Course Description
A study of the computing fundamentals needed for the understanding and use of information technology, which is essential to information professionals. Focus is on examining computer systems in concept and practice. Topics include how computers represent, process, store and retrieve information; how operating systems control these processes, interpret commands, present the user interface, and run applications; how databases are designed and created; how general understanding of programming processes and productivity software skills is important in a variety of professional contexts. Productivity applications include the Office suite, Internet applications and web publishing, and database management systems.

Course Objectives
To introduce the student to basic computer and IT concepts including hardware, software, operating systems, Internet protocols and HTML, database design and implementation, and IT security issues.

At the end of this course, students will:
- Have developed a conceptual and practical understanding of the computing fundamentals essential to information technology systems, including how computers represent, process, store and retrieve information, present the user interface, run useful applications, and interact in a networked world.
- Understand the function and role of operating systems in the management of computer processes and data, and how to effectively utilize them.
- Have developed a knowledge base regarding computer hardware and software sufficient to make informed selection decisions and perform routine troubleshooting.
- Be familiar with general programming processes and developed basic script programming skills.
- Be familiar with database systems, systems analysis and modeling techniques (ERD and DFD), and normalization.
- Understand markup language concepts and graphics techniques to create HTML web pages and successfully upload them to a Unix based web server.
- Have developed competencies in some widely used productivity applications including Microsoft Word, Excel, PowerPoint, and Access as well as cloud computing.
- Be familiar with cloud computing applications.

Textbook

Additional Web Resources and requirements
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Students will utilize various other materials are on the web as directed in each module; I have a Youtube channel at http://www.youtube.com/jbmillerSLIS with videos of interest and I will post links to them in Blackboard. The publisher of our text also has a great web site you can register for at http://login.cengage.com/cb/ where you can take practice quizzes and access other resources. There is also a University of Kentucky’s web based training page at http://www.uky.edu/HR/etraining/.

You will also need to establish a Google account if you do not already have one that you will use for several activities.

Grading
The grade for this course will be based on the following:
Module quizzes (8 @ 20 points each): 160 pts
Six projects worth a total of 140 pts
Class participation: 50 pts
Total: 350 pts.

Grading Scale:
100-90% (315-350 pts) = A
89- 80% (280-314 pts) = B
79-70% (245-279 pts) = C

Quizzes
There is a quiz at the end of each module. Quizzes will be posted by noon of the day the module ends and will be available until the end of the following day, which gives a 36-hour window to take the quiz. Note that technical problems can occur with Blackboard quizzes and will be addressed on a case-by-case basis. Students are expected to do all quizzes without outside help and without consulting supporting materials. Quizzes will cover material from that module, which includes assigned readings, my lectures, and forum discussions for that module. Quizzes in BlackBoard will be timed and be presented as a single question at a time with no backtracking permitted.

Participation Summary
Discussion forum/wiki: 40 points (5 points per module)
Blog: 10 points (at least one post per module)
Total 50 points

Participation 1: Discussion points
Students are expected to participate in class discussion via the forums or the wiki. Topics will be posted for each module in the discussion forums, and students should use the discussion board to bring up any questions on topics they wish to explore further. All content and project related questions should be posted to a forum first instead of being sent directly to the instructor so others may benefit from the answer, whether it comes from a peer or the instructor. There are five discussion points available for each module for a total of 40 points. To earn the full five participation points in each module, you must make at least one substantive contribution to either the discussion board forum or a wiki page you create during the time the module is active. Therefore, you cannot make advance posts before a module has started or post “make up” contributions after a module has ended. Discussion boards and the wiki close with the launch of the module quiz, which is always at NOON on the day the module ends. Discussion posts can be in the form of responding to one of my framing questions or initiating a discussion
with a substantive post on a topic of interest as long as it is related to the module content where you offer your insights or new information to the class, or answering a content question from a peer. Wiki posts should be your attempt to define and explain some technology or concept that you encounter in the course. As a general guide, a “substantive” post to a forum or wiki page is one that goes beyond stating agreement with another or just passing along a link and generally must be at least 150 words (a short paragraph or more) of thoughtful commentary or related information.

