



Module Presenter's Manual *for*

Windows Forms Programming
with C#

Effective from: September, 2017
Ver. 1.0

Amendment Record

Version No.	Effective Date	Change	Replaced Pages
1.0	September 2017	New	-

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1. Introduction

At the end of this course, students will be able to:

- Describe Windows Forms and its role in .NET development.
- Explain the Form class.
- Explain the commonly used events of Form class.
- Identify the types of controls used in Windows Forms applications.
- State and describe the properties, methods and events of controls such as TextBox, MaskedTextBox, ListBox, and LinkLabel.
- Explain the use of PictureBox, ImageList and SplitContainer controls.
- Describe the NumericUpDown and DomainUpDown controls.
- Describe the ListView, TreeView, RichTextBox and ProgressBar controls.
- Describe the DateTimePicker control.
- List and explain properties, methods and events of Timer component.
- Describe modal and modeless dialog boxes.
- Explain MDI parent and child forms.
- List and describe briefly the menu system in Windows Forms.
- Describe DataReader objects and its use.
- Explain the use of DataAdapter classes.
- Identify the use of DataGrid control and explain it.
- List and explain the properties, methods, and events of the DataGrid control.
- Describe the DataGridView control.
- List and explain the properties, methods, and events of the DataGridView control.
- Compare the DataGrid and DataGridView controls.
- Describe simple and complex data binding.
- Explain the role of graphics in Windows Forms application development and define GDI+.
- Describe device contexts and Graphics object.
- Explain the process of printing GDI+ objects (briefly introduce PrintDocument and PrintPage classes for printing as they will be covered later).
- Describe double buffering in GDI+.
- Describe how to create and use simple custom controls.
- Explain Crystal Reports and its use.
- List the steps of creating reports using Crystal Report Creation Wizard.
- Describe how to create a report using ADO.NET datasets.
- Explain printing and System.Drawing.Printing namespace.
- Explain the different components of help.
- Describe packaging and deployment in .NET.
- Explain WPF architecture
- Define and describe Language Integrated Query (LINQ)
- Explain the ADO.NET Entity Framework
- Describe Entity Data Model
- Describe configuration of security features in an application

2. Information on Session Allocation

Module	Online (No. of Hrs)
Windows Forms Programming with C#	40

Throughout this Presenter's Manual, the module *Windows Forms Programming with C#* will be referred to as **WFC#**.

3. Module Deliverables available on OnlineVarsity


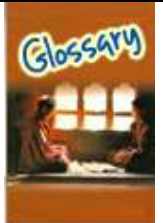


To aid the learning process, following are the deliverables







(Faculties can access eBooks and other components in Onlinevarsity through Aptrack.)

Student Deliverables:

1. Learner's Guide (eBook)

Resources available on Onlinevarsity:

Icons	Feature - Description / Functionality
	Download eBook - Student has the option to download the subject related e-book and read offline
	Glossary - Student can access a list of subject related specialized words with their definitions.
	FAQ - Student can access frequently asked questions and their answers
	Show Me How - Student can view a step-wise simulation / demonstration of the module related topics.

	Practice 4 Me - Student can test and evaluate their understanding of module related topics.
	Work Assignments - Student can solve scenario based lab assignments (Hands-on). The faculty will evaluate and give their feedbacks.
	Download Source code / Files – Student can download courseware related source files.
	References - Student can access additional subject related material for reading.
	Feedback - Student can provide feedback on the course material
	Ask to Learn – Student can submit subject related technical queries. Queries submitted will be directed to the particular course coordinator/head.

