



<b>Title:</b>	Technical Writing using XML <b>APPROVED</b>
<b>Long Title:</b>	Technical Writing using XML
<b>Module Code:</b>	COMP7040
<b>Duration:</b>	1 Semester
<b>Credits:</b>	5
<b>NFQ Level:</b>	Intermediate
<b>Field of Study:</b>	Computer Science
<b>Valid From:</b>	Semester 1 - 2018/19 ( September 2018 )
<b>Module Delivered in</b>	<a href="#">4 programme(s)</a>
<b>Next Review Date:</b>	May 2022
<b>Module Coordinator:</b>	Sean McSweeney
<b>Module Author:</b>	Donna OShea
<b>Module Description:</b>	eXtensible Markup Language (XML) is the markup language that defines rules for encoding documents in a format that is both human and machine readable. XML is used by a range of applications which include technical communications, web publishing and e-business. XML and its related technologies (i.e. DTD, XSD, XSLT and XPath) will be explored in detail in this module applied to domain of technical communications, using an appropriate language based on XML such as DITA. On completion of this module the student will be able to author a technical document using XML applying best practices and principles in the field of technical communications.
<b>Learning Outcomes</b>	
<i>On successful completion of this module the learner will be able to:</i>	
LO1	Discuss the principles and role of structured generic markup such as XML applied to the field of technical communications.
LO2	Create an XML schema that defines and validates the elements, attributes and other markup that can appear in document marked up using XML.
LO3	Create a technical document using an XML language such as DITA.
LO4	Conditionally process data in a technical document by binding elements to specific conditions enabling the filtering and flagging of XML elements.
LO5	Create custom stylesheets converting the XML document into a range of outputs which include PDF and HTML.
<b>Pre-requisite learning</b>	
<b>Incompatible Modules</b>	
<i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module. You may not earn additional credit for the same learning and therefore you may not enrol in this module if you have successfully completed any modules in the incompatible list.</i>	
No incompatible modules listed	
<b>Co-requisite Modules</b>	
No Co-requisite modules listed	
<b>Requirements</b>	
<i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed. You may not enrol on this module if you have not acquired the learning specified in this section.</i>	
No requirements listed	
<b>Co-requisites</b>	
No Co Requisites listed	



**Module Content & Assessment**

**Indicative Content**

**XML**

Introduction to XML. Advantages and applications of XML. Comparison of XML to HTML. Well-formed and valid XML documents. XML in technical communications. XML and single source publishing.

**XML Schema**

XML Schema Languages and its role. XML schema language in technical communications i.e. Document Type Definition (DTD) and XML Schema Definition (XSD). DTD - statements and declarations. DTD elements - declarations, sequences, frequency and content specification. DTD attributes - declarations, default values and attribute sets.

**Technical Documentation using XML**

XML technologies used in technical communications - DITA and DocBook. Authoring a technical document using DITA. DITA topics - task, concept and reference topics. DITA Maps. Navigation using topicheads. Relationship tables. Collection types. Linking - hierarchical links, breadcrumbs, inline links, glossary, linking to non-dita resources. Late bound indirect addressing using KeyRef. Content reuse using Conref.

**Conditional Processing**

Overview of conditional processing. Filtering and Flagging. DITA conditional processing attributes. Creation of a conditional processing scheme. Ditaval Document for conditional processing.

**Customise XML documents using stylesheets**

XSLT and XPath. Transformation process of XML into output formats which include HTML and PDF. HTML customisation process. Parameter setting for custom HTML. CSS. DITA-OT HTML Plugin.

**Assessment Breakdown**

	%
Course Work	100.00%

**Course Work**

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Short Answer Questions	In class exam examining the theoretical aspects of XML and related technologies as applied to the field of technical communications.	1	20.0	Week 4
Practical/Skills Evaluation	Open book lab exam where the student will be expected to create an XML schema, using an appropriate language, defining the elements and attributes that can appear in an XML document. In addition, the student will be expected to transform the XML into HTML using XSLT and XPath.	2,5	30.0	Week 8
Project	Create a technical document using an XML language such as DITA applying best practices in authoring technical documentation. The student will be expected to create and apply a conditional processing scheme to demonstrate filtering and flagging of XML elements in a document. The XML document should be transformed into various output formats such as HTML or PDF.	3,4,5	50.0	Week 13

No End of Module Formal Examination

**Reassessment Requirement**

**Coursework Only**

*This module is reassessed solely on the basis of re-submitted coursework. There is no repeat written examination.*

**The institute reserves the right to alter the nature and timings of assessment**

**Module Workload**

<b>Workload: Full Time</b>				
<i>Workload Type</i>	<i>Workload Description</i>	<i>Hours</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	Lecture delivering theory underpinning learning outcomes.	2.0	Every Week	2.00
Lab	Computer based lab to support learning outcomes.	2.0	Every Week	2.00
Independent & Directed Learning (Non-contact)	Independent Study.	3.0	Every Week	3.00
Total Hours				7.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				4.00

<b>Workload: Part Time</b>				
<i>Workload Type</i>	<i>Workload Description</i>	<i>Hours</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	Lecture delivering theory underpinning learning outcomes.	2.0	Every Week	2.00
Lab	Computer based lab to support learning outcomes.	2.0	Every Week	2.00
Independent & Directed Learning (Non-contact)	Independent study.	3.0	Every Week	3.00
Total Hours				7.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				4.00

## Module Resources

### Recommended Book Resources

- Charles Cowan 2010, *Xml in Technical Communication*, The Institute of Scientific&Technical Communicators [ISBN: 9780950645988]
- Eliot Kimber 2013, *DITA for Practitioners Volume 1 - Architecture and Technology*, XML Press [ISBN: 9781937434083]
- Danny Ayers, Joe Fawcett, Liam Quin 2012, *Beginning XML*, 5th Ed., Wrox [ISBN: 9781118162132]

### Supplementary Book Resources

- Michelle Carey, Jenifer Schlotfeldt, Laura Bellamy 2011, *DITA Best Practices*, Pearson Education [ISBN: 9780132480529]

*This module does not have any article/paper resources*

### Other Resources

- Website: *DITA Open Toolkit*  
<http://www.dita-ot.org/>
- Website: *Oxygen XML Editor*  
<https://www.oxygenxml.com/>
- Website: *OASIS DITA 1.3 Specification*  
<http://docs.oasis-open.org/dita/dita/v1.3/dita-v1.3-part0-overview.html>
- Website: *w3school XML Tutorial*  
<http://www.w3schools.com/xml/>
- Website: *w3school XSLT Introduction*  
[http://www.w3schools.com/xml/xsl\\_intro.a sp](http://www.w3schools.com/xml/xsl_intro.asp)

**Module Delivered in**

<b>Programme Code</b>	<b>Programme</b>	<b>Semester</b>	<b>Delivery</b>
CR_KSDEV_8	<a href="#"><u>Bachelor of Science (Honours) in Software Development</u></a>	5	Elective
CR_KITMN_8	<a href="#"><u>Bachelor of Science (Honours) in IT Management</u></a>	5	Elective
CR_KITMN_8	<a href="#"><u>Bachelor of Science (Honours) in IT Management</u></a>	7	Elective
CR_KITSP_7	<a href="#"><u>Bachelor of Science in Information Technology</u></a>	5	Elective