INSC 582: Information Systems: Design and Implementation
Fall 2018
University of Tennessee, Knoxville

Instructor: Dr. Dania Bilal
Meeting Time and Place: Tuesday: 6:30-9:15 PM.
Course Credit Hours: 3
Delivery: Online Via Zoom

Faculty Contact Information
Office hours: Tuesday, 1-3 p.m. Alternate ways of contact: by phone and/or appointment.
Office location: COM 451 suite, Room 455.
Phone number: 865 974 3689.
Email: dania@utk.edu
Web page: http://scholar.cci.utk.edu/dania-bilal

Catalog Description/Information:
Information systems used in libraries and information agencies. Emphasizes planning, evaluation and system implementation. Covers usability engineering, interface design, and human-computer interaction.

Current Description: Information systems used in libraries and information agencies. Planning, gathering, and structuring user requirements; selecting, implementing, and evaluating integrated library systems (ILS), Library Services Platforms (LSPs), an OneSearch using the Library Automation Life Cycle (LALC); discovery tools; proprietary and open source software (OSS); standards; advances in computing technologies (e.g., cloud computing, API); cloud-based software and hardware hosting; software, hardware, and network architecture; system migration; and evaluation through usability.

Value Proposition:

Today, most libraries have automated their collections using ILSs or LSPs. However, there are still small libraries that use card catalogs or have no catalogs at all. Several libraries are migrating from an old to a new system to meet user needs. In all cases, there are processes that a library or agency should follow to ensure a smooth transition and positive return on investment (ROI). This
course provides a Library Automation Life Cycle (LALC) framework that is based on the classical System Development Lifecycle (SDLC) used in business settings. Students will gain knowledge of the processes involved in undertaking a new automation project in whole and/or parts in both library and business settings, and will learn about differences and similarities between the two environments. Additionally, students will gain understanding of the value of usability methods in evaluating the effectiveness of an automation system and assessing the user experience (UX).

**Student Learning Outcomes/Objectives: By the end of the semester, students are expected to:**

- Become familiar with the latest advances in library systems and technology developments that drive these systems.
- Describe the roles and responsibilities of an ILS/LSP project manager.
- Identify and discuss the various steps in the Library Automation Life Cycle.
- Discuss various methods for gathering and structuring user requirements for a proprietary and open source ILS/LSP.
- Discuss ways libraries are creating the differences between traditional ILS online catalog layers and discovery interfaces/services offered for current ILSs/LSPs.
- Identify sources that describe selected automation software for different types of libraries.
- Discuss cloud-based hosting options for ILSs/LSPs.
- Become familiar with the process of developing a Request for Proposal (RFP) for proprietary and open source ILSs/LSP;
- Discuss phases of ILS/LSP implementation options.
- Discuss system migration processes.
- Identify various usability methods for evaluating an ILS/LSP and select ones that best meet the needs of a given library or information agency.
- Discuss challenges, issues, and trends in library automation and system migration.
**Learning Environment:**
The course content will be delivered online via Zoom. This course combines theory and practice. It integrates interactive and collaborative teaching and learning methods. The tools of learning include hands-on activities, individual and group problem solving, web use, field experiences, consulting existing resources, individual and group work in and outside of class, and demos, among others.

**Course Communications:**
Email is the preferred method of communication. You may also contact me by phone at 865 974-3689. If I am online during weekdays, I will reply to your email within minutes, unless I am in a meeting or teaching class. Normally, I do not reply to email or calls over the weekend. In case of urgency, email me and include “URGENT” in the subject line. When I am at a conference or travelling outside of the US, my reply will be slow, but I will answer your messages as soon as I can. For technical issues, contact the OIT HelpDesk via phone (865) 974-9900 or online at [http://help.utk.edu/](http://help.utk.edu/).

Please include **INSC582** in the subject line of the email message so that I can identify your emails quickly. Check the Spam or Junk folder of your email when you do not receive my email messages. However, if you use your UTK Vols email account, you should not experience problems receiving my emails.

**How to Be Successful in This Course:**
Learning and being successful in this course is based on the notion of shared responsibilities between the instructor and each student. Below are examples of these responsibilities.

