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: Công nghệ Dot NET

English Course Title: .NET technology.

Course Code: DOT331

Major: Information Technology; Software Engineering.

Version: 2017

1. General Information

- Number of credits: 3 (Theory: 2; Practice: 1)
- Types of knowledge:

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

- Required courses : Object Oriented Programming
- Pre-requisite: Introduction to programming, Database
- Co-requisite: Database Management System, Advanced Java Programming, Software Architecture and Design.
- Facility Requirements: Classrooms with projectors.
- Practice Room: installed Visual Studio, Sql server from version 2017 and above.
- Departments in Charge: Faculty Information Technology

2. Time Allocated

Total: 60 periods	Theory: 29 periods
	Discussion/ Group Presentation: 0
	Assignment/ Essay/ Practice: 28 periods.
	Tests: 03 *+ Theory: Number of Tests:01 Periods:01* *+Practice: Number of Tests:02 Periods:02*
Self-Study: 90 periods. Other activities (visiting, surveying, outdoor activities, organizing events, clubs): 0 periods (or sessions)	

3. Lecturer's Information

No.	Lecturer name	Phone number	Email	Note
1	MSc. Vo Van 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

4. Objectives

- Knowledge: The subject provides students with basic knowledge about .NET platform technology, C# programming language, programming-related issues, Windows-based application development and .NET environment. The subject provides students with some techniques to solve real-world problems in software development and construction, using programming tools.

- Skills: After finishing the course, students have programming skills on .NET (C# language), understand the core issues and be able to apply knowledge to create software applications using . NET. Students have skills in using programming tools to create software, have the ability to communicate, present ideas, report, and critique in the implementation and deployment of software systems.

- Attitude: Consciously apply learning content to life in general and professional life in particular

- Position of the course: The course belongs to the major core courses, which is compulsory.

The course contributes to meeting the L5, L8, L14 learning outcomes of the training program.

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	Understand general knowledge of .Net technology, Architecture, compilation mechanism, library of .Net and principles of application development in .Net technology.	2	2	L5
C2	Apply knowledge, have basic programming ability with the syntax and libraries of C# programming language in .Net;	3	3	L8
C3	Applying knowledge, capable of Object-Oriented Programming in .Net (using C# programming language)	3	3	L8
C4	Apply advanced programming techniques on the .Net platform (using C# language)	3	3	L8
C5	Apply knowledge and skills in application programming using .NET platform; Some models, programming design patterns in .Net technology	3	3	L8
C6	Apply knowledge of methods accessing and processing data in .Net technology	3	3	L8

Notation CLOs	Contents	Level		PLOs
		Knoweldge	Skills	
C7	Apply communication skills in presenting ideas, giving presentations, giving criticism in the implementation and deployment of software systems	3	3	L14

6. Reading List

- Main Syllabus:

[1] Faculty of Information Technology - University of Information and communication technology, *.NET Technology lectures*, 2019, Internal circulation.

[2] Nguyen Ngoc Binh Phuong, Thai Thanh Phong, "*C# programming solutions*",Transport publishing, 2006

- References:

[3] Pham Huu Khang, Dao Thien Ngan, "*C# Complete book - Volume 1 Basic Programming*", Labour and social publisher company limited, 2005

[4] Pham Huu Khang, Tran Tien Dung, "*C# Complete book - Volume 3 object-oriented programming",* Labour and social publisher company limited, 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

7. Score Assessment

- Score Scale: 10.
- Components Assessment:

Evaluation Time	Components Assessment	Learning Outcomes	Factor	Score	Weight
During the duration of the course	Attendance: (score b_0)		1	d=($b_0+b_1+b_2+b_3$)/4	40%
According to the teaching plan in section 9	Test No.1: (score b_1)	C1, C2, C3, C4	1		
	Test No.2: (score b_2)	C2, C3, C7	1		
	Test No.*3*: (score b_3)	C4, C5, C6, C7	1		
The end of the term.	Final exam	C1, C2, C3, C4, C5, C6, C7		e	60%
Final Score: (f)				f = d ×40% + e ×60%	

- Final exam: *Practice*

8. Regulations for students

8.1. Student's duties

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

8.2. Regulations on Exams and Academic Studies

- Students must attend classes, ensuring at least 80% of classroom 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 (theory)	**Chapter 1: Overview of the .NET foundation** 1.1 Overview of the .NET Framework architecture 1.2 Common Language Runtime Environment 1.3 Explore .Net Base class 1.4 C# programming language	Presentation; Raise and solve problems	C1	[1] 11-21 [2] 15-136 [4] chapter 1-3 [5] chapter 1-4
2.	3 (theory)	**Chapter 2: Basic programming with C#** *(Section 2.1 – 2.9)* 2.1 Variables and data types in C # 2.2 Comments in C # 2.3 Constant 2.4 Expressions 2.5 Operators 2.6 Boxing and Unboxing Issues 2.7 Basic import and export method 2.8 Definition of Commands and Command Blocks 2.9 Selection Structure	Presentation; Raise and solve problems; Direct operation on the projector	C2	[1] 25-47 [2] 137-210; 281-285
3.	3 (practice)	Practice #1: Basic programming with C#	Raise and solve the problem; Direct practice instructions on the machine.	C2, C7	[1] 25-47 [2] 137-210; 281-285
4.	3 (theory)	**Chapter 2: Basic programming with C#** *(Section 2.10 – 2.15)* 2.10 Loop 2.11 Jump statement 2.12 Array Structure 2.13 Array types 2.14 System.Array class 2.15 Troubleshoot exceptions	Presentation; Raise and solve the problem; Work directly on the projector	C2	[1] 55-78 [2] 211-236; 289-356
5.	3 (practice)	Practice #2: Basic programming with C# (Next)	Raise and solve the problem; Direct practice guide on the machine.	C2, C7	[1] 55-78 [2] 211-236; 289-356
6.	3 (theory)	**Chapter 3: Object_Oriented programming in C#** *(Section 3.1 – 3.7)* 3.1 Introduction 3.2 Classes and objects	Presentation; Raise and solve the problem; Work directly on the projector	C3	[1] 80-104 [3] 11-196 [5] Section 3-from Chapter 5-8 [6] 1-78