4. Week-wise Session Schedule

- A Session has duration of 2 hrs

Week	Day 1	Day 2	Day 3	Day 4
1	Session 1 WFC# – TL1	Session 2 WFC# – TL2	Session 3 WFC# – TL3	Session 4 WFC# – TL4
2	Session 5 WFC# – TL5	Session 6 WFC# – TL6	Session 7 WFC# – TL7	Session 8 WFC# – TL8
3	Session 9 WFC# – TL9	Session 10 WFC# – TL10	Session 11 WFC# – TL11	Session 12 WFC# – TL12
4	Session 13 WFC# – TL13	Session 14 WFC# – TL14	Session 15 WFC# – TL15	Session 16 WFC# – TL16
5	Session 17 WFC# – TL17	Session 18 WFC# – TL18	Session 19 WFC# – TL19	Session 20 WFC# – TL20

WFC#: Windows Forms Programming with C#

TL: Online Session

5. Session Coverage

Session No.	Session Title	Session Details	Deliverables' Mapping
1	Session 1 WFC# – TL1	<p>All the concept lessons as listed below from Session 1 and Session 2 of <i>Windows Forms Programming with C#</i> book should be covered in this session.</p> <p><u>Session 1 - Windows Forms and Basic controls</u></p> <ul style="list-style-type: none"> ➤ Windows Forms ➤ Form class ➤ Types of Controls ➤ Basic Controls <p><u>Session 2 – Grouping and Graphic controls</u></p> <ul style="list-style-type: none"> ➤ Value Setting controls ➤ Grouping Controls ➤ Graphic Controls ➤ SplitContainer control 	<p>Windows Forms Programming with C#</p> <p>SG - Session 1 & 2</p>
2	Session 2 WFC# – TL2	<p>The workshop lessons of Session 1 and Session 2 of <i>Windows Forms Programming with C#</i> should be covered in this session.</p>	<p>Windows Forms Programming with C#</p> <p>(OnlineVarsity)</p> <p>Session 1 & 2</p>
3	Session 3 WFC# – TL3	<p>All the concept lessons as listed below from Session 3 and Session 4 of <i>Windows Forms Programming with C#</i> book should be covered in this session.</p> <p><u>Session 3 – Advanced Controls</u></p> <ul style="list-style-type: none"> ➤ Selection List controls ➤ ListView and TreeView Controls ➤ RichTextBox control ➤ ProgressBar control <p><u>Session 4 – Date Controls and Timer component</u></p> <ul style="list-style-type: none"> ➤ Date Controls 	<p>Windows Forms Programming with C#</p> <p>SG - Session 3 & 4</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
		<ul style="list-style-type: none"> ➤ MonthCalendar Control ➤ Timer component 	
4	Session 4 WFC# – TL4	The workshop lessons of Session 3 and Session 4 of <i>Windows Forms Programming with C#</i> should be covered in this session.	Windows Forms Programming with C# (OnlineVarsity) Session 3 & 4
5	Session 5 WFC# – TL5	<p>All the concept lessons as listed below from Session 5 and Session 6 of <i>Windows Forms Programming with C# book</i> should be covered in this session.</p> <p><u>Session 5 – Dialog Boxes</u></p> <ul style="list-style-type: none"> ➤ Types of dialog Boxes ➤ System Defined dialog boxes ➤ User Defined dialog boxes ➤ Retrieving Information from a dialog box <p><u>Session 6 – MDI Applications and Menus</u></p> <ul style="list-style-type: none"> ➤ Multiple Document Interface applications ➤ Menus ➤ ToolStrip control ➤ StatusStrip control 	Windows Forms Programming with C# SG - Session 5 & 6
6	Session 6 WFC# – TL6	The workshop lessons of Session 5 and Session 6 of <i>Windows Forms Programming with C#</i> should be covered in this session.	Windows Forms Programming with C# (OnlineVarsity) Session 5 & 6
7	Session 7 WFC# – TL7	<p>All the concept lessons as listed below from Session 7 and Session 8 of <i>Windows Forms Programming with C# book</i> should be covered in this session.</p> <p><u>Session 7 – Introduction to ADO.NET</u></p>	Windows Forms Programming with C# SG - Session 7 & 8

