems that practically pose. Students also learn techniques for solving problems in practice by using programming tools to create software.

### 7. Objectives

Objectives	Description	PLOs	Competency Level
G1	Understand the basics of .NET platform technology, C# programming language, programming-related issues, Windows-based application development and .NET environment.	1.4	2
G2	<ul> <li>Apply the core knowledge and problems, to create basic application programs using .NET technology, have programming skills on the basis of .NET (using C# language)</li> <li>Apply some software building and development tools, know how to solve problems that actually pose using .NET technology</li> </ul>	4.4	3
G3	<i>Communication skills</i> - Apply communication skills, from coherent, logical idea formation to supporting evidence, the ability to present, listen and respect the opinions of others.	3.2	3

### 8. Learning Outcomes

Objectives	CLOs	Description of CLOs	PLOs	Proficiency level
G1	G1.1	Understand the overview of .NET technology and the principles of application development in dotnet technology.	1.4	2

Objectives	CLOs	Description of CLOs	PLOs	Proficiency level
	G1.2	Understand the architecture, compilation mechanisms and library collections of .NET	1.4	2
	G2.1	Apply the general knowledge of the C# language in .NET; Basic programming with C#'s syntax and library.	4.4	3
	G2.2 Apply the knowledge and ability to program object-oriented in .NET (using language C#).			3
G2	G2.3	Apply advanced programming techniques on the .NET platform (using language C#)	4.4	3
	G2.4 Apply knowledge, application programming skills and some programming design pattern in .NET technology			3
	G2.5 Apply knowledge of data access and processing methods, models in .NET technology		4.4	3
G3	G3 G3.1 Communication skills - Apply communication skills, from coherent, logical idea formation to support evidence, the ability to present, listen and respect the opinions of others.			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.

Contents

Period	Contents	References	CLOs	Competency Level	<b>Teaching</b> Methodology	Assessment Methodology
	Chapter 1:Overview of .net platform					
1,2,3	<ul> <li>A/ Classroom learning content: (3)</li> <li>Theoretical teaching content</li> <li>1.1 Overview of the architecture of .NET Framework</li> <li>1.2 Common Language Runtime (CLR)</li> <li>1.3 Learn .Net Base Class</li> <li>1.4 Programming Language C#</li> </ul>	[1] [3] [5] [6]	G1.1 G1.2	2.0 2.0	Presentation; State and solve the problem	Assessment by comments; check the process
	<i>B</i> /Self-study:(6) Read the syllabus and references related to the content learned and the content of the next lesson. Install vs.NET and get acquainted with the programming environment vs.NET	[1] [3] [5] [6]	G1.1 G1.2	2.0 2.0	Self-study with guidance	Motivational Assessment/ Combined with attendant Assessments
4,5,6	<b>Chapter 2: Basic programming with C#</b> (Section 2.1 – 2.9)					

