Course Syllabus
University of Wisconsin – Milwaukee (UWM)
School of Information Studies (SOIS)

Course Title
XML for Libraries

Semester
Spring 2016

Course and Section Number
INFOST 780 – 201

Meeting Times and Location
Online

Instructor
Kevin Trainor
Email: trainork@uwm.edu
Mobile: 847-650-9706
Office: NWQB-3472

Office Hours
Office hours will be held on Thursday from 3:00 PM till 5:00 PM in my office or by telephone. Meetings or calls at other times may be arranged with me via email.

Online Discussion Sessions
On Monday evenings at 7:30 PM, we will have a voice-based online discussion session using the GoToMeeting platform. Officially, this session is optional. Yet, I am confident that you will find these sessions helpful. So, I encourage you to attend as many of these sessions as possible. This experience is best when you are using a headset. You may join the GoToMeeting session using this link .

General Description
This is an introduction XML technologies and tools with a special emphasis on the XML applications of greatest interest to the LIS community. Students will learn to author XML documents, to design content models for XML applications, to author XML schemas using the DTD and W3C XML Schema, and to validate XML documents using schemas. Students will learn to design and code XML transformations using XSLT and XPath to create Web documents using XHTML and CSS or to create high quality print documents using XSL-FO. Finally, students will learn to use XQuery as a means of exploring a collection of XML documents. Students will be introduced to a variety of XML applications of interest to the LIS community and they will execute a proof of concept project based upon one of these XML applications.

Required Texts

Harold, E. R., Means, W. S. (2004) *XML in a Nutshell, 3rd edition.* Sebastopol, CA : O'Reilly. ISBN: 9780596007645

Kay, M. (2008) *XSLT 2.0 and XPath 2.0 Programmer's Reference* Indianapolis, IN : Wiley Pub., ISBN: 9780470192740

Optional Texts and Other Resources

Baca, M. (Ed.). (2008). *Introduction to metadata* (Online Edition, Version 3.0 ed.). Getty Research Institute. Free e-book available through The J. Paul Getty Trust.

Cole, T. W., & Han, M. K. (2013). *XML for catalogers and metadata librarians.* Santa Barbara, California : Libraries Unlimited.

Miller, D. R., & Clarke, K. S. (2004). *Putting XML to work in the library : Tools for improving access and management*. Chicago: American Library Association. ISBN: 0838908632.

Required Journal Articles

Burns, J. (2014). E-book devices: An overview for libraries. *EContent Quarterly, 1*(3), 31-40.

Gilmour, R. W. (2000). XML applications in the sciences. *Science & Technology Libraries, 19*(2), 75-89. doi:10.1300/J122v19n02_07

Rhyno, A. (2002). Is XML in your future? *The Serials Librarian, 42*(1-2), 143-153. doi:10.1300/J123v42n01_14

Shrimplin, A. K., Revelle, A., Hurst, S., & Messner, K. (2011). Contradictions and consensus -- clusters of opinions on E- books. *College & Research Libraries, 72*(2), 181-190. doi:10.5860/crl-108rl

Course Topics

- What is XML?
- How is XML Used?
- Designing and Coding XML Documents for Data Interchange
- The Use of XML in Libraries
- Designing and Coding XML Documents for Publishing
- Encoded Archival Description (EAD)
- DTDs for Data Interchange
- EPUB
- DTDs for Publishing
- Metadata Object Description Schema (MODS)
- Using Entities
- Using XInclude
- Text Encoding Initiative (TEI)
- W3C XML Schemas for Data Interchange
- Metadata Encoding & Transmission Standard (METS)
- W3C XML Schemas for Publishing
- DocBook
- Creating W3C XML Schemas that Declare a Target Namespaces

- W3C XML Schema Language 1.1 Extensions
- MARCXML
- XSLT for Data Interchange
- Darwin Information Typing Architecture (DITA)
- XSLT for Publishing
- Categories for the Description of Works of Art (CDWA)
- Creating High Quality Print Documents with XSL-FO
- The Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH)
- Exploring XQuery

Course Objectives
After completing this course, students should be able to:

- Author an XML content document.
- Design and code XML document schemas using DTD and W3C XML Schema.
- Validate content in XML documents with schemas.
- Design and code XML transformation programs using XSLT and XPath.
- Generate well-formed Web documents from XML content using XSLT, XHTML and CSS.
- Generate high-quality print documents from XML content using XSLT and XSL-FO.
- Explore collections of XML content documents using XQuery.
- Identify significant XML applications of interest to the LIS community.
- Complete a proof-of-concept project using XML technologies and an XML application of interest to the LIS community.

