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; and how a general understanding of programming processes and productivity software skills is important in a variety of professional contexts. Activities include work with the Office suite, Internet applications and web publishing, and database management systems.

Course Objectives
To introduce 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.
• 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 develop basic script programming skills.
• Be familiar with database systems, systems analysis and modeling techniques (ERD and DFD), and normalization and build a relational database in Microsoft Access.
• Understand markup language concepts and basic web publishing and successfully upload them to a Unix based web server.
• Have developed competencies in some widely used productivity applications including Microsoft Word, Excel, and PowerPoint.
• Be familiar with cloud computing applications.

Textbook

Additional Web Resources and requirements
Students will utilize various other materials on the web as directed in each module; I have identified Youtube videos of interest and I will post links to them in Blackboard. The publisher of our text also has a web site you can register for at http://login.cengage.com/cb/ that has some 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 (most already have the UK Gmail option, if so, you can use that for the apps and Google Drive). We also have a video conferencing tool called Adobe Connect that can be used as needed to meet virtually on request, but there are no required meetings.

**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 126 pts
Class participation: 64 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 at 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, online 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**
There are two components to participation in this course described in detail below. They are:
1. Discussion forum or wiki contributions: 32 points (4 points per module)
2. Blog entries: 32 points (4 points per module)

**Participation Components**
1. **Discussion or wiki**
   Students are expected to participate in class discussion via the forums or by posting to the wiki. Topics and discussion questions will be posted for each module in the discussion forums, and students should use the discussion board to bring up their 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 four discussion points available for each module for a total of 32 course points. To earn the full four participation points in each module,
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you must make at least one **substantive contribution** to either the discussion board forum or to a wiki page you create **during the time the module is active**. You cannot make advance posts before a module has started nor 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, initiating a discussion with a substantive post on a topic of interest related to the module content, or by providing a substantive answer to a classmate question. Wiki posts are an alternate way to earn participation points for a module by creating a wiki page 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.**

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 course topics or tangents. The 32 participation points associated with blog activities are earned by posting to your blog least once for each module. For module 1, that first post **must include a brief introductory bio with a photo.** To earn the blog points, must have at least one blog entry post that is related in some way to our content – you may reflect on your experience with IT or otherwise comment on your expectations or thoughts about the module, the class, or on its application to some personal context. The blog is 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. I prefer that the blogs not become overly negative in tone – your reflections may include commentary about topics you find challenging, but if you have specific complaints about some aspect of the course I would appreciate you sending them directly to me. Your classmates may elect to read or comment to your blog, but you are not required to read everyone else’s blog entries as you are with the forums. 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. Given that some reflections on a module might be appropriate after the module has been completed, **you can complete the module blog entry anytime up to two days after the end of a module.** For example, modules ending at noon on Wednesday, you have until the end of the day on Friday of that week to complete your blog entry.

You can also make use of the blog to post on any other topic of interest to you in addition to one course-related post. It is another 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.

**Projects**

Early submissions are acceptable, but they will not usually be graded in advance of the due date. Specific questions on projects should be deferred until the module they are associated with begins. All projects are due the day the module they are associated with ends. The quiz will always open at noon that day but projects can be submitted up to the end of that day (11:59 PM).
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Project #1: (10 points) An introduction to the functions and use of operating systems using Windows and Unix. DUE February 12
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 February 26
Project #3: Productivity applications and cloud computing: (30 points) DUE March 26
   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: (10 points) An introduction to programming processes via text based command scripts. Batch files, simple JavaScript, and PHP scripts. DUE April 9
Project #5 (20 points): Relational databases in Microsoft Access. DUE April 23
Project #6 (36 points): Environment scan and reflection paper. Due May 5

Course Calendar Summary
Module 1 – Introduction: January 15-29
Module 2 – Operating systems: January 30-February 12. Project 1 due
Module 3 – Internet: February 13-26. Project 2 due
Module 4 – Hardware: February 27-March 12
Module 5 – Productivity: March 13-26 [INCLUDES SPRING BREAK] Project 3 due
Module 6 – Programming and scripting: March 27-April 9. Project 4 due
Module 7 – Databases: April 10-23. Project 5 due
Module 8 – Security April 24-May 2.
Project 6 due May 5