Period	Contents	References	CLOs	Competency Level	Teaching Methodology	Assessment Methodology
	<ul> <li>A/ Classroom learning content: (3)</li> <li>Theoretical teaching content</li> <li>2.1 Variables and data types in C #</li> <li>2.2 Annotations in C #</li> <li>2.3 Constants</li> <li>2.4 Expressions</li> <li>2.5 Operators</li> <li>2.6 Boxing and Unboxing Issues</li> <li>2.7 Basic input and output method</li> <li>2.8 Definition of Commands and Command Block</li> <li>2.9 Selection Structure</li> </ul>	[1] [3]	G2.1	3.0	Presentation; Raise and solve the problem; Work directly on the projector.	Assessment by comments; check the process
	<i>B/ Self-study(6)</i> Read the syllabus and references related to the content learned and the content of the next lesson. Understand the basic commands of the lesson, how to execute the code in .Net Learn to compare syntax learned in the C# language, compared to previously learned programming languages.	[1] [3]	G2.1	3.0	Self-study with guidance	Motivational Assessment/ Combined with attendant Assessments
	Practice #1: Basic programming with C#					
7,8,9	A/ Classroom learning content: (3) Lecturer: Guide students to do hands-on exercises in the exercise book. Students do practical assignments assigned according to the lecturer's instructions.	[1] [3]	G2.1 G3.1	3.0 3.0	Raise and solve problems; Practical instructions directly on the projector.	Evaluation of the practical process
	<i>B</i> / <i>Self-study</i> (6) Complete advanced exercises in the practice book.	[1] [3]	G2.1	3.0	Self-study with guidance	Motivational Assessment/ Combined with attendant Assessments
	<b>Chapter 2: Basic programming with C#</b> (Section $2.10 - 2.15$ )					
10, 11, 12	A/ Classroom learning content: (3) - Theoretical teaching content 2.10 Loop 2.11 Jump statement 2.12 Array Structure 2.13 Array types 2.14 System.Array Class 2.15 Troubleshoot exceptions	[1] [3]	G2.1	3.0	Presentation; Raise and solve the problem; Work directly on the projector	Assessment by comments; check the process
	<b>B</b> / Self-study(6) Read syllabuses and references, practice knowledge related to the content learned and the content of the next lesson.	[1] [3]	G2.1	3.0	Self-study with guidance	Motivational Assessment/Co mbined with attendant Assessments
	<b>Practice #2: Basic programming with C#</b> (continue)					
13, 14, 15	<ul> <li>A/ Classroom learning content: (3)</li> <li>- Practical teaching content: Instructors: The instructor does hands-on exercises in the practice exercise book. Students do practical assignments assigned according to the lecturer's instructions.</li> </ul>	[1] [3]	G2.1 G3.1	3.0 3.0	Raise and solve problems; Practical instructions directly on the projector.	Evaluation of the practical process

Period	Contents	References	CLOs	Competency Level	Teaching Methodology	Assessment Methodology
	<b>B</b> / <b>Self-study(6)</b> Students review their class knowledge and do advanced assignments in the exercise book.	[1] [3]	G2.1	3.0	Self-study with guidance	Motivational Assessment/Co mbined with attendant Assessments
	Chapter 3: Object-oriented programming in C #.					
16, 17, 18	<ul> <li>A/ Classroom learning content: (3)</li> <li>3.1 Introduction</li> <li>3.2 Classes and objects</li> <li>3.3 Property</li> <li>3.4 Method</li> <li>3.5 Static Member</li> <li>3.6 Inheritance</li> <li>3.7 Overload and override</li> <li>3.8 Polymorphism</li> </ul>	[1] [4] [6] [7]	G2.2	3.0	Presentation; Raise and solve the problem; Work directly on the projector	Assessment by comments; check the process
	<b>B</b> / <b>Self-study(6)</b> Re-perform the basic operations that have been instructed in class. Apply to do homework in exercise books.	[1] [4] [6] [7]	G2.2	3.0	Self-study with guidance	Motivational Assessment/Co mbined with attendant Assessments
	Practice #3: Object-oriented programming in C#.					
19,20, 21	<ul> <li>A/ Classroom learning content: (3)</li> <li>- Practical teaching content:</li> <li>Lecturers: Guide students to do hands-on exercises in the practice exercise book.</li> <li>Students do practical assignments assigned according to the lecturer's instructions.</li> </ul>	[1] [4] [6] [7]	G2.1 G2.2 G3.1	3.0 3.0 3.0	Raise and solve problems; Practical instructions directly on the projector.	Evaluation of the practical process
	<b>B</b> / <b>Self-study(6)</b> Do advanced part exercises in the exercise book.	[1] [4] [6] [7]	G2.1 G2.2	3.0 3.0	Self-study with guidance	Motivational Assessment/Co mbined with attendant Assessments
	Chapter 4. Advanced programming in C #					
22,23, 24	<ul> <li>A/ Classroom learning content: (3)</li> <li>4.1 Delegate</li> <li>4.2 Multicasting</li> <li>4.3 Event</li> <li>4.4. Generics</li> <li>4.5. Anonymous Method</li> <li>4.6. Lambda Expressions</li> </ul>	[1] [5] [6] [7]	G2.1 G2.2 G2.3	3.0 3.0 3.0	Presentation; Raise and solve the problem; Work directly on the projector	Assessment by comments; check the process
	Periodic Test No.1	[1]	G1.1 G1.2 G2.1 G2.2 G2.3	2.0 2.0 3.0 3.0 3.0 3.0	Written test	Score test assessment.
	<b>B</b> / Self-study(6) Read the syllabus and references to the knowledge related to the content learned and the content of the next lesson. Re-perform the basic operations that have been instructed in class. Apply to do the exercise in the exercise book.	[1] [5] [6] [7]	G2.1 G2.2 G2.3	3.0 3.0 3.0	Self-study with guidance	Motivational Assessment/ Combined with attendant Assessments

