SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

ACADEMIC AFFAIRS

CREATED BY: KOBI SHEMESH

Course Number: PROG-430 Department: IT

Course Title: XML and Related Topics Semester: Spring Year: 2006

Course Objective	Competencies
1. Create XML (eXtensible Markup language) documents using different XML editors.	1. Identify the three parts of an XML document 2. Identify the two categories of XML documents 3. Explain how XML differ from HTML 4. Describe the ten primary XML design goals 5. Describe the two types of elements 6. Describe the relationships between elements 7. described the use of attributes in relation to an element 8. Identify 'Escape Sequences' for reserved characters and demonstrate appropriate use 9. Display XML Documents in a Web Browser 10. Construct "well formed" XML documents
2. Design and create application-specific markup grammars using namespaces and XML rules in Schemas	1. Explain the fundamentals of schemas and namespaces. 2. Create namespaces and apply them to elements and attributes in XML documents. 3. Create schemas using XML schema dialect. 4. Create different schema structures, complex data types, groups, and attribute groups.

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	5. Use built-in and user-derived data types supported by XML Schema. 6. Demonstrate how to annotate a schema. 7. Use namespaces to divide the XML document structure into application-specific groups 8. Validate an XML document against its related schema
3. Design and create application-specific markup grammars using DTD (Data Type Definition)	1. Specify XML document structure using DTD 2. Ensure all required elements are present in the XML document 3. Prevent use of undefined elements 4. Enforce a specific data structure 5. Specify the use of attributes and define their possible values 6. Define default values for attributes 7. Describe parser access to non-XML or non-textual content 8. Validate an XML document against its related DTD
4. Format and transform XML documents using XSLT/XPath.	1. Describe the history and theory of XSL 2. Create an XSLT style sheet 3. Identify the syntax of the XPath language 4. Transform an XML document into an HTML file 5. Create templates to format sections of the XML document 6. Sort the contents of an XML document

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	7. Create conditional nodes to generate different HTML code 8. Use predicates to select subsets of an XML document 9. Insert new elements and attributes in the transformed document
5. Transform XML document using DOM (Document Object Model) and JavaScript.	1. Explain how to navigate an XML documents using the Document Object Model (DOM). 2. Load an XML document into a DOM object 3. Use JavaScript to modify the contents of an XML document 4. Use a form to e-mail the contents of an XML document 5. Use JavaScript to modify the attribute values of a document element. 6. Use JavaScript to pass a value to a style sheet as a parameter
6. Format XML documents using CSS.	1. Describe the history and theory of Cascading Style Sheets 2. Link a style sheet to an XML document 3. Design a page layout using styles 4. Apply styles to text and text backgrounds 5. Use a style sheet to create and display background images 6. Use styles with elements classified by id and class attributes

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