**Student’s Responsibilities**
- Attend and be on time for each class session
- Be prepared for all classes
- Complete the assigned readings on time and follow respective requirements
- Actively and constructively contribute to class discussions and overall learning environment
- Meet all course requirements and expectations
- Be respectful of others
- Abide by the UT Honor Code
- Avoid plagiarism
- Be honest and open in communicating with the instructor about any matter related to learning and teaching throughout the semester

**Instructor’s Responsibilities**
- Be on time for each class session
- Be prepared for all classes
- Evaluate students’ work fairly and equally
- Create and facilitate meaningful learning activities
- Provide an environment conducive to learning
- Behave according to University codes of conduct
• Be respectful of all students

Texts/Resources/Materials:

Required Text

Required Resources for Use:

Materials:
All course materials will be posted on Canvas course site. It is the student’s responsibility to view and download these materials. Students must have Powerpoint Reader or equivalent for downloading lecture notes and creating their own slide presentations.

Time Allocation
Students will spend 2.5 hours (excluding a break) in class each week. Although the specific out-of-class time investments may vary for each individual student, the student may need 145 out-of-class hours to meet the course’s learning outcomes. Out-of-class includes assigned readings, online discussions, completing the assignments, writing reports, working in groups, making field visits, and preparing slides for class presentations, among other things.

Required Equipment:
This course is delivered online via Zoom and therefore, requires access to a laptop; tablet or other mobile device equipped with a very good microphone. To be able to hear good audio and view good images, videos, and other media, students must have strong internet connections. Be mindful that Wifi internet connections may compromise the quality of the audio and video transmissions. It is the student’s responsibility to ensure that they have the hardware needed and are able to access Zoom and Canvas using a strong internet connection.

Course Resources:
The course materials such readings, assignments, lecture slides, grades, student work, announcements, and so forth will be posted on Canvas course site.

Course Requirements, Assessments, and Evaluations:
Class attendance is required. Please read the attendance policy below:

- Class attendance is required. If you are absent from the 1st class session and have not contacted your instructor, you may be dropped from the course. (This is according to UT policy found in the UTK Catalog.)
SIS does NOT recommend that students attend class while driving or riding in motorized vehicles. You will assume full responsibility for attending class while driving or riding in motorized vehicles.

If a class session is delayed or cancelled, you will be notified by either the instructor or DE support personnel. See http://www.sis.utk.edu/courses/guidelines.

Missing classes or failing to participate class will lower your grade

Constructive participation will raise the grade.

A substantial portion of your grade (5%) is assigned to attendance. Unexplained absences will affect your grade. If you will be absent from class:

- Inform the instructor in advance or as soon as possible after class;
- Submit any work due from the missed class period;
- Obtain notes, handouts, etc. from Canvas course site and/or classmates as applicable;

Acceptable reasons for absence from class include:

- Illness, serious family emergencies, special curricular or job requirements (e.g., conferences), severe weather conditions, religious holidays, participation in official university activities such as music performances, athletic competition or debate, and imposed legal obligations (i.e., jury duty, subpoena).

- Missing more than one class meeting for reasons other than those listed above will have a negative impact on your course participation grade. I will deduct 5 points from the total grade for such absence.

Assigning Grades
Please note that I do not assign letter grades for individual assignments, projects, or class activities, but will mark your paper with my comments and provide a point score based on the possible points earned for that assignment. Your final grade will be based on total points earned over the course of the semester. I advise you to keep record of every grade on every activity you earn in this course outside of the Canvas site.

Grades Turnaround Time
I will return graded class assignments and activities within two to three weeks at the most. I recommend that you review your grade and my comments or suggestions, as applicable. Even if you have received a high grade, review my comments or suggestions as these have additional insight thoughts you should consider.

You have one week from the time you receive a grade to question the grade and ask for review. You should do so in writing via email. I will reply to your request within one week, unless I am travelling and unable to connect to the internet.

Evaluation Criteria
Generally, the evaluation of course activities (namely projects and specific homework or assignments) will be based on operational, qualitative, and quantitative criteria. Operational criteria include meeting the requirements, adhering to guidelines, and submission on time. Qualitative
criteria include quality of writing, organization, formatting, amount of analysis and synthesis, and
demonstration of critical thinking, as well as evidence of reading and understanding covered topics,
among others.

Additional Criteria:
Student work will be evaluated based on class attendance, keeping up with the assigned readings,
participating in constructive class discussions, submitting assignments and other activities on
time; and communicating effectively an in a timely manner with the instructor about aspects of
the course such as progress, barriers to learning, problems or other difficulties.

This course involves readings from the textbook and outside of it, conducting research, creating
and attending class presentations, and making field visits. Students should commit sufficient time
to meet these course requirements.