Period	Contents	References	CLOs	Competency Level	Teaching Methodology	Assessment Methodology
	<b>Practice #4: Object-oriented programming</b> <b>in</b> C# (continue).					
25,26,	<ul> <li>A/ Classroom learning content: (3)</li> <li>- Practical teaching content: Lecturers: Guide students to do hands-on exercises in the practice exercise book. Students do practical assignments assigned according to the lecturer's instructions.</li> </ul>	[1] [4] [6] [7]	G2.1 G2.2 G2.3 G3.1	3.0 3.0 3.0 3.0	Raise and solve problems; Practical instructions directly on the projector. practice test.	Evaluation of the practical process, Assessment by score
21	- Periodic Test No.2	[1]	G2.1 G2.2 G3.1	3.0 3.0 3.0	Practice test	Assessment by score
	<i>B/ Self-study(6)</i> Complete advanced exercises in the practice book.	[1] [4] [6] [7]	G2.1 G2.2 G2.3	3.0 3.0 3.0	Self-study with guidance	Motivational Assessment/ Combined with attendant Assessments
	<b>Chapter 5. Working with Windows Form</b> (Section 5.1 – 5.3)					
28,29, 30	A/ Classroom learning content: (3) 5.1 Introduction 5.2 Operations with Form 5.3 Common Controls	[1] [2]	G2.4	3.0	Presentation; Raise and solve the problem; Work directly on the projector	Assessment by comments; check the process
	<i>B/ Self-study(6)</i> Read the syllabus and references to the knowledge related to the content learned and the content of the next lesson. Re-perform the basic operations that have been instructed in class. Apply to do homework in exercise books.	[1] [2]	G2.4	3.0	Self-study with guidance	Motivational Assessment/ Combined with attendant Assessments
	Practice #5: Working with Windows Form					
31,32, 33	A/ Classroom learning content: (3) - Practical teaching content: Lecturers: Guide students to do hands-on exercises in the practice exercise book. Students do practical assignments assigned according to the lecturer's instructions.	[1] [2]	G2.1 G2.2 G2.4 G3.1	3.0 3.0 3.0 3.0	Raise and solve problems; Practical instructions directly on the projector.	Evaluation of the practical process
	<b>B</b> / <b>Self-study(6)</b> Complete advanced exercises in the practice book.	[1] [2]	G2.1 G2.2 G2.4	3.0 3.0 3.0	Self-study with guidance	Motivational Assessment/ Combined with attendant Assessments
	<b>Chapter 5 Working with Windows Form</b> (Section $5.4 - 5.6$ )					
34,35, 36	A/ Classroom learning content: (3) 5.4 Form and the expression of the controls 5.5 Common dialog 5.6 Files and folders	[1] [2]	G2.4	3.0	Presentation; Raise and solve the problem; Work directly on the projector	Assessment by comments; check the process
	<i>B/ Self-study(6)</i> Read the syllabus and references to the knowledge related to the content learned and the content of the next lesson. Re-perform the basic operations that have been instructed in class. Apply to do the exercise in the exercise book.	[1] [2]	G2.4	3.0	Self-study with guidance	Motivational Assessment/ Combined with attendant Assessments