Session No.	Session Title	Session Details	Deliverables' Mapping
		<ul style="list-style-type: none"> ➤ ADO.NET Architecture ➤ .NET data providers ➤ Data Access Components <p><u>Session 8 - Data Classes</u></p> <ul style="list-style-type: none"> ➤ DataAdapter classes ➤ DataReader ➤ DataSets ➤ DataTables 	
8	Session 8 WFC# – TL8	The workshop lessons of Session 7 and Session 8 of <i>Windows Forms Programming with C#</i> should be covered in this session.	<p><i>Windows Forms Programming with C#</i> (OnlineVarsity)</p> <p>Session 7 & 8</p>
9	Session 9 WFC# – TL9	<p>All the concept lessons as listed below from Session 9 and 10 of <i>Windows Forms Programming with C#</i> book should be covered in this session.</p> <p><u>Session 9 – DataView and DataGridView controls</u></p> <ul style="list-style-type: none"> ➤ DataView class ➤ DataGrid control ➤ DataGridView control ➤ DataGrid and DataGridView – Difference <p><u>Session 10 – Data Binding</u></p> <ul style="list-style-type: none"> ➤ Data Binding ➤ Types of Binding ➤ BindingSource component ➤ Sorting and Filtering 	<p><i>Windows Forms Programming with C#</i> (OnlineVarsity)</p> <p>Session 7 & 8</p> <p>SG - Session 9 & 10</p>
10	Session 10 WFC# – TL10	The workshop lessons of Session 9 and 10 of <i>Windows Forms Programming with C#</i> should be covered in this session.	<p><i>Windows Forms Programming with C#</i> (OnlineVarsity)</p> <p>Session 9 & 10</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
11	Session 11 WFC# – TL11	<p>All the concept lessons as listed below from Session 11 and 12 of <i>Windows Forms Programming with C# book</i> should be covered in this session.</p> <p><u>Session 11 - Working with GDI+</u></p> <ul style="list-style-type: none"> ➤ Introduction to Graphics with GDI+ ➤ The Graphics class ➤ Introduction to Graphics objects ➤ Understanding the Font class ➤ Working with advanced GDI+ <p><u>Session 12 – Custom Controls</u></p> <ul style="list-style-type: none"> ➤ Introduction to Custom Controls ➤ Creating Custom Controls ➤ Using Custom Controls ➤ Creating and Using Composite Controls 	<p>Windows Forms Programming with C#</p> <p>SG - Session 11 & 12</p>
12	Session 12 WFC# – TL12	<p>The workshop lessons of Session 11 and 12 of <i>Windows Forms Programming with C#</i> should be covered in this session.</p>	<p>Windows Forms Programming with C#</p> <p>(OnlineVarsity)</p> <p>Session 11 & 12</p>
13	Session 13 WFC# – TL13	<p>All the concept lessons as listed below from Session 13 and 14 of <i>Windows Forms Programming with C# book</i> should be covered in this session.</p> <p><u>Session 13 - Crystal Reports</u></p> <ul style="list-style-type: none"> ➤ Crystal Reports ➤ Crystal Report Expert ➤ Runtime Customization ➤ Working with Crystal reports <p><u>Session 14 – Printing and</u></p>	<p>Windows Forms Programming with C#</p> <p>SG - Session 13 & 14</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
		<u>Adding Help</u> <ul style="list-style-type: none"> ➤ Printing in Windows Forms ➤ Help in Windows Forms ➤ Help components and controls 	
14	Session 14 WFC# – TL14	The workshop lessons of Session 13 and 14 of <i>Windows Forms Programming with C#</i> should be covered in this session.	<i>Windows Forms Programming with C#</i> (OnlineVarsity) Session 13 & 14
15	Session 15 WFC# – TL15	<p>All the concept lessons as listed below from Session 15 of <i>Windows Forms Programming with C# book</i> should be covered in this session.</p> <p><u>Session 15 – Packaging and Deploying</u></p> <ul style="list-style-type: none"> ➤ Packaging and Deploying ➤ Modes of Packaging ➤ Deploying applications ➤ Installation Editors ➤ ClickOnce Deployment 	Windows Forms Programming with C# Session 15
16	Session 16 WFC# – TL16	The workshop lessons of Session 15 of <i>Windows Forms Programming with C#</i> should be covered in this session.	<i>Windows Forms Programming with C#</i> (OnlineVarsity) Session 15
17	Session 17 WFC# – TL17	<p>All the topics as listed below from Session 16 and Session 18 of <i>Windows Forms Programming with C# book</i> should be covered in this session.</p> <p><u>Session 16 – Exploring Windows Forms</u></p> <ul style="list-style-type: none"> ➤ Describe the creation of nonrectangular Windows Forms ➤ Explain the TabControl and TrackBar controls ➤ Describe the NotifyIcon component ➤ Describe the various types of ToolStripItems 	Windows Forms Programming with C# SG – Session 16 & 18

