INSC 582: Information Systems: Design and Implementation
Fall 2019

Instructor: Dr. Dania Bilal
Meeting Time and Place: Tuesday: 6:30-8:00 PM and 1.10 hours outside of classroom; or from 6:30-9:10 PM
Course Credit Hours: 3
Delivery: Online Via Zoom

Faculty Contact Information

Office hours: Thursday 4-6 p.m. Alternate ways of contact: by phone and/or appointment.
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Catalog Description/Information:

Information systems used in libraries and information agencies. Emphasizes planning, evaluation and system implementation. Covers usability, 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). 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. **Note** that this course does not cover web design processes, web coding languages, or specialized systems used in government agencies or industry.

Value Proposition:

Today, most libraries have automated their collections using ILSs or LSPs. However, there are still small libraries like those in rural areas or small specialized ones that still use card catalogs or have no catalogs at all. Several libraries are migrating from an old to a new ILS/LSP to meet user needs and expectations and/or to accommodate growing collections. 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 covers the Library Automation Life Cycle (LALC) framework

developed by Dr. Bilal. It is inspired by the systems analysis approach, the classical System Development Lifecycle (SDLC) used in business settings. Students will gain knowledge of the processes involved in undertaking a new automation/migration project in whole and/or parts in both library and other settings. Additionally, students will gain understanding of the various methods used in evaluating user experience (UX) with an LIS/LSP interfaces.

Mapping Student Learning Outcomes in this Course to MSIS Program Learning Outcomes

INSC 582	**MSIS**
1. Gain knowledge of diverse user characteristics, information needs, and changing expectations in interacting with ILSs/LSPs. 2. Become familiar with the latest advances in technology developments and their impact on the changing nature of ILS/LSP systems and user expectations.	#3: Apply the general principles, values, and ethical standards of providing information services in a variety of settings and for diverse populations. #5: Comply with the changing responsibilities of the information professional in a culturally diverse and networked global society #7: Explain the changing nature of information, information needs, and information behavior.
3. Become familiar with the process of and options for developing a Request for Proposal (RFP) to select or migrate from a proprietary or open source ILSs/LSPs. 4. Discuss requirements and issues related to cloud-based ILSs/LSPs hosting versus onsite and other options. 5. Identify and discuss reasons for system migration, process, options, and issues.	#8: Assess and implement information technologies, systems, sources and services that serve users effectively and efficiently.
6. Identify and discuss various usability research methods for evaluating ILS/LSP interfaces and User Experience (UX). 7. Identify and discuss key sources of research and reviews for various ILS software designed for different types of libraries and agencies.	#9: Analyze research and apply it to information practice.

Learning Environment:

The course content is delivered online via Canvas software. This course combines theory and practice. It integrates interactive and collaborative teaching and learning methods. The tools of learning include real-world experiences, hands-on activities, discussions, demos, and talks by experts, 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 in 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 sporadic, I will do my best to reply to 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/

When email me, please include **INSC582** in the subject line so that I identify your emails quickly. Check the Spam or Junk folder of your email when you do not receive replies. 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 well prepared for classes
- Complete the assigned readings on time
- Actively and constructively contribute to class discussions and the overall learning environment
- Meet all course requirements and expectations
- Adhere to project/assignment guidelines
- Do *your share* of the work on group projects
- Be responsive to and act responsibly in working with classmates
- Be respectful of classmates and the instructor
- Abide by the UT Honor Code
- Be honest; avoid plagiarism (Note: I will run your work on iTenticate to detect plagiarism)
- Be patient with yourself, classmates, content of the course, Zoom, and other technologies used
- Allocate time outside of the classroom for readings, assignments, and other course requirements
- Communicate well with classmates and the instructor

Instructor's Responsibilities

- Be on time for each class session

- Be prepared for all classes
- Treat students equally
- Evaluate students' work fairly
- 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

Bilal, Dania. 2014. *Library Automation: Core Concepts and Practical Systems Analysis*. Santa Barbara, CA: ABC-CLIO. Earlier editions of this book will not be accepted.

Required Resources for Use:
Breeding, Marshall. Date varies. **Library Systems Report**. American Libraries, May 1st issue of every year.

2019 report: https://americanlibrariesmagazine.org/2019/05/01/library-systems-report-2019/
2018 report: https://americanlibrariesmagazine.org/2018/05/01/library-systems-report-2018/

Additional readings will be assigned. Students will gain updates through assignments and projects.