Participation 2: Blog points
The blogs are less formal than the forums. It is the place where you will introduce yourself to the class and reflect in any way you wish on topics or tangents. The 10 participation points associated with blog activities are earned by posting your personal reflections on the course at least once each module. For module 1, that first post must include a brief introductory bio with a photo. This initial required post is worth three of the 10 points; subsequent blog entries are worth 1 point per module. All other posts are totally up to you – you may wish to include your reflections on your experience with IT, your expectations or thoughts about the class, but posts are not restricted to these topics. They are your chance to “think aloud” about your personal perspective on the course or ideas related to how it might inform your practice when you complete the program if you wish, but you can also post on any other topic of interest to you at the time. It is one additional way for me to get to know you better and for you to get to know your classmates. You may post as often (or as little) as you wish beyond the one post per module expectation.

I will create a blog in Blackboard for each student for you to use. Others may elect to read your blog or not; unlike the discussion forum, topics that come up in a student blog are not considered content that you will be responsible for in the quizzes. You can read someone else’s blog if you are interested, but that is your choice. I be reading all the blogs, and I might comment on posts you make.

Projects
Early submissions will not be graded in advance of the due date; I prefer to do these all at one time. However, project questions can be discussed throughout the module the project is associated with. All projects are due the day the quiz starts for the module they are associated with and can be submitted up to the end of the day the module ends (11:59 PM).

Project #1: (20 points) An introduction to the functions and use of operating systems using Windows and Unix. **DUE September 19**
Project #2: (20 points) Create a web page using HTML and upload to the sweb server. This basic page will be updated periodically by adding links to completed future projects. **DUE October 3**
Project #3: Productivity applications and cloud computing: (30 points) **DUE October 31**
  Part 1: Word processing - Create a newsletter from a given text file and share in Google docs.
  Part 2: Excel - An Excel exercise in which a library budget will be prepared along with appropriate graphs and charts; share in Google docs.
  Part 3: PowerPoint – a short PowerPoint slide show will be created and made available in Google docs.
Project #4: (20 points) An introduction to programming processes via text based command scripts. Batch files, simple JavaScript, and PHP scripts. **DUE November 14**
Project #5 (20 points): Relational databases in Microsoft Access. **DUE November 28**
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Project #6 (30 points): Environment scan and reflection paper. Due December 7

Course Calendar Summary
Module 1 – Introduction: August 22 – September 5.
Module 2 – Operating systems: September 6 – 19. Project 1 due
Module 3 – Internet: September 20 – October 3. Project 2 due
Module 4 – Hardware: October 4 – 17.
Module 5 – Productivity: October 18 – 31. Project 3 due
Module 6 – Programming and scripting: November 1 – 14. Project 4 due
Module 7 – Databases: November 15 – 28. Project 5 due
Module 8 – Security November 29 – December 7. Project 6 due

Course Module details:
Module 1: Course Introduction August 22 – September 5.
  Computing history
  Binary numbers and Boolean logic
Text Readings: Chapter 9, Section A, pages 486-96) and Chapter 1, pages 2-28 (Emphasis on section C)

Module 2: Operating Systems September 6 – 19. Project 1 due
  Functions of PC operating systems
  HCI via the command line, command syntax, and GUI
  Disk organization and directories; File names and extensions
  Introduction to Unix and Windows
  Secondary storage concepts and file systems
Text Readings – Chapter 4
  Online:
  http://www.easydos.com/dosindex.html commands
  *http://www.computerhope.com/msdos.htm
  Unix: http://www.engr.uky.edu/unixhelp/index.html

Module 3: Internet and the Web September 20 – October 3. Project 2 due
  A brief history of the Internet
  Internet protocols
  Markup languages and HTML
  Unix and uploading files
  Web 2.0
Text Readings: Chapters 6 and 7
Other HTML Readings:
W3schools site: http://www.w3schools.com
*http://www.w3.org/TR/REC-html40-971218/intro/intro.html

Module 4: computer hardware October 4 – 17.
Computer hardware systems: CPU cycles, RAM addressing, ROM, data bus.
  Input/output devices
  Graphics and displays
  Mass storage
  Mobile devices
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Text Readings: Chapter 1, section D and Chapter 2