Session No.	Session Title	Session Details	Deliverables' Mapping
		<ul style="list-style-type: none"> ➤ Describe merging of ToolStrips ➤ Describe the ToolStripContainer class ➤ Explain custom dialog boxes ➤ Explain the selection properties of MonthCalendar ➤ Explain merging of DataSets. <p><u>Session 18 – Windows Presentation Foundation</u></p> <ul style="list-style-type: none"> ➤ Define Windows Presentation Foundation (WPF) ➤ Explain WPF architecture ➤ Describe XAML, its basic structure, and its role in WPF applications ➤ Describe the controls in WPF ➤ Describe the process of using styles and transforms in WPF applications ➤ Describe the graphics and animation features in WPF ➤ Explain WPF user controls 	
18	Session 18 WFC# – TL18	All topics from Session 17 (Lab) and Session 19 (Lab) of <i>Windows Forms Programming with C#</i> should be covered in this session.	<p><i>Windows Forms Programming with C#</i> (OnlineVarsity)</p> <p>Session 17 & 19</p>
19	Session 19 WFC# – TL19	<p>All the topics as listed below from Session 20 and Session 22 of <i>Windows Forms Programming with C# book</i> should be covered in this session.</p> <p><u>Session 20 – LINQ and ADO.NET Entity Framework</u></p> <ul style="list-style-type: none"> ➤ Define and describe Language Integrated Query (LINQ) ➤ List and describe the commonly used query operators ➤ Describe the use of LINQ to query different data sources ➤ Explain the ADO.NET Entity Framework ➤ Describe Entity Data Model ➤ Describe creation of a simple Entity Data Model 	<p><i>Windows Forms Programming with C#</i></p> <p>SG – Session 20 and 22</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
		<ul style="list-style-type: none"> ➤ Describe creation of a Windows Forms Data Source using EDM ➤ Describe data retrieval using the EDM <p><u>Session 22 – Configuring and Deploying Applications</u></p> <ul style="list-style-type: none"> ➤ Explain the key concepts of ClickOnce technology ➤ Explain use of ClickOnce for installation ➤ Describe the process of configuring required permissions ➤ Explain Windows Forms setup applications ➤ Describe elevated permissions ➤ Describe trusted application deployments ➤ Describe configuration of security features in an application 	
20	Session 20 WFC# – TL20	All topics from Session 21 (Lab) and Session 23 (Lab) of <i>Windows Forms Programming with C#</i> book should be covered in this session.	<p><i>Windows Forms Programming with C#</i> (OnlineVarsity)</p> <p>Session 21 & 23</p>

6. Library References

➤	Windows Forms in Action: Second Edition of Windows Forms Programming with C# <i>by Erik Brown</i>
➤	MCTS Self-Paced Training Kit (Exam 70-505): Microsoft .NET Framework 3.5-Windows Forms Application Development <i>by Matthew A. Stoecker, Steven J. Stein</i>
➤	Windows Presentation Foundation Unleashed (WPF) <i>by Adam Nathan</i>
➤	Windows Forms Programming in C# <i>by Chris Sells</i>

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