Period	Contents	References	CLOs	Competency Level	Teaching Methodology	Assessment Methodology
	<b>Practice #6: Working with windows form</b> (continue)					
37,38, 39	<ul> <li>A/ Classroom learning content: (3)</li> <li>Practical teaching content:</li> <li>Lecturers: Guide students to do hands-on exercises in the practice exercise book.</li> <li>Students do practical assignments assigned according to the lecturer's instructions.</li> </ul>	[1] [2]	G2.1 G2.2 G2.4 G3.1	3.0 3.0 3.0 3.0	Raise and solve problems; Practical instructions directly on the projector.	Evaluation of the practical process
	<b>B/ Self-study(6)</b> Complete advanced exercises in the practice book.	[1] [2]	G2.1 G2.2 G2.4	3.0 3.0 3.0	Self-study with guidance	Motivational Assessment/ Combined with attendant Assessments
	<b>Chapter 6: Program the database with ADO.NET</b> (Section $6.1 - 6.3$ )					
40,41, 42	<ul> <li>A/ Classroom learning content: (3)</li> <li>6.1 Introduction ADO.Net</li> <li>6.2 Overview architecture of ADO.NET</li> <li>6.3 Overview of data processing models in ADO.NET</li> </ul>	[1] [2] [6]	G2.5	3.0	Presentation; Raise and solve the problem; Work directly on the projector	Assessment by comments; check the process
	<b>B</b> / Self-study(6) Read the syllabus and references to the knowledge related to the content learned and the content of the next lesson. Install sql server, re-read the knowledge about database management system	[1] [2] [6]	G2.5	3.0	Self-study with guidance	Motivational Assessment/ Combined with attendant Assessments
	Practice #7: Access data with ado.net					
43,44, 45	<ul> <li>A/ Classroom learning content: (3)</li> <li>Practical teaching content:</li> <li>Lecturers: Guide students to do hands-on exercises in the practice exercise book.</li> <li>Students do practical assignments assigned according to the lecturer's instructions</li> </ul>	[1] [2] [6]	G2.1 G2.2 G2.4 G2.5 G3.1	3.0 3.0 3.0 3.0 3.0 3.0	Raise and solve problems; Practical instructions directly on the projector.	Evaluation of the practical process
	<b>B</b> / <b>Self-study(6).</b> Complete advanced exercises in the practice book.	[1] [2] [6]	G2.1 G2.2 G2.4 G2.5	3.0 3.0 3.0 3.0	Self-study with guidance	Motivational Assessment/ Combined with attendant Assessments
	<b>Chapter 6: Program the database with ADO.NET</b> (Section $6.4 - 6.5$ )					
46,47, 48	A/ Classroom learning content: (3) 6.4 The difference between ADO.NET and ADO 6.5 Database drivers in ADO.NET	[1] [2] [6]	G2.5	3.0	Presentation; Raise and solve the problem; Work directly on the projector	Assessment by comments; check the process
	<b>B</b> / <b>Self-study(6)</b> Read the syllabus and references to the knowledge related to the content learned and the content of the next lesson. Learn more about how to work with data using entity framework	[1] [2] [6]	G2.5	3.0	Self-study with guidance	Motivational Assessment/ Combined with attendant Assessments
49,50, 51	<b>Practice #8: Access data with ado.net</b> (continue)					