Instructional Methods

- Reading
- Recorded lectures and demonstrations
- Text-based online discussion via D2L forums
- Voice-based online discussion via GoToMeeting sessions
- Planning and execution of an individual proof-of-concept project

Course Schedule
The schedule for this course is being developed on our D2L site. When complete, a copy of that schedule will be included as an appendix to this syllabus.

The course schedule is always subject to reasonable change by the instructor to account for changes in circumstance and to correct errors. Schedule changes will be posted to the D2L site and announced to the class via email. This syllabus document will not be updated to reflect schedule changes.

Work Required of Students

Estimated Workload
I expect students to invest approximately 10 to 15 hours of effort per week on this course. The exact number of hours will vary from student to student based upon the student's speed and prior experience.

Course Elements:

1. *Readings*

   Required readings will be assigned from the resources listed above and from other resources that will be identified in the schedule. Generally, readings are chosen to accompany any recorded lecture or demonstration recordings provided for the week. So, you should expect to complete the readings before listening to or viewing recordings.

   Optional readings will be assigned from time to time. These will typically represent alternate expressions of the same material, or interesting supplementary topics.

2. *Recordings*

   I will be recording a series of lectures and tutorials throughout the course. Generally, you can expect lectures to supplement (rather than repeat) the content of the readings. Tutorials will typically show a skill being practiced using the oXygen XML Editor software. Frequently, you will be assigned a parallel coding assignment in the same week that can be accomplished using the approach demonstrated in the video.

3. *Coding and Other Written Assignments*

   There will be weekly XML coding and other written assignments. As mentioned above, coding assignments will often be paired with demonstration videos. These should allow you to complete your coding assignment using the same general approach that has been demonstrated in the video.

   I D2L dropbox will be provided for each coding or other written assignment. I will post instructions and a grading rubric for each assignment on the D2L site.

4. *Participation*

   a. Each student is expected to contribute 4 significant (long) posts to the discussion forums for the class. These should include:

      1) A post to the *Introduce Yourself* topic in the *Admin Forum*.

      2) 3 posts to topics listed in the *Weekly Forum*. The weekly forum topics are primarily concerned with applications of XML that are of particular interest to the LIS community. While this is not an exhaustive list of XML applications that you might explore as a choice for the subject of your project, it is meant to be a good start. I am expecting you to do enough of the weekly readings about these applications to gain a general appreciation of them. Nevertheless, I am expecting you to pick just 3 topics to explore in sufficient depth that you could write a significant (long) post.

   b. Each student is expected to read all of the posts of other students made in all of the discussion forums and respond with short posts when appropriate.

   c. Every Monday evening, we will have an online discussion session using the GoToMeeting platform. Officially, this session is optional. Yet, I am confident that you will find these sessions helpful. So, I encourage you to attend as many of these sessions as

possible. This experience will be best when you are using a headset. You may join the GoToMeeting session using this link .

5. *Project*

Each student is expected to plan and conduct a proof-of-concept project using XML technology. Projects might include any of the following:

- Identifying an XML-based content model used for content-management and publishing. Coding a modest-sized body of content using that standard and creating multiple XSLT stylesheets that publish the content in multiple arrangements as XHTML pages.
- Creating an e-book using public domain content and the EPUB XML-based publishing standards and tools.
- Creating a high-quality print document using public domain content, XSLT and XSL-FO.
- Creating lib-guides or finding aids based upon an established XML content model and published using XSLT with XHTML and/or XSL-FO.

Each proof-of-concept project must include the following deliverables.

a. Project Code

All coding for the project will be done using the oXygen XML editor. Files should be organized into an oXygen XML Editor project to allow for easy demonstration of the solution. The oXygen XML Editor project and its related files should be combined into a single zip file and submitted using the D2L dropbox.

b. Project Report

The Project Report will provide details regarding the choice of XML document standard, the student's experience in using the standard and in conducting the project. More detailed instructions on the project and a grading rubric will be posted to our course schedule.