No.	Period	Contents	Teaching Methodology	CLOs	References
		3.3 Property 3.4 Method 3.5 Static Member 3.6 Inheritance 3.7 Overload and override 3.8 Polymorphism			
7.	3 (practice)	Practice #3: Object-oriented programming in C #	Raise and solve the problem; Direct practice instructions on the machine.	C3, C7	[1] 80-104 [3] 11-196 [5] Part 3- from Chapter 5-8 [6] 1-78
8.	3 (theory)	**Chapter 4: Advanced programming in C#** *(Section 4.1 – 4.6)* 4.1 Delegate 4.2 Multicasting 4.3 Event 4.4. Generics 4.5. Anonymous Method 4.6. Lambda Expressions	Presentation; Raise and solve the problem; Work directly on the projector	C4	[1] 107-148 [4] Part 2 - chapter 11,12 Part 3 chapter 17 [5] Part 4 from chapter 9-12 [6] 83-109
		Test No. 1 (Written)	Test the theory	C1, C2, C3, C4	
9.	3 (practice)	Practice #4: Object-oriented programming in C# (next)	Raise and solve the problem; Direct practice instructions on the machine.	C3, C7	[1] 80-104 [3] 11-196 [5] Part 3- from Chapter 5-8 [6] 1-78
		Test No. 2 (Question/Answer with Computer)	Practice test	C2, C3, C7	
10.	3 (theory),	**Chapter 5: Working with Windows Form** *(Section 5.1 – 5.3)* 5.1 Introduction 5.2 Operations with Form 5.3 Common Controls	Presentation; Raise and solve the problem; Work directly on the projector	C5	[1] 151-176
11.	3 (practice)	Practice #5: Working with windows form	Raise and solve the problem; Direct practice instructions on the machine.	C5, C7	[1] 151-176
12.	3 (theory)	**Chapter 5: Working with Windows Form** *(Section 5.4 – 5.6)* 5.4 Form and the expression of the controls 5.5 Common dialog 5.6 Files and folders	Presentation; Raise and solve the problem; Work directly on the projector	C5	[1] 177-197
13.	3 (practice)	Practice #6: Working with windows form (continue)	Raise and solve the problem; Direct practice instructions on the machine.	C5, C7	[1] 177-197
14.	3 (theory)	**Chapter 6: Program the Database with ADO.net** *(Section 6.1 - 6.3)* 6.1 Introduction to ADO.Net 6.2 Overview architecture of ADO.NET 6.3 Overview of data processing models in ADO.NET	Presentation; Raise and solve the problem; Work directly on the projector	C6	[1] 199-204 [5] Part 4 – chapters 21,22
15.	3 (practice)	Practice #7: Access data with ado.net	Raise and solve the problem; Direct practice	C5, C6, C7	[1] 199-204 [5] Part 4 –

No.	Period	Contents	Teaching Methodology	CLOs	References
			instructions on the machine.		chapters 21,22
16.	3 (theory)	**Chapter 6: Program the Database with ADO.net** (*Section 6.4 to 6.5)* 6.4 The difference between ADO.NET and ADO 6.5 Database drivers in ADO.NET	Presentation; Raise and solve the problem; Work directly on the projector	C6	[1] 202-236 [5] Part 4 – chapters 21,22
17.	3 (practice)	Practice #8: Access data with ado.net (continue)	Raise and solve the problem; Direct practice instructions on the machine.	C5, C6, C7	[1] 202-236 [5] Part 4 – chapters 21,22
18.	3 (theory)	**Chapter 7: LINQ Overview (language integrated query)** 7.1. Brief introduction to LINQ 7.2. Linq-enabled data sources 7.3. LINQ Query 7.4. Query Execution 7.5. Some operators and methods used in Linq 7.6. Linq to Objects 7.7. Linq to Sql 7.8. Linq to XML	Presentation; Raise and solve the problem; Work directly on the projector	C4, C6	[1] 239-266 [5] Part 4 – chapters 24 [6] 465-506 [7] 55-653
19.	3 (practice)	Practice #9: Some advanced programming techniques in .net (get acquainted with linq)	Raise and solve the problem; Direct practice instructions on the machine.	C4, C5, C6, C7	[1] 107-148; 239 - 266 [4] Part 2 -chapter 11,12; Part 3 chapter 17 [5] Part 4 from chapter 9-12 [6] 83-109 [7] 55-151
20.	3 (practice)	Practice #10: Advanced programming in c# (working with linq)	Raise and solve the problem; Direct practice instructions on the machine.	C4, C5, C6, C7	[1] 239-266 [5] Part 4 – chapters 24 [6] 465-506 [7] 55-653
		Test No. 3 (Question/Answer with Computer)	Practice test	C4, C5, C6, C7	

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

October 05th, 2017

Vice Rector	Dean	Head of Department	Composer Team
PhD. Do Dinh Cuong	PhD. Nguyễn Hải Minh	MSc. Nguyễn Hồng Tân	MSc. Vo Van Truong: MSc. Bui Anh Tu: MSc. Tran Hai Thanh: MSc. Nguyen Thi Dung:

11. Updated Procedure

1st update:
20/08/2018.

Updater

Vo Van Truong