Period	Contents	References	CLOs	Competency Level	Teaching Methodology	Assessment Methodology
	A/ Classroom learning content: (3) - Practical teaching content: Lecturers: Guide students to do hands-on exercises in the practice exercise book. Students do practical assignments assigned according to the lecturer's instructions	[1] [2] [6]	G2.1 G2.2 G2.4 G2.5 G3.1	3.0 3.0 3.0 3.0 3.0 3.0	Raise and solve problems; Practical instructions directly on the projector.	Evaluation of the practical process,
	<b>B</b> / <b>Self-study(6)</b> Complete advanced exercises in the practice book.	[1] [2] [6]	G2.1 G2.2 G2.4 G2.5	3.0 3.0 3.0 3.0	Self-study with guidance	Motivational Assessment/ Combined with attendant Assessments
	Chapter 7: Overview of Ling (language integrated auery)					
52,53, 54	<ul> <li>A/ Classroom learning content: (3)</li> <li>7.1. Brief introduction to LINQ</li> <li>7.2. Linq-enabled data sources</li> <li>7.3. LINQ Query</li> <li>7.4. Query Execution</li> <li>7.5. Some operators and methods used in Linq</li> <li>7.6. Linq to Objects</li> <li>7.7. Linq to Sql</li> <li>7.8. Linq to XML</li> </ul>	[1] [6] [7] [8]	G2.3 G2.5	3.0 3.0	Presentation; Raise and solve the problem; Work directly on the projector	Assessment by comments; check the process
	<b>B</b> / <b>Self-study(6)</b> Read the syllabus and references to the knowledge related to the content learned and the content of the next lesson. Re-perform the basic operations that have been instructed in class. Apply to do homework in exercise books.	[1] [6] [7] [8]	G2.3 G2.5	3.0 3.0	Self-study with guidance	Motivational Assessment/Co mbined with attendant Assessments
	Practice #9: Some advanced programming techniques in .net (get acquainted with ling)					
55,56, 57	<ul> <li>A/ Classroom learning content: (3)</li> <li>- Practical teaching content: Lecturers: Guide students to do hands-on exercises in the practice exercise book. Students do practical assignments assigned according to the lecturer's instructions</li> </ul>	[1] [5] [6] [7] [8]	G2.1 G2.2 G2.3 G2.4 G2.5 G3.1	3.0 3.0 3.0 3.0 3.0 3.0 3.0	Raise and solve problems; Practical instructions directly on the projector.	Evaluation of the practical process
	<b>B/ Self-study(6)</b> Complete advanced exercises in the practice book.	[1] [5] [6] [7] [8]	G2.1 G2.2 G2.3 G2.4 G2.5	3.0 3.0 3.0 3.0 3.0 3.0	Self-study with guidance	Motivational Assessment/ Combined with attendant Assessments
	Practice #10: Advanced programming in C# (working with linq)					
58,59, 60	A/ Classroom learning content: (3) - Practical teaching content: Lecturers: Guide students to do hands-on exercises in the practice exercise book. Students do practical assignments assigned according to the lecturer's instructions.		G2.1 G2.2 G2.3 G2.4 G2.5 G3.1	3.0 3.0 3.0 3.0 3.0 3.0 3.0	Raise and solve problems; Practical instructions directly on the projector.	Evaluation of the practical process;
	Periodic Test No.3	[1]	G2.3 G2.4 G2.5 G3.1	3.0 3.0 3.0 3.0	Practice test	Assessment by score
	<ul> <li><i>B</i>/<i>Self-study(6)</i></li> <li>Complete the exercises according to the lecturer's instructions</li> </ul>	[1] [6] [7] [8]	G2.1 G2.2 G2.3 G2.4 G2.5	3.0 3.0 3.0 3.0 3.0 3.0	Self-study with guidance	Motivational Assessment/Co mbined with attendant Assessments

# 11. Student Assessment: 10 Score Scale.

# 11.1 . Test plan:

No.	Content	Time (Period)	CLOs	Proficiency level	Assessment methods	Assessment tools	Weight %				
Attendance											
Regi	ılar Test Score						30				
1	Chapter 1+2+3+4	24	G1.1 G1.2 G2.1 G2.2 G2.3	2.0 2.0 3.0 3.0 3.0 3.0	Written	Periodic Test No.1	10				
2	Chapter 2 +3	27	G2.1 G2.2 G3.1	3.0 3.0 3.0	Practice and Answer question	Periodic Test No.2	10				
3	Chapter 4+5+6+7	60	G2.3 G2.4 G2.5 G3.1	3.0 3.0 3.0 3.0	Practice and Answer question	Periodic Test No.3	10				
Fina	l exam						60				
	Chapter 1-7		G1.1 G1.2 G2.1 G2.2 G2.3 G2.4 G2.5 G3.1	2.0 2.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Practice and Answer question	Final Examination	60				

	Contents							Test Method			
CLOs	Periods 1-3	Periods 4-15	Periods 16-27	Periods 28-39	Periods 40-51	Periods 52-60	Written Assessment I	Practice and Anser question II	Practice and Anser question III	End of Course exam	
G1.1	Х						Х			х	
G1.2	Х						Х			Х	
G2.1		Х	Х	Х	Х	Х	Х	Х		х	
G2.2			Х	Х	Х	Х	Х	Х		х	
G2.3			Х			х	х		х	х	
G2.4				х	Х	Х			Х	х	
G2.5					Х	Х			Х	х	
G3.1		х	Х	х	х	Х		Х	Х	х	