**Module 5: Productivity software** October 18 – 31. Project 3 due
   Word, Excel, and Powerpoint
Text Readings: Chapter 3
Online: Google docs help

**Module 6: Programming and scripting** November 1 – 14. Project 4 due
   Programming processes, Software types and trends: compiled, interpreted, object oriented.
   Introduction to text based scripted command files.
   Batch files, replaceable parameters, flow of control; bat files, PHP and JavaScript examples
Text Readings: Chapter 12 sections A, B, C (pages 672-712)
Online readings:
   *http://www.computerhope.com/batch.htm* (section on batch files)
   *http://www.robyvanderwoude.com/* (section on batch files)
   *http://www.w3schools.com/js/js_intro.asp* (introduction to JavaScript)

**Module 7: Database Systems** November 15 – 28. Project 5 due
   Introduction to Database Management Systems
   Entity Relationship Modeling and Normalization
   Query languages (SQL)
   Access
Text Readings: Chapter 11
Online Readings:
   *http://www.smartdraw.com/resources/centers/software/erd.htm* ER models
   http://www.umsl.edu/~sauter/analysis/er/er_intro.html
   *http://www.agilemodeling.com/artifacts/dataFlowDiagram.htm* Dataflow diagrams
   *http://www.oreilly.com/catalog/accessdata2/chapter/ch04.html* Normalization
Extra and supplemental:
   http://databases.about.com/library/weekly/aa080501a.htm
   http://www.sqlmag.com/Articles/Index.cfm?ArticleID=4887&pg=1
   http://www.databasejournal.com/sqletc/article.php/26861_1428511_4

   Viruses and malware
   Internet security
Textbook:
   Chapter 1 section E (pages 34-42)
   Chapter 3 section E (pages 162-169)
   Chapter 6 section E (pages 340-349)
   Chapter 7 section E (pages 400-408)
   Chapter 12 section E (pages 723-729)

**Syllabus Part 2: Policies, systems used, and frequently asked questions.**

**Blackboard**
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We will use the Blackboard course management system to facilitate the class. Please visit http://www.uky.edu/Blackboard/ to learn about this system and the login requirements. There is a “test your computer” link at http://wiki.uky.edu/blackboard/Wiki%20Pages/Home.aspx that will tell you if your system has needed components for Blackboard.

Online Course Requirements:
You will need access to an appropriate computer with a broadband Internet connection. You must have audio capability to listen to the audio lectures and a headset/microphone (minimum) or a webcam (desirable) is needed for video conferencing. Note that all examples and project questions are Windows-based. This means that while you do not have to own a Windows PC, it is up to you to identify appropriate software replacements for the programs demonstrated if you use another platform (examples include an HTML editor and FTP and telnet clients). Other required software includes a current copy of Office Professional that includes Word, Excel, PowerPoint, and Access. Note that all UK students are eligible for a one time free download of Office from the UK download site (https://download.uky.edu) or you can buy a heavily discounted version of Office 2010. You should also have both the Firefox and IE browsers available to accommodate occasional BlackBoard issues. We make extensive use of Flash audio/visual materials, so you will also need the newest version of the Flash media player for both Flash presentations and for any use of the Adobe Connect web conferencing tool. Occasionally BlackBoard has problems with Flash content. Generally, Firefox or Internet Explorer should work, but if something is not working in one browser, you should be prepared to use an alternate one to see if that solves the problem.

NOTE to Apple users
This is a Windows-centered course, but you should be able to do almost all activities with your Apple computer. However, there are a few course elements will require the Windows operating system. Apple computers can be setup to run Windows sessions either with the “boot camp” utility or by using VMware. Alternatively, you can simply elect to locate and use a Windows PC for those few parts of the course. In project 1, you can use the remote desktop feature to connect to a Windows computer here in the school and use it remotely from any Internet connected computer. For those who need it, this system can be made available for remote access to do any project work on request.

