CIT 130 104L
Information Technology Fundamentals
Fall 2017

Richard Fox   Phone: (859) 572-5334
Office GH 444   Email: foxr@nku.edu
Meeting Time: MW 10:00 am – 11:45 am, GH 160   Web: www.nku.edu/~foxr
Office hours: MW 9:00 – 9:45 am, F 9:00 – 11:00 am, and by appointment

Course Description:
Introduction to the organization of computers, operating systems, and networks; comparison of common operating systems; hands-on experience in PC construction and configuration; command-line usage of Windows and Unix/Linux systems; data representation; overview of the information technology industry and its societal context.

Prerequisites and Credits:
C- or better in MAH 099 or placement, 3 credit hours, required by all CIT majors and minors.

Textbook: (required)
Information Technology: An Introduction for Today's Digital World, Richard Fox, 2013, 978-1-4665-6828-0, CRC Press/Taylor & Francis Group.

Course Structure:
This course consists of introductory IT content for CIT majors and minors. The course is divided into lecture days (Mondays) and lab days (Wednesdays). Each class period lasts 1 hour 45 minutes. If you cannot complete a lab in the class time, you will need to complete it outside of class. See information about labs below.

Student Learning Outcomes:
By the end of this course, students will:
- understand the components of a contemporary computer and know how to assemble.
- be able to execute basic commands to manage computers running Windows and Unix/Linux.
- understand the basic tasks of a system administrator and know how to perform such tasks as operating system installation, account creation, basic system configuration in both Windows and Unix/Linux, and scripting in both Bash and DOS.
- be able to convert between binary, decimal and hexadecimal representations, understand why these representations are necessary in dealing with data and commands and understand how information is stored in binary.
- be able to explain basic concepts of networking, and give examples of the functions at each layer in the OSI model and TCP/IP.
- understand the concept of information and how information is stored, utilized and secured within the context of information technology.
- be able to read and discuss current articles in the professional IT press dealing with trends in IT infrastructure and its context.

Course Materials:
Course materials are available via blackboard (learnonline.nku.edu), including lecture notes (powerpoints), handouts, lab assignments, study guides, animation/tutorials and possibly other videos. All exams will be taken on-line via Blackboard except for the final exam. Students will also be required to use the discussion board.

Course Topics:
   Overview of IT as a field and career. Introduction to PC components, computer organization, assembling a PC. Installation of Windows and Linux, and virtual machines. GUI and command line usage of Windows and Linux. Operating system concepts of files, file systems, processes, user accounts, permissions, services, shells. Basic networking concepts including the OSI and TCP/IP layers and the Internet, network software. Global, social, ethical context of IT, privacy and security concerns. Binary numbering, bits, bytes and data representation. Contemporary IT infrastructure. Other topics may be added as time permits.

Student Assessment:
   Students will be assessed by exams, lab assignments and discussion board postings. There will be 4 **equally weighed exams** (3 midterms and a final, all on-line via Blackboard) worth **50% of your grade** to assess the student's understanding of computer concepts, operating system concepts, networking concepts, binary/decimal/hexadecimal representations, IT concepts, scripting and programming concepts, and will cover material from the lectures and textbook. There will be approximately **14 lab assignments** worth the other **50% of your grade** used to assess the student's knowledge of Windows and Linux operating systems, and of assembling a computer. We will use the **discussion board strictly for extra credit** to assess the student's understanding of IT as it impacts our society. The grading scale (subject to curve if necessary) is:
   A: 100-93 A-: 92-90 B+: 89-87 B: 86-83 B-: 82-80
   C+: 79-77 C: 76-73 C-: 72-70 D+: 69-67 D: 66-60 F: 59-0
Grade updates will be provided throughout the semester via Blackboard. In accordance with University policy, **midterm grades will be posted on mynku by October 18** (probably sooner). Updated grades and midterm grades reflect the student's grade **to that point** of the semester and are not predictors of final grades. **The last date to drop with a grade of W is Monday, October 30.** See the separate document on Blackboard for specific due dates and exam dates.