Grade Scale
Semester grades will be assigned according to the following scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93≤</td>
<td>(4 quality points per semester hour) superior performance.</td>
</tr>
<tr>
<td>A-</td>
<td>90-92.75</td>
<td>(3.7 quality points per semester credit hour) distinguished grade performance.</td>
</tr>
<tr>
<td>B+</td>
<td>88-89.75</td>
<td>(3.5 quality points per semester hour) better than satisfactory performance.</td>
</tr>
<tr>
<td>B</td>
<td>83-87.75</td>
<td>(3 quality points per semester hour) satisfactory performance.</td>
</tr>
<tr>
<td>B-</td>
<td>80-82.75</td>
<td>(2.7 quality points per semester credit hour) intermediate grade performance.</td>
</tr>
<tr>
<td>C+</td>
<td>78-79.75</td>
<td>(2.5 quality points per semester hour) less than satisfactory performance.</td>
</tr>
<tr>
<td>C</td>
<td>70-77.75</td>
<td>(2 quality points per semester hour) performance well below the standard expected of graduate students.</td>
</tr>
<tr>
<td>D</td>
<td>60-69.75</td>
<td>(1 quality point per semester hour) clearly unsatisfactory performance and cannot be used to satisfy degree requirements.</td>
</tr>
<tr>
<td>F</td>
<td>59.75≥</td>
<td>(no quality points) extremely unsatisfactory performance and cannot be used to satisfy degree requirements.</td>
</tr>
</tbody>
</table>
| I     |             | (no quality points) a temporary grade indicating that the student has performed satisfactorily in the course but, due to unforeseen circumstances, has been unable to finish all requirements. An “I” is not given to enable a student to do additional work to raise a deficient grade. The instructor, in consultation with the student, decides the terms for the removal of the “I”, including the time limit for removal. If the grade “I” is not removed within one calendar year, the grade will be changed to an F. The course will not be counted in the cumulative
Assignments and Projects:
Assignments consist of reports, class presentations, and credit-based online discussions of specific topics. Projects consist of individual or small group work on one final project. Students should submit all assignments, projects, and activities in Canvas course site by the date indicated in the course schedule.

Course Feedback:
Course feedback is important for both students and the instructor. I plan to provide the students with formative feedback about their performance around the middle of the semester. I will ask the students for formative feedback about the course wellbeing around the same time. However, feel free to share feedback about teaching, instructional delivery, course content, etc. at any time during the semester so that I make adjustments as needed to meet you learning needs. I plan to gather summative feedback about the course before the University course evaluation forms are distributed.

Academic Integrity:
“An essential feature of the University of Tennessee, Knoxville is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the university, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity.”

University Civility Statement:
Civility is genuine respect and regard for others: politeness, consideration, tact, good manners, graciousness, cordiality, affability, amiability and courteousness. Civility enhances academic freedom and integrity, and is a prerequisite to the free exchange of ideas and knowledge in the learning community. Our community consists of students, faculty, staff, alumni, and campus visitors. Community members affect each other’s well-being and have a shared interest in creating and sustaining an environment where all community members and their points of view are valued and respected. Affirming the value of each member of the university community, the campus asks that all its members adhere to the principles of civility and community adopted by the campus: http://civility.utk.edu/.

Disability Services:
“Any student who feels s/he may need an accommodation based on the impact of a disability should contact Student Disability Services in Dunford Hall, at 865-974-6087, or by video relay at, 865-622-6566, to coordinate reasonable academic accommodations.

Plagiarism:
Plagiarism in any of its several forms is intolerable, and attention to matters of documentation in all written work is expected and required. Inadverrence, alleged lack of understanding, or avowed ignorance of the various types of plagiarism are not acceptable excuses.
Specific examples of plagiarism are:

1. Copying without proper documentation (quotation marks and a citation) written or spoken words, phrases, or sentences from any source;
2. Summarizing without proper documentation (usually a citation) ideas from another source (unless such information is recognized as common knowledge);
3. Borrowing facts, statistics, graphs, pictorial representations, or phrases without acknowledging the source (unless such information is recognized as common knowledge); and
4. Submitting work, either in whole or in part, created by a professional service and used without attribution (e.g., paper, speech, bibliography, or photograph).
5. Students who may be unsure of the nature of plagiarism should consult the instructor or a guide for writing research reports. Additional resources are available at http://www.lib.utk.edu/instruction/plagiarism

Infractions of academic integrity are penalized according to the severity of the infraction but may include a course grade of "F."