### **11.2 Assessment Rubrics**

*	Rubric	1:	Attendance
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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)
Level of		Full	Absent from	Absent from	Absent from	Missing 20%
participation	70	attendance	1-9% of the	10-15% of	16-20% of	of periods
in classes.			periods	the periods	the periods	(banned)
		Actively	Quite actively	Less actively	The teacher's	Only attend
		participate in	participate in	participating	influence is	classes but do not
Activeness		questions,	asking	in asking	required to	actively
in lessons,	30	discussions,	questions,	questions,	ask	participate in
self-study		Complete	discussing,	discussing,	questions,	asking questions,
		practice	doing	doing	discuss, and	discussing, doing
		exercises	homework	homework.	do exercises.	homework

\* **Rubric 2: Periodic Test No.1** (Allotted time: 1 period; Form: Written; Total of questions: 03; Score Scale: 10)

Evaluation criteria			Quality Level Description						
Question	CLOC	Weight (%)	Very Good	Good	Average	Below Average	Poor		
Question	CLOS		(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	40	Beautiful and clear presentation. Content that solves 90- 100% of the requirements	Clearly presented. Content that addresses 70 to less than 90% of the requirements	The presentation is relatively clear. Content that addresses between 50 and less than 70% of the requirements	The presentation is not clear. Content that addresses between 40 and less than 50% of the requirements	The presentation is not clear. Content that resolves less than 40% of the requirements		
2	G2.1 G2.2	30	Beautiful and clear presentation. Content that solves 90- 100% of the requirements	Clearly presented. Content that addresses 70 to less than 90% of the requirements	The presentation is relatively clear. Content that addresses between 50 and less than 70% of the requirements	The presentation is not clear. Content that addresses between 40 and less than 50% of the requirements	The presentation is not clear. Content that resolves less than 40% of the requirements		
3	G2.3	30	Beautiful and clear presentation. Content that solves 90- 100% of the requirements	Clearly presented. Content that addresses 70 to less than 90% of the requirements	The presentation is relatively clear. Content that addresses between 50 and less than 70% of the requirements	The presentation is not clear. Content that addresses between 40 and less than 50% of the requirements	The presentation is not clear. Content that resolves less than 40% of the requirements		

\* **Rubric 3: Periodic Test No.2** (Alloted time: 1 period; Form: Practice (Q&A with Computer); Total of Questions: 03; Score Scale: 10)

Evaluation criteria			Quality Level Description						
Question	CLOs	Weight	Very Good	Good	Average	Below Average	Poor		
Question	CLOS	(70)	(8,5-10 point)	(7,0-8,4 point)	(5,5-6,9 point)	(4,0-5,4 point)	(0-3.9 point)		
1	G2.1	40	Good programming thinking, clear code presentation. Solve 90- 100% of the requirements	Present the code clearly. Solve 70 to less than 90% of the requirements	Present the code clearly. Solve 50 to less than 70% of the requirements	Present the code clearly. Solve 40 to less than 50% of the requirements	The presentation is not clear. Resolve less than 40% of the requirements		
2	G2.2	40	Good programming thinking, clear code presentation. Solve 90- 100% of the requirements	Present the code clearly. Solve 70 to less than 90% of the requirements	Present the code clearly. Solve 50 to less than 70% of the requirements	Present the code clearly. Solve 40 to less than 50% of the requirements	The presentation is not clear. Resolve less than 40% of the requirements		
3 (Examiner's questions)	G3.1	20	Answer 90- 100% of the teacher's requirements	Answer 70 to less than 90% of the teacher's requirements	Answer 50 to less than 70% of the teacher's requirements	Answer 40 to less than 50% of the teacher's requirements	Answer less than 40% of the teacher's requirements		

\* **Rubric 4: Periodic Test No.3** (Alloted time: 1 period; Form: Practice (Q&A with Computer); Total of Questions: 03; Score Scale: 10)