Absentee Policy
   For financial aid purposes, the University requires that attendance be monitored during the first week of class and instructors are required to *administratively drop* students who do not attend the first class period and make no attempt to contact the instructor. If you fail to attend the first class, you must contact your instructor by email or call him by Wednesday afternoon or he will drop you from the course. Other than the first week, the instructor will not take attendance. It is up to you to understand the material and exam dates/assignment due dates if you miss a class. You do not need to contact your instructor if you are to miss a class unless it also causes you to miss a test or an assignment.

Lab Policies:
   Labs will have assigned due dates. Late labs will be accepted with a penalty of 25% **per day** late. After 4 days, the lab will not count unless you have provided a reasonable excuse to your instructor **in advance of the due date**. Labs may be submitted by hardcopy (preferred) or email. If submitted by email, you may not get much feedback. Include your name at the top of the assignment (not just in the email). Do not attempt to submit your lab answers via Blackboard.
   All lab assignments are viewed as **individual** assignments meaning that students should **never** work together (excluding building the computer in labs 1-2), nor **copy** any part of an answer from another student. Students who are found working together or copying off of each other will receive 0s on those assignments and be reported to the Dean of Students. Students who have a repeated pattern of copying/cheating/working together may receive an F for the course, and/or receive more severe penalties. Contact your instructor for help rather than turning to a fellow student.

(Tentative) Schedule of topics, readings, labs and exams:

Week	Lecture	Lab
1	Intro to IT (1), Computer Assembly (2)	PC assembly 1 (in GH 165)
2	Computer Organization (2), VMs (4)	PC assembly 2 (in GH 165, if needed)
3	No class, Labor Day	VM and OS installations
4	Operating systems (4), File systems (5)	Files and directories
5	File systems (5), User accounts (6)	File systems
6	Binary (2)	User/group accounts, permissions
7	Processes & services (11)	Managing processes
8	Bash (9), Software (13)	Services
9	No class, Fall break	Bash & vi
10	Regular expressions (10)	Regular expressions
11	Networks (12)	Wireshark
12	Networks (12)	Network configuration
13	Programming (14)	Shell scripting 1
14	History (7 & 8)	No Class, Thanksgiving break
15	Information (15)	Shell scripting 2
16	Careers (16)	Case Study
Finals Week	Although the final is on-line, we will meet on Wednesday, Dec 13, 10:10 am -12:10 pm for a last session, **attendance is mandatory**	

All exams are open-book open-note and given on Blackboard. These are timed tests so it is imperative that you study for the exams before attempting them. Each exam will be open for a window of approximately 4 days. The tentative exam schedule is:

> Week 4: Exam 1 over chapters 1-2, 4-6
> Week 8: Exam 2 over chapters 2, 9, 11, 13
> Week 12: Exam 3 over chapters 10, 12, 14
> Week 16: Exam 4 over chapters 7-8, 15-16

All readings from Information Technology: An Introduction for Today's Digital World.

Student Support and Accommodations Due to Disability

Students experiencing roadblocks to academic success may seek assistance from the Learning Assistance Programs (LAP). Financial, personal, and social concerns sometimes interfere with the dedicated focus needed to be successful in college. LAP helps students connect to academic and support services, create individual learning plans, and advance successfully towards graduation. Services including Norse Advising, student support services, testing and disability services, the math center, the writing center and tutoring. More information is available at http://lap.nku.edu. Call 859 572-5475 for an appointment or stop by University Center 170. You can apply for a tutoring session through TutorTrac at https://tutortrac.nku.edu/tracweb40/default.html.

The University is committed to making reasonable efforts to assist individuals with disabilities in their efforts to avail themselves of services and programs offered by the University. To this end, Northern Kentucky University will provide reasonable accommodations for persons with documented qualifying disabilities. If you have a disability and feel you need accommodations in this course, you must present a letter to me from the Disability Programs and Services Office (SU 303), indicating the existence of a disability and the suggested accommodations. More information can be found at http://disability.nku.edu.

How to fail this course:
　　　　　Approximately 20-25% of all students who have taken this course have not passed it with a grade of C- or better. The most significant reasons for not passing this course is from not submitting all lab assignments and/or not taking all exams. In nearly every case that a student does not earn at least a C-, it is because of missing grades. **Don't fall into the bad habits!** Also, **s**tudy for every exam. Even though they are open-book, open-note, they are challenging. Exams dates are listed on blackboard and will be open for 4 days. Plan accordingly. Exams are timed at 75 minutes.