Your Role in Improving Teaching and Learning Through Course Assessment:
At UT, it is our collective responsibility to improve the state of teaching and learning. During the semester, you may be requested to assess aspects of this course either during class or at the completion of the class. You are encouraged to respond to these various forms of assessment as a means of continuing to improve the quality of the UT learning experience.

Key Campus Resources for Students:
- Center for Career Development (Career counseling and resources; HIRE-A-VOL job search system)
- Course Catalogs (Listing of academic programs, courses, and policies)
- https://sds.utk.edu/ Disability Services (865) 974-6087, or by video relay at, (865) 622-6566
- Hilltopics (Campus and academic policies, procedures and standards of conduct)
- OIT HelpDesk (865) 974-9900
- Schedule of Classes/Timetable
- Student Health Center (visit the site for a list of services)
- Student Success Center (Academic support resources)
- University Libraries (Access to library resources, databases, course reserves, and services)
**Course Outline and Schedule (subject to revision)**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topics</th>
<th>Readings</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Welcome and introductions, Review of syllabus, schedule, assignments/projects, etc. Demo of Hodges OneSearch (<a href="http://lib.utk.edu">http://lib.utk.edu</a>) Demo of <a href="http://librarytechnology.org">http://librarytechnology.org</a></td>
<td>None</td>
<td>None</td>
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<td>Tuesday, August 28</td>
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<tr>
<td>Week 2</td>
<td>Overview of ILS Concepts and definitions</td>
<td>Breeding, Text, read the Forward and pp. xxi-xxix Bilal, chap. 1</td>
<td>Online discussions Activity #1</td>
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<tr>
<td>Sept. 4</td>
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<tr>
<td>Tuesday, Sept. 11</td>
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<tr>
<td>Week 4</td>
<td>LALC 2: Gathering user requirements- methods Outcome of data gathering</td>
<td>Bilal, chap. 3</td>
<td>Assignment 1</td>
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<tr>
<td>Tuesday, Sept. 18</td>
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<td>Tuesday, Sept. 25</td>
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<td>Week 7</td>
<td>Tuesday, Oct. 9</td>
<td>LALC 3. Part 3. Evaluation of RFP; LALC 4: System implementation, Part I. Bibliographic standards Linked data RDA, etc. Barcodes &amp; RFID Conversion of records Guest speaker (Dr. Awa Zhu) — tentative</td>
<td>Bilal, chap. 5</td>
</tr>
<tr>
<td>Week 8</td>
<td>Tuesday, Oct. 16</td>
<td>LALC 4: System implementation, Part I (cont’d) Part II, Installation, testing, and deployment Facilities; Training</td>
<td>Bilal, chaps. 5-6</td>
</tr>
<tr>
<td>Week 9</td>
<td>Tuesday, Oct. 23</td>
<td>ILS/LSP software hosting: different models Hardware and network architecture Cloud computing Guest speaker – Michael Rogers (UT Hodges Library)</td>
<td>Bilal, chap. 7</td>
</tr>
<tr>
<td>Week 10</td>
<td>Tuesday, Oct. 30</td>
<td>System migration process Data migration and outsourcing</td>
<td>Bilal, chap. 8</td>
</tr>
<tr>
<td>Week 11</td>
<td>Tuesday, Nov. 6</td>
<td>LALC 5: system evaluation through usability Usability methods</td>
<td>*Bilal, chap. 9 *Nielsen/Norman Group at, <a href="https://www.nngroup.com/">https://www.nngroup.com/</a></td>
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<tr>
<td>Week 12</td>
<td>LALC 5: system evaluation through usability (cont’d.)</td>
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<tr>
<td>Tuesday, Nov.</td>
<td>Usability methods</td>
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<td>User research methods</td>
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<td></td>
<td>*Usability heuristics at, <a href="https://www.nngroup.com/articles/ten-usability-heuristics/">https://www.nngroup.com/articles/ten-usability-heuristics/</a></td>
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<td>*Social research methods at, <a href="https://socialresearchmethods.net/">https://socialresearchmethods.net/</a></td>
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<tr>
<th>Week 12</th>
<th>Work on your own Dr. Bilal at ASIS&amp;T</th>
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<tbody>
<tr>
<td>Tuesday, Nov. 13</td>
<td>Work on final project on your own</td>
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<tr>
<td></td>
<td>Online discussions Activity 3- Due date extended until Nov. 17th.</td>
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</table>

