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

Course Title
XML for Libraries

Semester
Fall 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

Online Office Hours
Every Tuesday evening, I will be holding Office Hours using the GoToMeeting Platform. Please feel free to drop by to review solutions to recent Coding Assignments, to ask a question, to get help with your assignments, to discuss your plans for the student project, or just to say hello. Please use a headset when joining this session. 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 W3C XML Schemas, 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)
- XML Schemas for Data Interchange
- EPUB
- XML Schemas 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 Outcomes

After completing this course, students should be able to:
- Author an XML content document that is valid and well-formed.
- Design and code an XML document schema using the W3C XML Schema language.
- Validate content in XML documents with W3C XML 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.
- Analyze a collection of XML content documents using XQuery.
- Identify significant XML applications of interest to the LIS community.
- Plan and conduct 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 will be available via our Weekly Schedule at:

http://courseinfo.ligent.net/2016fa/_uwm/infost780_201/index.html

The course schedule is always subject to reasonable change by the instructor to account for changes in circumstance and to correct errors. When changes are made to the schedule, they will be announced via D2L Announcements and email.

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 providing a series of recorded video 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 Assignments*

   There will be weekly coding 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.

   A D2L dropbox will be provided for each coding assignment. Instructions for each coding assignment and a grading rubric will be published in the Weekly Schedule.

4. *Participation*

   a. Each student is expected to contribute 4 significant (200 – 300 word) posts to the discussion forums for the class. These should include:

      1) 1 post to the *Introduce Yourself Forum* during Week 1 of the semester.

      2) 3 posts to the *Final Project Forum* during Weeks 1 – 15 of the semester. Each of these posts should explore an XML application that you are considering as the basis of your final project. I have assigned readings during most weeks of the course to help you better understand XML applications of interest to practitioners in the LIS field. You can choose from this list of XML applications or you may substitute another XML application that interests you. Please feel free to post whenever you are ready to discuss a candidate XML application that you are considering for your project. You do not need to wait until the week in which that XML application has been assigned in the readings. 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 of these topics to explore in sufficient depth that you could write a significant (200 – 300 word) 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 Tuesday evening, we will have an Online Office Hours 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. Please use a headset when joining this session. You may join the GoToMeeting session using this link. Additional participation credit will be given to those students who attend Online Office Hours sessions and participate.

5. *Final Project*

Each student is expected to plan and conduct a proof-of-concept project using XML technology. Detailed instructions and a grading rubric for the Final Project will be published separately. The following are highlights from those requirements:

- Projects must be based upon a standard XML schema rather than a schema that is designed by the student from scratch. Standard schemas might include those that are part of any of the XML applications of interest to the LIS community that we cover in this course (TEI, DocBook, EAD, MODS, METS, DITA, etc.).

- Students will be expected to mark up enough content using the chosen standard schema to provide a proof of concept. The marked-up content may be authored by the student or available in the public domain through some source such as Project Gutenberg.

- Students will be expected to identify a standard XML-based means of publishing the content or to create a customer means of publishing the content. A standard means of publishing the content might amount to identifying standard XSLT transformations that are available in the Oxygen XML Editor for DocBook documents. A custom means of publishing content might amount to custom XSLT documents created from scratch by the student.

- The deliverables of the project will include marked-up content, code, and a written Project Report. Code will be expected to be testable. As part of the Project Report, the student will provide instructions for testing the code.

The detailed instructions and grading rubric for the Final Project will be made available by October 1.

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 Assignments   45%

- Participation   10%

- Final Project   45%
    - Project Code (35%)
    - 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
2016-08-29