

**Teaching Outline of
Advanced Delphi Programming
Technology
(English Version)**

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Teaching Outline of

《Advanced Delphi Programming Technology》

1. Character and task of the course

Character:

Delphi is a component-based application development environment supporting rapid development of highly efficient Microsoft Windows-based applications with a minimum of coding. Many of the traditional requirements of programming for Windows are handled for you within the Delphi class library, shielding you from complicated or merely repetitive programming tasks.

Delphi provides design tools such as application and form templates, so you can quickly create and test your application prototype. Then, by using Delphi's rich component set and intuitive code generation, you can turn your prototypes into robust applications that fit your business needs.

Delphi's database tools enable you to develop powerful desktop database and client/server applications and reports. You can view "live" data at design time, so you know immediately whether your query results are what you want.

Task:

Through the teaching of the course, we aim to teach the students to master a useful application develop software, and be able to develop simple applications.

2. Basic requirement of the course

1) Requirement for the cultivation of ability

In the teaching of the course, we pay attention to cultivate the ability of the operation, requiring the students do exercises in Delphi 7.0 after school, so that they can make the Delphi programming theory to the development of application.

2) Emphases and difficulty of the course

Emphases of the course are:

- Creating and managing projects
- Creating forms and managing units
- Working with components, properties, and events
- Writing simple Object Pascal source code
- Object Oriented Programming
- Writing Database Components

Difficulties of the course are:

- Using Delphi advanced VCL Controls
- Using Delphi Database Components
- Writing Procedures and Functions
- Creating MDI Applications

Working with ADO
 Using SQL in applications
 Client/server application

3) Prepared course and basic requirement

Prepared courses include computer application basis and C language knowledge.

Basic requirement of prepared course:

The students need to master the basic computer application techniques and C computer language.

3. Content of the course

1) Basic content for teaching

- Chapter 1 - Delphi 7 and Its IDE
- Chapter 2 - The Delphi Programming Language
- Chapter 3 - Pascal Language Statements
- Chapter 4 - User-Defined Data Types
- Chapter 5 - Statements
- Chapter 6 - Procedures and Functions
- Chapter 7 - Visual Controls
- Chapter 8 - Building the User Interface
- Chapter 9 - Working with Forms
- Chapter 10 - Delphi's Database Application Development
- Chapter 11 - Building a sample database application: MASTAPP
- Chapter 12 - Using data access components and tools
- Chapter 13 - Using Data controls
- Chapter 14 - Using SQL in applications
- Chapter 15 - Working with ADO
- Chapter 16 - Reporting with Rave
- Chapter 17 - Building a client/server application

2) Exercises after school

According to the teaching contents of each chapter, assign some exercises and quizzes, requiring accomplish independently.

3) Experiment courses

This course has 16 periods experiments on computer.

4. Explanation for the use of this outline

1) Table of period assignment

Curricular contents (Chapter order and its Name)	Number of periods		
	Whole periods	teach	experiments
Chapter 1 - Delphi 7 and Its IDE	2	2	
Chapter 2 - The Delphi Programming Language	2	2	
Chapter 3 - Pascal Language Statements	2	2	
Chapter 4 - User-Defined Data Types s	2	2	

Chapter 5 - Statements	4	2	2
Chapter 6 - Procedures and Functions	4	2	2
Chapter 7 - Visual Controls	2	2	
Chapter 8 - Building the User Interface	4	2	2
Chapter 9 - Working with Forms	2	2	
Chapter 10 - Delphi's Database Application Development	4	2	2
Chapter 11 - Building a sample database application: MASTAPP	4	2	2
Chapter 12 - Using data access components and tools	2	2	
Chapter 13 - Using Data controls	4	2	2
Chapter 14 - Using SQL in applications	4	2	2
Chapter 15 - Working with ADO	4	2	2
Chapter 16 - Reporting with Rave	2	2	
Chapter 17 - Building a client/server application	2	2	

2) Clue of teaching method

Bilingual and Multimedia teaching

3) Examination method

Written examination (70%) and experiment on computer examination (30%)

5. Teaching material and main reference book of the course

Teaching material: Delphi Advanced Programming Technology, Sun Zhaoyun , Chang'an University. 2010.

Main reference book:

[1] Mastering Delphi 7.0, Marco Cantu, Beijing: Publishing House of Electronic Industry, 2003.

[2] Borland Delphi 7, Thomas Kowalski, Germany: Hanser Fachbuchverlag, 2007.

[3] Essential Pascal, Marco Cantu's, 2003

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