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
Specific out-of-class time investment may vary for each individual student. On average, the student may need 145 out-of-class hours to complete class activities (e.g., assigned readings, online discussions, assignments, group work, and real-world experiences).

Required Equipment:
This course is delivered online via Zoom and, therefore, requires access to a laptop, tablet, or other device connected to the internet and equipped with a very good microphone. To be able to hear good audio and view good images, videos, and other media, students must have high-speed 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 high-speed internet connection.

Course Resources:
Readings, assignments, lecture slides, grades, graded 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. Based on UTK policy, if you are absent from the 1st class session and did not contact the instructor, you may be dropped from the course.
- *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, the instructor or her teaching assistant or the DE technical support personnel will notify you. SIS class cancellation guidelines are at, http://www.sis.utk.edu/courses/guidelines.
- Missing classes or failing to participate in class will lower your final grade.
- Constructive participation will raise your final grade.
- A substantial portion of your grade (5%) is assigned to attendance and class participation. Unexplained absences will affect your grade. **If you will be absent from class:**
    - Inform the instructor in advance or as soon as possible;
    - 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** for each unexcused 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 the total points earned over the course of the semester in addition to the points I will assign to attendance and class participation. 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 weeks. I recommend that you review your grade and my comments or suggestions, as applicable, even if you are satisfied with it.

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) are 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.
Quantitative include criteria such as the number of required readings or articles or essays students are supposed to complete, and the parts of an assignment completed as applicable (e.g., a, b, c, d).

Other 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 and outside of the Textbook, conducting research, creating class presentations, engaging in real-world experiences through on-site field visits. **Students should commit time outside of the classroom for making the field visits.**

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

A	93≤	(4 quality points per semester hour) superior performance.
A-	90-92.75	(3.7 quality points per semester credit hour) distinguished grade performance.
B+	88-89.75	(3.5 quality points per semester hour) better than satisfactory performance.
B	83-87.75	(3 quality points per semester hour) satisfactory performance.
B-	80-82.75	(2.7 quality points per semester credit hour) intermediate grade performance.
C+	78-79.75	(2.5 quality points per semester hour) less than satisfactory performance.
C	70-77.75	(2 quality points per semester hour) performance well below the standard expected of graduate students.

D	60-69.75	(1 quality point per semester hour) clearly unsatisfactory performance and cannot be used to satisfy degree requirements.
F	59.75≥	(no quality points) extremely unsatisfactory performance and cannot be used to satisfy degree requirements.
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 grade point average until a final grade is assigned. No student may graduate with an "I" on the record.

Assignments and Projects:
Assignments consist of reports, class presentations, and credit-based online discussions of lectures and other designated topics. Projects consist of individual and group work on designated topics. Students should submit all assignments, projects, and activities in Canvas course site by the due date shown on 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, students should feel free to share feedback about teaching, instructional delivery, course content, etc. at any time during the semester so that I will be able to make the adjustments needed. I plan to gather summative feedback about the course before TNvoice course evaluations reach your inboxes.

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. Inadvertence, alleged lack of understanding, or avowed ignorance of the various types of plagiarism are not acceptable excuses. UTK uses iThenticate software to detect text plagiarism. I will use the software to check your work for plagiarism.

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:

- 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)

Topic Outline and Schedule (subject to revision*)

