



EASTERN MEDITERRANEAN UNIVERSITY
SCHOOL OF COMPUTING AND TECHNOLOGY
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE POLICY SHEET



Course Title	Rapid Application Development
Course Code	ITEC319
Type	Full Time
Semester	Fall/Spring
Category	AE (Area Elective)
Workload	180 Hours
EMU Credit	(3,1,0) 3
Prerequisite	-
Language	English
Level	Fourth Year
Teaching Format	3 Hours Lecture, 1 Hour Lab Per Week
ECTS Credit	6
Course Web Site	staff.emu.edu.tr/cihanunal

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Course Description

This course presents the various methods of rapid development that can be applied to generate requirements, validate a solution, or even create a new operational system. The course provides study of Delphi programming language; key properties, methods and events of Delphi forms and menu definitions in Delphi Integrated Development Environment (IDE). Checking errors with exception handling and database applications are also considered within the scope of this course.

General Learning Outcomes

On successful completion of this course students should be able to:

- Define the concept of rapid development,
- Develop knowledge and understanding of the concept of data,
- Identify various methods of prototyping requirements and software,
- Describe fundamental concepts and issues involved in rapid application development,
- Identify the basic services provided by Delphi programming language,
- Comprehend real life projects in Computer Science field,
- Understand and overcome the problems related with desktop applications,
- Understand the needs of Industry,
- Be aware with current research issues and projects in IT sector.

Teaching Methodology / Classroom Procedures

- The course has three lecture sessions and one laboratory session.
- Laboratory sessions are organized for practicing the theoretical knowledge obtained in the lecture hours.
- Lecture notes and the lab materials are available on the course web site.
- There is no midterm exam.
- There is a final exam which includes all the chapters.
- The final exam is practical.
- There is one term project.
- The project should be submitted on a CD.
- The project is assigned to the students in the second week of the semester.
- Laboratory works are graded.

- There is no need to take plagiarism test for the course.
- Class attendance is compulsory.
- Students are responsible to check the course web site regularly and view the latest announcements.

Course Materials / Main References

Text Book:

Bob Swart. Delphi XE3 Starter Essentials. Bob Swart Training & Consultancy; 2012.

Weekly Schedule / Summary of Topics

Week 1	Getting started with Delphi: About Delphi, introduction to Pascal, Rapid Application Development, Integrated Development Environment, User interface, Creating the first program, Modifying and Saving the files, File types, Anatomy of the Delphi units.
Week 2	More on Delphi: Comments in Delphi, Variables in Delphi, Assignment operator in Delphi, Basics about data types, Operators in Delphi, Additional Keywords in Delphi.
Week 3	Arrays and Strings in Delphi: Arrays, Multidimensional arrays, Constant arrays, Dynamic arrays, Two-dimensional dynamic arrays, Strings, Short string, Long string, Comparison operators, Functions for string operations.
Week 4	Conditional Statements and Loops in Delphi: If-Then-Else statement, Begin and End keywords, nested If statements, Parenthesis for the conditional expressions, Case statement, Loops, For loop, Downto keyword, While loop, Repeat loop, Goto statement, Label keyword, Break and Continue procedures.
Week 5	Records and Subroutines in Delphi: Record keyword, Dot operator, With statement, Array of record, Functions, Procedures, Method, Parameter, Declaration, Definition, Interface section, Implementation section, Result as local variable, Types of calling function.
Week 6	Sending Parameters to Subroutines and Method Overloading in Delphi: Value parameters, Constant parameters, Reference parameters, Var keyword, Default parameters, Local subroutines, Method overloading, Overload keyword.
Week 7	Exploring Forms in Delphi: .dfm files, .pas files, Tool palette, Using multiple components, Working with multiple forms, Showmodal method, Show method, Dialog boxes, Creating single document interface (SDI) application, Creating multiple document interface (MDI) application, Working with FormStyle property for MDI, ActiveControl property, AutoScroll property, BorderIcons property, BorderStyle property, ClientWidth and ClientHeight properties, Constraints property, Font property, FormStyle property, Icon property, KeyPreview property, Position property, Visible property, WindowState property, ActiveMDIChild property, ClientRect property, Owner property.
Week 8-9	Midterm Examinations
Week 10	Exploring Forms in Delphi (Continue): BringToFront method, Close method, Print method, SetFocus method, Showmodal and Show methods, OnCreate event, OnActivate event, OnClose event, OnDestroy event, OnDragDrop event, OnMouseDown, OnMouseMove and OnMouseUp events, OnResize event, OnShow event.
Week 11	Exploring Components and the Sender Parameter in Delphi: Visual components, Non-visual components, sensitive movements and sensitive size changes of components, Sender parameter, Left and Top properties, Color property, Enabled property, Hint property, events and methods.
Week 12	Creating Menus and Working with Files in Delphi: MainMenu component, Caption property in the Object Inspector, Creating submenu, PopupMenu component, Working with textfile, Working with typed files, Working with untyped files, Reset, Rewrite, Append, FilePos and FileSize procedures, Read and Write procedures, BlockRead and BlockWrite procedures, AssignFile procedure, CloseFile procedure and the other file routines.
Week 13	Exception Handling in Delphi: Default error message for an unhandled exception, Types of exceptions, Try, Except, Finally and Raise keywords, Try and Except statements.
Week 14	Database Components and Operations in Delphi: Local database, MS Access, Client/server database, Borland Database Engine (BDE), Nonvisual data access components, Visual data-aware components, Grid format, Dataset, Filtering a table, Logical operators.

Week 15	Database Components and Operations in Delphi (Continue): Finding records in tables, Locate and Lookup methods, Accessing fields in tables, Retrieve and Set fields in tables, Adding records to tables, Append method, Editing records in tables, Query component, Executing SQL Statements.
Week 16-18	Final Examinations

Requirements	
<ul style="list-style-type: none"> ▪ One who misses an exam should provide a medical report or a valid excuse within 3 days after the missed exam. ▪ The make-up exam is done at the end of the term and covers all the topics. ▪ There is no make-up for the laboratory works. ▪ Students who fail to attend the lectures regularly may be given NG grade. ▪ Once the grades are announced, the students have only one week to do objection about their grades. ▪ It is the students' responsibility to follow the announcement in the course web site. 	

Method of Assessment			
Evaluation and Grading	Term Project	Lab Works	Final Exam
Percentage	30%	20 %	50 %

Grading Criteria *											
A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
90 -100	85 - 89	80 - 84	75 - 79	70 - 74	65 - 69	60 - 64	56 - 59	53 - 55	50 - 52	40 - 49	0 – 39

* Letter grades will be decided upon after calculating the averages at the end of the semester and distribution of the averages will play a significant role in the evaluation of the letter grades.