Evaluation criteria			Quality Level Description						
Orregtion	CT O	Weight	Very Good	Good	Average	Below Average	Poor		
Question	CLOs	(70)	(8,5-10 point)	( 7,0-8,4 point)	(5,5-6,9 point)	(4,0-5,4 point)	(0-3.9 point)		
1	G2.4	30	Good programming thinking, clear code presentation. Solve 90- 100% of the requirements	Present the code clearly. Solve 70 to less than 90% of the requirements	Present the code clearly. Solve 50 to less than 70% of the requirements	Present the code clearly. Solve 40 to less than 50% of the requirements	The presentation is not clear. Resolve less than 40% of the requirements		
2	G2.5 G2.3	50	Good programming thinking, clear code presentation. Solve 90-100% of the requirements	Present the code clearly. Solve 70 to less than 90% of the requirements	Present the code clearly. Solve 50 to less than 70% of the requirements	Present the code clearly. Solve 40 to less than 50% of the requirements	The presentation is not clear. Resolve less than 40% of the requirements		
3 (Examiner's questions)	G3.1	20	Answer 90- 100% of the teacher's requirements	Answer 70 to less than 90% of the teacher's requirements	Answer 50 to less than 70% of the teacher's requirements	Answer 40 to less than 50% of the teacher's requirements	Answer less than 40% of the teacher's requirements		

\* **Rubric 5:** Final Examination (Allotted time: 60 minutes; Form: Practice (Q&A with Computer); Total of Questions: 03, Score Scale: 10)

Evaluation criteria				Quality Level Description					
		Weight	Very Good	Good	Average	Below Average	Poor		
Question	CLOs	(%)	(8,5-10 point)	( 7,0-8,4 point)	(5,5-6,9 point)	(4,0-5,4 point)	(0-3.9 point)		
1	G2.1 G2.2	30	Good programmin g thinking, clear code presentation. Solve 90- 100% of the requirements	Present the code clearly. Solve 70 to less than 90% of the requirements	Present the code clearly. Solve 50 to less than 70% of the requirements	Present the code clearly. Solve 40 to less than 50% of the requirements	The presentation is not clear. Resolve less than 40% of the requirements		
2	G2.3 G2.4 G2.5	50	Good programmin g thinking, clear code presentation. Solve 90- 100% of the requirements	Present the code clearly. Solve 70 to less than 90% of the requirements	Present the code clearly. Solve 50 to less than 70% of the requirements	Present the code clearly. Solve 40 to less than 50% of the requirements	The presentation is not clear. Resolve less than 40% of the requirements		
3	G1.1 G1.2 G3.1	20	Answer 90- 100% of the teacher's requirements	Answer 70 to less than 90% of the teacher's requirements	Answer 50 to less than 70% of the teacher's requirements	Answer 40 to less than 50% of the teacher's requirements	Answer less than 40% of the teacher's requirements		

### 12. Reading List

### A. Main Syllabus

[1]. Faculty of Information Technology - University of Information and Communication Technology, Lecture on DotNET Technology, 2019, Internal circulation.

[2]. Nguyen Ngoc Binh Phuong, Thai Thanh Phong, C# programming solutions, Transport Publisher, 2006

### **B.** References

[3]. Pham Huu Khang, Dao Thien Ngan, "- C# Complete Collection - Book 1 Basic Programming", Labor - Society Publishing House, 2005.

[4]. Pham Huu Khang, Tran Tien Dung, "Complete C# - Book 3 Object Oriented Programming", Labor - Society Publishing House, 2005.

[5]. Jeffrey\_Richter, "CLR via C#, Fourth Edition, Microsoft prepress, 2012

[6]. Andrew Troeles, Philip japikse, "C# 6.0 and the .NET 4.6 Framework", apress, 2015

[7]. Jay Hilyard & Stephen Teihet, C# 6.0 Cookbook, O'Reilly ,2015

[8] Adam Freeman and Joseph C. Rattz, Jr: "Pro LINQ language Integrated Query in C# 2010", Adam Freeman and Joseph C. Rattz, Jr, 2010

## C. Software

Visual Studio software, Sql server from version 2019 and above.

# **13. First approval date:** September 5<sup>th</sup>, 2021

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

Communication Technology

Rector

Dean



Vice Head of Department

PhD. Do Dinh Cuong Ph

PhD. Nguyen Hai Minh MS

MSc. Nguyen Hong Tan

Composer Team MSc. Vo Van Truong: MSc. Bui Anh Tu: MSc.Tra Hai Thanh: PhD. Nguyen The Vinh: MSc. Nguyen Thi Dung: MSc. Nguyễn Thị Tính: A