Date	*Topics*	*Readings*	*Due*
8/22	▪ Welcome; introductions ▪ Review of syllabus, course schedule, assignments/projects, etc. ▪ Demo of Hodges OneSearch (http://lib.utk.edu) ▪ Demo of http://librarytechnology.org	Peruse the table of contents of the Textbook	Introduce yourself in class (informal)
8/29	▪ ILS characteristics as information system ▪ Changing nature of ILS ▪ Concepts and definitions	*Text, read the Forward by Marshall Breeding, pp. xxi-xxix *Bilal, chap. 1	Discuss your experience with ILS/LSP (informal- in class)
9/5	Library Automation Life Cycle (LALC) vs. System Development Life Cycle (SDLC) LALC 1: System identification and planning ▪ Project scope and statement ▪ Project feasibilities ▪ Role of project manager	*Bilal, chap. 2 *2019 report by Breeding: https://americanlibrariesmagazine.org/2019/05/01/library-systems-report-2019/ *2018 report by Breeding: https://americanlibrariesmagazine.org/2018/05/01/library-systems-report-2018/ *Project management at usability.gov https://www.usability.gov/what-and-why/project-management.html	
9/12	LALC 2: Gathering user requirements ▪ Research methods ▪ Outcome of data gathering	Bilal, chap. 3	**Assignment #1**
9/19	LALC 3: Structuring user requirements - Library vs business environment System selection ▪ RFI & RFP ▪ OSS vs. proprietary ▪ ILS Software by library type	Bilal, chap. 4 *Breeding, Library Technology Guides, https://librarytechnology.org/ *Breeding 2019 report: https://americanlibrariesmagazine.org/2019/05/01/library-systems-report-2019/ *Breeding 2018 report: https://americanlibrariesmagazine.org/2018/05/01/library-systems-report-2018/ *American Libraries Buyers Guide: http://americanlibrariesbuyersguide.com/	

9/26	LALC 3: Structuring user requirements (cont'd.) ▪ System selection ▪ OSS vs. proprietary ▪ ILS software by library type ▪ Evaluation of RFPs	*Bilal, chap 4. *Breeding, Library Technology Guides, https://librarytechnology.org/ *Breeding 2019 report: https://americanlibrariesmagazine.org/2019/05/01/library-systems-report-2019/ *Breeding 2018 report: Breeding 2018, https://americanlibrariesmagazine.org/2018/05/01/library-systems-report-2018/ *American Libraries Buyers Guide, http://americanlibrariesbuyersguide.com/	
10/3	LALC 4: System implementation: Part I. ▪ Bibliographic standards ▪ Linked data ▪ RDA ▪ Barcodes; RFID ▪ Conversion of records **Guest Speaker (TBA)**	Bilal, chap. 5	**Assignment #2**
10/10	LALC 4: System implementation: Part II. Installation ▪ Testing ▪ Deployment ▪ Facilities ▪ Training	Bilal, chaps. 5-6	**Group project idea – informal (in class – no submission)**
10/17	**System Migration** Dr. Bilal in Australia for ASIS&T Annual Meeting	*Bilal, chaps. 7-8 *Outside of class: **listen to Mike Rogers' recorded session** on system migration, cloud computing/hosting models, and networks.	**Assignment #3**
10/24	**System/Database Migration** **Guest Speaker**	*Bilal, chap. 8	
10/31	LALC 5: system evaluation through usability & User research methods	*Bilal, chap. 9 *Nielsen/Norman Group at, https://www.nngroup.com/ *Usability.gov at, https://www.usability.gov/what-and-why/user-research.html *Usability heuristics at, https://www.nngroup.com/articles/ten-usability-heuristics/ *Social research methods at,` https://socialresearchmethods.net/	**Assignment #4**

11/7	LALC 5: system evaluation through usability (cont'd.) Usability & user research methods	*Bilal, chap. 9 *Nielsen/Norman Group at, https://www.nngroup.com/ *Usability.gov at, https://www.usability.gov/what-and-why/user-research.html *Usability heuristics at, https://www.nngroup.com/articles/ten-usability-heuristics/ *Social research methods at,` https://socialresearchmethods.net/	
11/14	**Work on your own** **Dr. Bilal at conference in Spain**	Work on final project on your own	
11/21	Challenges and issues The present and future Course wrap up	*Bilal, chap. 10 *Breeding, Five Key Technology Trends at, http://www.infotoday.com/cilmag/dec17/Breeding--Five-Key-Technology-Trends-for-2018.shtml *Lynch, Library Tech Trends for 2018 (Tech Soup) at, http://www.techsoupforlibraries.org/blog/library-tech-trends-for-2018	**Class presentations of group project**
12/3	No Class	N/A	**Group project write up**

***NOTE:** According to **UTK policy**, 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.

Additional readings will be added to those shown in the course schedule. Students will be notified of such readings.

Grading/points

Assignment 1: Exploring Key Developments in ILS Systems (15%)
Assignment 2: Researching Recent ILS literature (20%)
Assignment 3: Field Experience (20%)
Assignment 4: Summary of Guest Speakers Lectures (10%)
Group Project: ILS evaluation through usability (25%)
Group presentation of project: (5%)
Class participation: (5%)