Course Module details:
Module 1: Course Introduction January 15-29.
   Computing history
   Binary numbers and Boolean logic
   Text Readings: Chapter 9, Section A, pages 486-97) and Chapter 1, pages 2-28
   (Emphasis on section C)

Module 2: Operating Systems January 30-February 12. 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
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Module 3: Internet and the Web – February 13-26. 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 : February 27-March 12.

Computer hardware systems: CPU cycles, RAM addressing, ROM, data bus.
- Input/output devices
- Graphics and displays
- Mass storage
- Mobile devices

Text Readings: Chapter 1, section D and Chapter 2

Module 5: Productivity software March 13-26 [INCLUDES SPRING BREAK]. Project 3 due

Word, Excel, and Powerpoint

Text Readings: Chapter 3
Online: Google docs help

Module 6: Programming and scripting. March 27-April 9. 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 April 10-23. 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
http://databases.about.com/library/weekly/aa080501a.htm
**Module 8: PC Security** April 24-May 2. Project 6 due.

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 339-349)  
Chapter 7 section E (pages 400-408)  
Chapter 12 section E (pages 723-729)  

Policies, systems used, and frequently asked questions.

**Blackboard**  
We will use the Blackboard course management system to facilitate the class. Please visit [http://www.uky.edu/Blackboard](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](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 (see [http://e5.onthehub.com/Webstore/ProductsByMajorVersionList.aspx?ws=f43536c5-bbb4-dd11-b00d-0030485a6b08&vsro=8](http://e5.onthehub.com/Webstore/ProductsByMajorVersionList.aspx?ws=f43536c5-bbb4-dd11-b00d-0030485a6b08&vsro=8)) or you can mail order a heavily discounted version. You should also have both the Firefox and IE (or Safari and Chrome for Apple users) browsers available to accommodate occasional Blackboard issues. We make 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.

**UK Virtual Desktop**  
We will introduce and use the UK Virtual Desktop, which is virtual Windows 7 machine. This is used in project 1, but is also an option for Apple users to do other Windows activities or for those who might need to find a copy of Access to use for project 5. There are many programs available on that VM; you are able to use ANY program that is available in the UK computer labs through the UK "virtual desktop." To use this system on any Windows or Apple computer, go to [http://apps.uky.edu](http://apps.uky.edu). The first time you visit, you have to install the Citrix plugin software. After doing that, you can then login using your standard link blue credentials, just as you would
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use to login to Blackboard. Once you login, you will see a group of folders with specialized applications, along with a tab for "desktop." Select that and a new window will open that will present a virtual "desktop" that is the same as what you would see in the computer labs on campus. There is a video on how to do this in the course information area in Blackboard.

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. In addition to running the UK virtual Windows desktop described above, Apple computers can be setup to run Windows sessions either with the "boot camp" utility or by using VMware if you want to explore those options.

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. All content and project questions should be directed to a forum – 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, except on some weekends or holidays where it could be slightly longer.
- Don’t forget face-to-face help: I can always schedule office meetings to meet with you or small groups on request.
- 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.

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 a face-to-face version of 636 using tools that attempt to accommodate multiple learning styles.
- I will 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 on request.

Attendance and Participation Policy
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. 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 unless you have questions about your responses.

Late assignments
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Assignments are due at on the dates and times specified in our calendar. Late assignments will have an automatic 10% deduction if turned in late up to 48 hours late. Assignments more than 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.

Portfolio Artifacts
LIS636 is typically the technology course used in your exit portfolio and the projects we do will be used as artifacts. Therefore, you MUST keep copies of the projects you submit along with any grading notes I provide in Blackboard or via email. I DO NOT keep copies of your graded work that you can request later; all I archive is the numeric score for each project.

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.