Grading

Basis for Determining Grade
The various components of student and group work will contribute to the final grade based upon the following percentages:

- Coding and Other Written Assignments 40%
- Participation 20%
- Project 40%
    - Project Code (30%)
    - Project Report (10%)

Letter grades will be determined as follows:

- A 93 - 100%;
- A- 90 - 92%;
- B+ 87 - 89%;
- B 83 - 86%;
- B- 80 - 82%;
- C+ 77 - 79%;
- C 73 - 76%;
- C- 70 - 72%;
- D+ 67 - 69%;
- D 63 - 66%;
- D- 60 - 62%;
- F 0 - 59%;

UWM AND SOIS ACADEMIC POLICIES

The following links contain university policies affecting all SOIS students. Many of the links below may be accessed through a PDF-document maintained by the Secretary of the University: http://www.uwm.edu/Dept/SecU/SyllabusLinks.pdf. Undergraduates may also find the ***Panther Planner and Undergraduate Student Handbook*** useful (http://www4.uwm.edu/osl/students/).

Students With Disabilities
If you will need accommodations in order to meet any of the requirements of a course, please contact the instructor as soon as possible. Students with disabilities are responsible to communicate directly with the instructor to ensure special accommodation in a timely manner. There is comprehensive coverage of issues related to disabilities at the Student Accessibility Center (http://www4.uwm.edu/sac/), important components of which are expressed here: http://www.uwm.edu/Dept/DSAD/SAC/SACltr.pdf.

Religious Observances
Students' sincerely held religious beliefs must be reasonably accommodated with respect to all examinations and other academic requirements, according to the following policy:

http://www4.uwm.edu/secu/docs/other/S1.5.htm. Please notify your instructor within the first three weeks of the Fall or Spring Term (first week of shorter-term or Summer courses) of any specific days or dates on which you request relief from an examination or academic requirement for religious observances.

Students Called to Active Military Duty
UWM has several policies that accommodate students who must temporarily lay aside their educational pursuits when called to active duty in the military (see http://www4.uwm.edu/academics/military.cfm), including provisions for refunds, readmission, grading, and other situations.

Incompletes
A notation of "incomplete" may be given in lieu of a final grade to a student who has carried a subject successfully until the end of a semester but who, because of illness or other unusual and substantial cause beyond the student's control, has been unable to take or complete the final examination or some limited amount of other term work. An incomplete is not given unless the student proves to the instructor that s/he was prevented from completing course requirements for just cause as indicated above (http://www4.uwm.edu/secu/docs/other/S31.pdf).

Discriminatory Conduct (such as sexual harassment)
UWM and SOIS are committed to building and maintaining a campus environment that recognizes the inherent worth and dignity of every person, fosters tolerance, sensitivity, understanding, and mutual respect, and encourages the members of its community to strive to reach their full potential. The UWM policy statement (http://www4.uwm.edu/secu/docs/other/S47.pdf) summarizes and defines situations that constitute discriminatory conduct. If you have questions, please contact an appropriate SOIS administrator.

Academic Misconduct
Cheating on exams and plagiarism are violations of the academic honor code and carry severe sanctions, ranging from a failing grade for a course or assignment to expulsion from the University. See the following document (http://www4.uwm.edu/osl/dean/conduct.cfm) or contact the SOIS Investigating Officer (currently the Associate Dean) for more information.

Complaints
Students may direct complaints to the SOIS Dean or Associate Dean. If the complaint allegedly violates a specific university policy, it may be directed to the appropriate university office responsible for enforcing the policy (http://www4.uwm.edu/secu/docs/other/S49.7.htm).

Grade Appeal Procedures
A student may appeal a grade on the grounds that it is based on a capricious or arbitrary decision of the course instructor. Such an appeal shall follow SOIS appeal procedures for undergraduates as seen here: (http://www4.uwm.edu/sois/programs/graduate/mlis/policies/appeals.cfm) In the case of a graduate student, the Graduate School, (http://www4.uwm.edu/sois/programs/undergraduate/ug_appeals.cfm).

Last Revised
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