

COURSE PREFIX/NO: CPT 246
COURSE TITLE: Introduction to XML
LEC HRS/WEEK: 3.0
LAB HRS/WEEK: 0.0
CREDIT HRS/SEMESTER: 3.0

[Distance Learning Attendance/VA Statement](#)
[Textbook Information](#)

COURSE DESCRIPTION

This course is an introduction to the extensible markup language (XML) and will examine how XML can be used to describe data in a structured manner for use on the world wide web.

COURSE COMPETENCIES

Upon successful completion of this course, the student should be competent to complete the following tasks:

Module 1 –Well-Formed XML

- Define XML.
- Describe the difference between a language and a meta-language.
- List applications of XML.
- Recognize and describe the hierarchical structure in an XML document.
- Create a well-formed XML document with elements, attributes, PCDATA, entity references, and CDATA sections.
- Find and correct errors in an XML document that is not well formed.
- Compare and contrast the use of elements and attributes in an XML document.
- Explain the need for and use of namespaces in XML.

Module 2 – Document Validation

- Describe the purpose of an XML parser.
- Validate an XML document against a Document Type Declaration (DTD) with a validating parser.
- Create a DTD that contains element, attribute, entity, and notation declarations.
- Validate an XML document against an XML Schema (XSD) with a validating parser.
- Create an XSD that specifies element and attribute types.
- Create group reference, attribute group, content, and type declarations in an XSD.
- Develop a RELAX NG schema and validate an XML document against the schema.
- Compare and contrast the use of DTDs, XSDs, and RELAX NG schemas.

Module 3 – Processing and Databases

- Obtain element and attribute data from an XML document using XPath 1.0.
- Select and sort element and attribute data in an XML document using XSLT.
- Discuss the need to efficiently query XML documents.
- Describe how to use XQuery to query a document and create new elements.
- Discuss how XML functionality can be added to existing relational databases, and relate the benefits of these methods over using a native XML database.

Module 4 – Programming

- Describe the purpose of the XML Document Object Model.
- Explain the differences between interfaces and objects.

- Create an HTML document which implements JavaScript to extract data from a document object model.
- Add and delete elements and attributes from a document object model.
- Describe the relative advantages and disadvantages of the Document Object Model (DOM) to Simple API for XML (SAX).

MINIMAL STANDARDS

Minimal standards of performance on all course competencies for receiving credit for the course and indicated by 60% overall accuracy on evaluation instruments that address the course competencies listed above. Required standards of performance on all course competencies for enrollment in subsequent higher-level computer technology courses are indicated by 70% overall accuracy on evaluation instruments that address the course competencies listed above.

COURSE REQUIREMENTS

Students are responsible for attending all schedule class meetings until they have completed all course requirements. Students are responsible for all material covered and for all assignments made in all classes. Any student caught cheating or involved in other academic dishonesty will be given a grade of zero and will be subject to further disciplinary action.

ATTENDANCE POLICY

The attendance policy as stated in the York Technical College Handbook will be enforced. Make-up tests will not be given for theory tests. If a student must miss a theory test, he/she will get a zero for that test. However, students have the option of taking the comprehensive final. The student's grade on the comprehensive final will replace his/her lowest theory test grade. It is the student's responsibility to schedule a time for a make-up hands-on test with his/her instructor.

EVALUATION STRATEGIES/GRADING

Module 1 (25% total) Tests – 12.5% of final average Program(s) – 12.5% of final average	Module 2 (25% total) Tests – 12.5% of final average Program(s) – 12.5% of final average	Grading Scale	
		90-100	A
Module 3 (25% total) Tests – 12.5% of final average Program(s) – 12.5% of final average	Module 4 (25% total) Tests – 12.5% of final average Program(s) – 12.5% of final average	89-89	B
		70-79	C
		60-69	D
		Below 60	F

ENTRY-LEVEL SKILLS

A student entering this course should be familiar with structured programming concepts and be familiar with the Windows environment.

PREREQUISITES: CPT 114, IST 226, and CPT 168 with minimum grades of "C"

CO-REQUISITES: None

Disabilities Statement: Any student who feels s/he may need an accommodation based on the impact of a disability should contact the Special Resources Office (SRO) at 803-327-8007 in the 300 area of Student Services. The SRO coordinates reasonable accommodations for students with documented disabilities.