长安大学

Lesson Plan of Department of Electrical Engineering

Topic	1：Basic programming				
Designed for	Electrical Engineering	Class hours	2	Members of each group	1
Attribute	Professional	Property	Undergraduates	Course type	Verifying
Sequence	4	Week No.	4	Location	Computer experimental teaching centre
Content	a) Rank three randomly input numbers in ascending order b) Determine if the given year is leap year; Find out what season is and how many days of that month for the given month.				
Requirements	a) Master the naming rules of Object Pascal identifier; b) Master the usage of Object Pascal language standard data type; c) Master the identification and rules of constant and variable in Object Pascal Language; d) Master the usage of operator and expression in Object Pascal Language; e) Maser the conception and identification of class and object; f) Be able to code simple object-oriented programs.				
Key point	Identification and rules of constant and variable in Object Pascal Language; Conception and identification of class and object.				
Procedure	As the reference				
Instrument	Computers with Delphi7.0 enterprise.				
Reference	Experiment instruction book of advanced computer programming				

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Topic	2 Data access control components				
Designed for	Electrical Engineering	Class hours	2	Members of each group	1
Attribute	Professional	Property	Undergraduates	Course type	Synthetic
Sequence	7	Week No.	7	Location	Computer experimental teaching centre
Content	Design an Access database management program with ADO, the program should be able to browse, update, add, and delete records.				
Requirements	a) Understand the function of data access control components; b) Master the usage of TTable, TQuery, TDataSource and Tdatabase; c) Master the usage of dbGo ; d) be able to connect different types of database with data access control components.				
Key point	b) Master the usage of TTable, TQuery, TDataSource and Tdatabase c) Master the usage of dbGo				
Procedure	As the reference				
Instrument	Computers with Delphi7.0 enterprise.				
Reference	Experiment instruction book of advanced computer programming				

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Topic	3 Data control components				
Designed for	Electrical engineering	Class hours	2	Members of each group	1
Attribute	Professional	Property	Undergraduates	Course type	Verifying
Sequence	9	Week No.	9	Location	Computer experimental teaching centre
Content	Design a data browse program with BIOLIFE.DB from database DBDEMOS				
Requirements	a) Master the function and usage of Delphi data control components; b) Be able to program simple database application with Delphi data control components.				
Key point	a) Master the function and usage of Delphi data control components; b) Be able to program simple database application with Delphi data control components.				
Procedure	As the reference				
Instrument	Computers with Delphi7.0 enterprise.				
Reference	Experiment instruction book of advanced computer programming				

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Topic	4 Usage of basic control components				
Designed for	Electrical engineering	Class hours	2	Members of each group	1
Attribute	Professional	Property	Undergraduates	Course type	Synthetic
Sequence	10	Week No.	12	Location	Computer experimental teaching centre
Content	Program to realize animation of track bar and progress bar. Clients could drag the cursor on the track bar to change radius of circle in drawing area (current position as the radius). Percentage of current radius compared with the maximum will be shown by ProgressBar.				
Requirements	a) Master property and usage of windows object; b) Master usage of common used control components; c) Be able to program simple application with object and control components based on windows.				
Key point	a) Property and usage of windows object; b) Usage of common used control components;				
Procedure	As the reference				
Instrument	Computers with Delphi7.0 enterprise.				
Reference	Experiment instruction book of advanced computer programming				

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Topic	5 Maintain data with windows				
Designed for	Electrical engineering	Class hours	2	Members of each group	1
Attribute	Professional	Property	Undergraduates	Course type	Synthetic
Sequence	12	Week No.	14	Location	Computer experimental teaching centre
Content	Realize a program which maintains database based on Emplyee.db. The program should be functional at record inquiry, insert and removing.				
Requirements	a) Master the realization of ranking, inquiry and update; b) Master the usage of field object; c) Be able to program comprehensive database application.				
Key point	a) Realization of ranking, inquiry and update; b) Usage of field object;				
Procedure	As the reference				
Instrument	Computers with Delphi7.0 enterprise.				
Reference	Experiment instruction book of advanced computer programming				

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Topic	6 Menu Designing				
Designed for	Electrical engineering	Class hours	2	Members of each group	1
Attribute	Professional	Property	Undergraduates	Course type	Designing
Sequence	13	Week No.	15	Location	Computer experimental teaching centre
Content	Realize an ordering menu. The ordering as well as discount dishes ordering function could be implemented by main menu or tool bar. There is status bar at the bottom of the window, which shows instruction of corresponding dish and total price of current ordering.				
Requirements	a) Understand the structure and function of menu; b) Master menu designing and operation; c) Master the usage and designing of multi – tab; d) Be able to design comprehensive program with menu.				
Key point	a) Menu designing and operation; b) Usage and designing of multi – tab.				
Procedure	As the reference				
Instrument	Computers with Delphi7.0 enterprise.				
Reference	Experiment instruction book of advanced computer programming				

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Topic	7 Multi-tab object				
Designed for	Electrical engineering	Class hours	2	Members of each group	1
Attribute	Professional	Property	Undergraduates	Course type	Designing
Sequence	15	Week No.	17	Location	Computer experimental teaching centre
Content	Realize editor in multi tab text style. There are two tabs: font and color.				
Requirements	a) Master usage and designing of multi tab; b) Be able to design comprehensive program with multi tab.				
Key point	Usage and designing of multi tab				
Procedure	As the reference				
Instrument	Computers with Delphi7.0 enterprise.				
Reference	Experiment instruction book of advanced computer programming				

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Topic	实验八：使用 SQL 结构化查询设计程序				
Designed for	Electrical engineering	Class hours	2	Members of each group	1
Attribute	Professional	Property	Undergraduates	Course type	Verifying
Sequence	18	Week No.	20	Location	Computer experimental teaching centre
Content	Realize an application of SQL inquiry with Query components.				
Requirements	a) Be ffamiliar with SQL (Structured Query Language), understand the characteristics of the language; b) Master data definition, update and inquiry of SQL; c) Be able to create, maintain and inquire database and table with SQL commands.				
Key point	a) SQL (Structured Query Language) b) definition, update and inquiry of SQL				
Procedure	As the reference				
Instrument	Computers with Delphi7.0 enterprise.				
Reference	Experiment instruction book of advanced computer programming				