Help
I will try to be available to assist as much as possible for this online experience. However, that does not mean 24/7 support with instant question response. Course support is by several means:

- Your peers: Discussion forums are used to facilitate group discussion by posting discussion questions or by responding to questions from the class. If you have a question, it is likely that others might have a similar one as well and would benefit from the discussion of it. I will be participating to answer questions that cannot be resolved through peer discussion, but I expect you to try to help each other in this online format just as you might in a face-to-face class discussion.
- One-on-one help through email, telephone, and video conferencing consultation: I check my mail frequently and respond as soon as possible. That will usually mean the same day, but my goal is always within 24 hours*.
- Don’t forget face-to-face help: I can always schedule office meetings to meet with you or small groups on request.
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- Adobe Connect: this video conferencing system allows us to talk and share desktops. It requires you have at least a headset microphone; a webcam is optional but desirable. Video conference session meetings will be posted periodically or arranged on request.
- Online sources: many tutorials have been pointed to and the UK EVC training site is also a useful resource.
- BlackBoard help is through the UK helpdesk system. There is also a wiki for BlackBoard at http://wiki.uky.edu/blackboard/Wiki%20Pages/Home.aspx.

*This may be somewhat longer on some weekends or holidays during the semester.

Email
It is essential that we can depend on effective email communication. Some personal email accounts can run into problems with the UK mail spam filtering system. Therefore, if you email me directly and do not receive a timely reply, you should follow up with me in some alternate way (e.g. phone call or a post to the BlackBoard course issues forum). Also, please include “636-your section number/topic” as the first part of the subject line of email correspondence to me related to the course.

Adobe Connect
Adobe Connect, a web conferencing tool. You can access a virtual meeting room via an URL that I will provide for such optional meetings and office hours. There is an introductory video on this tool in BlackBoard.

Expectations

**What I expect from you:**

- You have thoroughly read this syllabus and understand the expectations for this Internet based class, including the need for a reliable computer and Internet connection and required software.
- You will keep track of all posted deadline dates and times.
- You communicate any special needs or issues that might need accommodation in a timely fashion.
- You will check your email and BB announcements regularly throughout the course.
- You will take advantage of alternate communication strategies as needed.
- You will engage the quizzes on your own without consulting other resources. While collaborative work on content questions and project work is fine, quizzes are an individual assessment.

**What you can expect from me:**

- I will present an online class that is comparable to the face-to-face version of 636 using tools that attempt to accommodate multiple learning styles.
- I will attempt to respond to all direct queries usually within 24 hours.
- I will provide graded feedback on projects no later than 48 hours after the due date.
- I will pose discussion questions for each module that will frame our use of the discussion boards and that I will monitor the discussion boards and add comments when appropriate.
- I will arrange face-to-face meetings or video conference sessions as needed and on request.

Attendance and Participation Policy
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As a fully online course, there are no face-to-face attendance requirements. However, I define “attendance” for us in terms of how often you login and engage the BlackBoard course. Ideally, you should be logging in and engaging the course multiple times each week. Note that failure to login at all during a module will result in zero participation points for that module. Failure to login at all for two or more modules during the semester will result in the loss of all participation points for the course.

Review questions
Optional review questions are provided at the end of each module. If you want feedback on these, they must be submitted by noon on day the module ends (the time the quiz launches for each module) in the form of an email message directly to me (jbmiller@uky.edu). Answers should be in the body of the message, not as an attached file to facilitate a quick response to you with comments if needed. Review questions are intended to reinforce module content and to help you prepare for quizzes. You do not have to submit these if you do not have questions about your responses.

Late assignments
Assignments are due at on the dates and times specified in our calendar. Each project is due on the day designated. Late assignments will have an automatic 10% deduction if turned in late up to 48 hours late. Assignments beyond 48 hours late will not be accepted unless there are documented extenuating circumstances such as an illness or family emergency. Each assignment will have directions about the appropriate way it is to be submitted; projects must submitted as described to be accepted.

Plagiarism and Cheating
Plagiarism and cheating will not be tolerated. The University of Kentucky has established rules concerning these issues. Please note the penalties described for these violations documented on the UK website.

Diversity in LIS
All UK professional education programs address and affirm the value of diversity in education, the use of technology to support all aspects of instructional programming, and the importance of attaining high levels of skill in assessing the outcomes of instruction. This course will provide students an opportunity to demonstrate attention to these themes and reflect on the mechanisms that this course has provided to demonstrate improved skills in these areas.