<table>
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<tr>
<th>Week 13</th>
<th>Challenges and issues The present and future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday, Nov. 20</td>
<td>*Bilal, chap. 9</td>
</tr>
<tr>
<td></td>
<td>*Nielsen/Norman Group at, <a href="https://www.nngroup.com/">https://www.nngroup.com/</a></td>
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<td>*Usability heuristics at, <a href="https://www.nngroup.com/articles/ten-usability-heuristics/">https://www.nngroup.com/articles/ten-usability-heuristics/</a></td>
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<td></td>
<td>*Social research methods at, <a href="https://socialresearchmethods.net/">https://socialresearchmethods.net/</a></td>
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<tr>
<th>Week 14</th>
<th>Last day of class Course wrap-up Class presentations of final projects</th>
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<tbody>
<tr>
<td>Nov. 27</td>
<td>All previous readings</td>
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<tr>
<td></td>
<td>Revision: Project presentation slides; class presentations</td>
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<table>
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<tr>
<th>Dec. 4*</th>
<th>N/A</th>
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<tbody>
<tr>
<td></td>
<td>Revision: Final project write up</td>
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</table>

*The deadline for submitting the final project write up has been extended to December 4th to allow more time for completing the project. Students may still submit the final project on Nov. 27th.

**NOTE:** The instructor reserves the right to revise, alter or amend this syllabus, course schedule, due dates, and assignments as necessary. Students will be notified in class and/or on
Canvas course site of any such changes. If you have any concerns about this practice, do not hesitate to talk with me.

Grading/points

<table>
<thead>
<tr>
<th>Activities inside and outside of class: (Revised: 15%)</th>
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<tbody>
<tr>
<td>Assignment 1: Researching and reviewing recent literature (Revised: 20%)</td>
</tr>
<tr>
<td>Assignment 2: Field experience with an ILS/LSP (20%)</td>
</tr>
<tr>
<td>Assignment 3: Feasibility study (20%) - subject to change</td>
</tr>
<tr>
<td>Final Project: ILS evaluation through usability - individual or in small group (Revised: 25%)</td>
</tr>
<tr>
<td>Project class presentation: (Revised: 10%)</td>
</tr>
<tr>
<td>Constructive participation: (5%)</td>
</tr>
<tr>
<td>Keeping up with readings (5%)</td>
</tr>
</tbody>
</table>
Online Discussion of Activities

Activity 1 (3 points)

This activity is as a thread in Canvas Discussions space. Once you complete the activity, post it in the Discussions space by clicking on Reply to my thread. Monitor each of your classmates’ postings. Reply to one of the posts in a thoughtful manner.

Description: Find a library nearby or if you work in a library, you may use its ILS for this activity. Note that you do not have to visit a library to do this activity. Most ILSs are available on the web.

Do the following: Check the chosen library’s website and locate the online catalog (also known as the OPAC or online public access catalog or integrated library system).

Label each part you answer according to the scheme below:

1. What is the name of the ILS software used in the chosen library? Note that this information may be found at the end of the search screen of the ILS). If you cannot find the name, contact a reference librarian for help.

2. Search the chosen ILS on any topic of interest to you.
   2.1 Provide a screenshot of the ILS user interface (the first ILS screen you see).
   2.2 Give the ILS URL address.

3. Spend some time exploring the ILS features. Answer the following questions:

   3.1 What search options does the ILS have? (e.g., author, title, subject)

   3.2 In your view, what are the best features of this ILS? Give one example.

   3.3 In your view, what are the worst features of this ILS? Give one example.

   3.4 Is the ILS an open source or proprietary (commercial)? You may need to conduct a search in Google or other engines under the name of the ILS to find this information.
Assignments and Projects

See Canvas.
Class Presentations of Final Project (5 points)

Create a slide presentation of your project to present in class on the due date according.

Presentation Guidelines

- Use Powerpoint or equivalent to create the slide presentation.
- Prepare a fifteen-minute presentation (exceeding this time will result in reduced credit).
- Provide additional five minutes for Q&A.
- Include a cover slide.
- Ensure simple, clean, and uncluttered slides.
- Include UT and SIS logos on the slides.
- Include infographics and other images or media, as applicable.

Deliverables

A slide presentation document posted on Canvas course site.

Best of luck working on the presentation. Have fun!