Credit Hour Policy Statement:
　　　　　In accordance with federal policy, NKU defines a credit hour as the amount of work represented in the achievement of student learning outcomes (verified by evidence of student achievement) that reasonably approximates one hour (50 minutes) of classroom instruction and a minimum of two hours of out-of-class student work. For every course credit hour, a typical student should expect to spend at least three hours per week of concentrated attention on course-related work including, but not limited to, class meeting time, reading, reviewing, organizing notes, studying and completing assignments. At least an equivalent amount of time is expected for other academic activities such as online courses, laboratory work, internships, practica, studio work and other academic work leading to the award of credit hours. Estimates of the time required for a typical student to complete course expectations are as follows:

Lectures:	1½ hours/week * 15 weeks	22.5 hours/semester
Reading/studying:	4 hours/week * 15 weeks	60 hours/semester
Discussion board:	optional but encouraged	
Exams:	1¼ hour per exam * 4 exams	5 hours/semester
Lab assignments:	2-3 hours/week * 15 weeks	30-45 hours/semester

Total: 117.5-132.5 hours/semester

Students who do not spend an appropriate amount of time on this course will most likely obtain a poor grade and perhaps not pass the class

Student Honor Code:
　　　　　This Student Honor Code [the "Honor Code"] is a commitment by students of Northern Kentucky University, through their matriculation or continued enrollment at the University, to adhere to the highest degree of ethical integrity in academic conduct. It is a commitment individually and collectively that the students of Northern Kentucky University will not lie, cheat, or plagiarize to gain an academic advantage over fellow students or avoid academic requirements.

　　　　　The purpose of the Honor Code is to establish standards of academic conduct for students at Northern Kentucky University and to provide a procedure that offers basic assurances of fundamental fairness to any person accused of violations of these rules. Each Northern Kentucky University student is bound by the provisions of the Honor Code and is presumed to be familiar with all of its provisions. Students also should aspire to conduct themselves in a manner that is consistent with the highest degree of ethical integrity in all matters, whether covered in the Honor Code or not. The success of this commitment begins in the diligence with which students uphold the letter and the spirit of the Honor Code. Students may view the complete honor code at http://deanofstudents.nku.edu/policies/student-rights.html#policies.

Student Evaluation of Instructor and Course:

Northern Kentucky University takes Instructor and Course Evaluations very seriously as an important means of gathering information for the enhancement of learning opportunities for its students. It is an important responsibility of NKU students as citizens of the University to participate in the instructor and course evaluation process. During the two weeks* prior to the end of each semester classes, you will be asked to reflect upon what you have learned in this course, the extent to which you have invested the necessary effort to maximize your learning, and the role your instructor has played in the learning process. It is very important that you complete the online evaluations with thoughtfully written comments.

Student evaluations of courses and instructors are regarded as strictly confidential. They are not available to the instructor until after final grades are submitted, and extensive precautions are taken to prevent your comments from being identified as coming from you. Students who complete an evaluation for a particular course (or opt out of doing so in the evaluation) will be rewarded for their participation by having access to their course grade as soon as that grade is submitted by the instructor. On the other hand, any student who does not complete the course evaluation (or opt out of doing so in the evaluation) should expect to incur a two week delay in access to his or her course grade beyond the university's official date for grade availability. To complete online evaluations go to http://eval.nku.edu. Click on "student login" and use the same USERNAME and PASSWORD as used on campus.

In addition, you should be aware of:

- Evaluations can affect changes in courses. Evaluations without comments are less valuable and less credible than those filled out thoughtfully. Comments that are expressed well are more effective than those that are not.
- Positive feedback is just as important as criticism. Moreover, negative evaluations without any explanation and specifics are not especially useful.
- Once grades are submitted, all evaluations are read not only by the instructor, but also by the instructor's department chairperson.
- Evaluations not only provide feedback to your instructor, but also provide information to the department chair for use in performance evaluations. This information affects reappointments, promotions, salaries, and teaching assignments.

Any questions? Please ask!

The instructors reserve the right to alter the syllabus if circumstances dictate.