



**Level 5 Diploma in eCommerce & Web Design (901)**  
**176 Credits**



<b>Unit:</b> XML Document Creation	<b>Guided Learning Hours:</b> 240
<b>Exam Paper No.:</b> 3	<b>Number of Credits:</b> 24
<b>Prerequisites:</b> Basic understanding of HTML. Familiarity with the Web and its terminology	<b>Corequisites:</b> A pass or higher in Diploma in Information Technology or equivalence.
<p><b>Aim:</b> The purpose of this unit is to expose learners to encoding rules using a markup language. Programming systems these days are using many different technologies; technique and programming languages. XML is a modern effort employed to allow communication between all these different systems. The unit introduces eXtensible Markup Language (XML) and covers the advantages of XML over HTML, the process of switching from HTML to XML specification process and production rules, including the most important XML concepts: well-formed and valid XML, DTD, Namespaces, XML DTDs, XSL tools and resources, XSL style sheets, and the future of XML.</p>	
<b>Required Materials:</b> Recommended Learning Resources.	<b>Supplementary Materials:</b> Lecture notes and tutor extra reading recommendations.
<b>Special Requirements:</b> This is a hands-on course, hence use of computers is mandatory.	
<p><b>Intended Learning Outcomes:</b></p> <p>1 XML, its use, the history, XML goals and how markup language describes the content and structure of data in a document.</p> <p>2 XML documents; viewing XML files; executing/running XML files and creating a simple XML page.</p> <p>3 XML Document Type Definition (DTD), the building blocks of DTD, and how to define DTD elements in XML documents.</p> <p>4 XML Schema, declaring namespaces, the structure of an XML Schema and explaining how XML Schemas are used to validate XML.</p> <p>5 Working with Cascading Style Sheets (CSS) and how the properties used in Cascading Style Sheets (CSS) are similar to those of HTML.</p> <p>6 Working with XSLT outlining how XSLT uses XPath to define parts of the source document that should match one or more predefined templates.</p>	<p><b>Assessment Criteria:</b></p> <p>1.1 Define XML</p> <p>1.2 Describe the use of XML</p> <p>1.3 Describe how to construct an XML document</p> <p>1.4 Describe the advantages of XML</p> <p>1.5 Define the differences between XML and HTML</p> <p>2.1 Describe the components of an XML document</p> <p>2.2 Describe XML elements</p> <p>2.3 Describe XML attributes</p> <p>2.4 Describe the structure and syntax of XML</p> <p>2.5 Explain how the tags in an XML describe the meaning and hierarchical structure of data</p> <p>3.1 Describe DTDs</p> <p>3.2 Describe DTD entities</p> <p>3.3 Analyse DTD declarations</p> <p>3.4 Define XML character notations</p> <p>3.5 Define internal and extern DTDs</p> <p>4.1 Describe XML namespaces</p> <p>4.2 Define simple-type elements</p> <p>4.3 Define attribute names for namespace declaration</p> <p>4.4 Describe how to apply namespace to elements and attributes</p> <p>4.5 Describe namespace constraints</p> <p>5.1 Explain the history and theory of Cascading Style Sheets</p> <p>5.2 Demonstrate linking a style sheet to an XML document</p> <p>5.3 Design a page layout using styles</p> <p>6.1 Describe the history and theory of XSL</p> <p>6.2 Demonstrate how to create an XSLT style sheet</p> <p>6.3 Demonstrate the syntax of the XPath language</p> <p>6.4 Demonstrate how to transform an XML document into an HTML file</p> <p>6.5 Demonstrate creating templates to format sections of the XML document</p>

7 Creating computational stylesheets, working with functions, variables, parameters and working with parses.	7.1 Define how to number nodes 7.2 Demonstrate applying XPath functions such as count() and sum() 7.3 Describe how create formulas using mathematical operators 7.4 Explain working with text nodes and white space 7.5 Demonstrate creating variables and parameters
8. How elements can be constructed into groups in order to control the sequence and occurrence behavior of the elements within the group.	8.1 Describe working with step patterns to create complex node sets 8.2 Identify how to create model templates so that different code can be applied to the same nodes 8.3 Demonstrate accessing node sets using ID attributes and keys 8.4 Demonstrate organising elements using <i>Muenchian grouping</i> 8.5 Demonstrate accessing secondary source documents
9. How DOM can be used for accessing, manipulating XML documents allowing DOM programmatically read and manipulation.	9.1 Describe document object models 9.2 Demonstrate how to create and load a document object 9.3 Describe how to apply an XSLT transformation to a document 9.4 Describe how to use JavaScript to modify the contents of an XML document 9.5 Describe how to use a form to e-mail the contents of an XML document 9.6 Demonstrate using JavaScript to modify the attribute values of a document element 9.7 Demonstrate using JavaScript to pass a value to a style sheet parameter.
<b>Methods of Evaluation:</b> A 2½-hour written examination paper with five essay questions, each carrying 20 marks. Candidates are required to answer all questions. Candidates also undertake project/coursework in XML Document Creation with a weighting of 100%.	

### Recommended Learning Resources: XML Document Creation

<b>Text Books</b>	<ul style="list-style-type: none"> <li>• Beginning XML, 4th Edition (Programmer to Programmer). ISBN-10: 0470114878</li> <li>• New Perspectives on XML, Second Edition, Comprehensive (New Perspectives) (Paperback) by Patrick Carey. ISBN-10: 1418860646</li> <li>• XML for the World Wide Web (Visual QuickStart Guide) by Elizabeth Castro. ISBN-10: 0201710986</li> </ul>
<b>Study Manuals</b> 	BCE produced study packs
<b>CD ROM</b> 	Power-point slides
<b>Software</b> 	Web Browser software and XML