IT 3100: Systems Design and Administration

Fall 2020 Syllabus

Course Description

Required of Computer and Information Technology majors and students with an emphasis in Information Technology. Covers system administration topics for managing Internet facing services, including DNS, SMTP, and HTTP. Students will install, configure, and test services in a server environment.

Prerequisites

CS 1400 and IT 2400 both with a C- or better

Course fees

The fee for this course is $20.00, used to assist in maintaining the CIT infrastructure.

Sections

One section:

1. MW 1:30-2:45pm SCC 116
   Final exam Mon Dec 7, 1:00pm - 2:50 pm

Instructor

Professor: Dr Joe Francom

- Email: francom at dixie dot edu
- Phone: 435-652-7732 (note: email preferred)
- Office: NBURNS 237
- Office Hours: See Below

Joe’s Fall 2020 Schedule

<table>
<thead>
<tr>
<th>Days</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>MWF</td>
<td>8:30am - 9:00 - Office</td>
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<tr>
<td>MWF</td>
<td>9am - 9:50 - Office</td>
</tr>
<tr>
<td>MWF</td>
<td>10am-10:50 - IT2500(108)</td>
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<tr>
<td>MWF</td>
<td>11am-11:50 - Office</td>
</tr>
<tr>
<td>MW</td>
<td>12pm-1:15 - IT4200 (113)</td>
</tr>
<tr>
<td>MW</td>
<td>1:30pm-2:45 - IT3100 (116)</td>
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<tr>
<td>MW</td>
<td>3:00pm-4:15 - IT3300 (108)</td>
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</tbody>
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Objectives

The student will be able to demonstrate practical skills in and discuss:

- operating system installation, (PLO 3)
- user and filesystem administration, (PLO 1,2,3)
- configuration of DNS, web, email and database services, (PLO 1,2,3,5)
- securing network and local services(1,2,3,4), and
- shell scripting. (3)

Resources

Texts
There are no required text for this course. There isn’t really a ‘single’ book that would contain all the topics that we are learning; however, you could find most any Linux administration book to be of help. In particular, try the books found on safari online (as they are free).

**Computer Labs**

Each student should have their own laptop, but you may use the computers in the general lab area in the Smith Computer Center. There will also be lab assistants in these labs. You will also have access to virtual machines to complete most of the tasks.

**Course Web Site**

This course has an accompanying website. You are responsible for announcements, the schedule, and other resources posted on the website. Assignments and grades will be managed using Canvas, which requires a valid Dixie username and password. The course website is accessible at http://cit.cs.dixie.edu/courses/.

**Assignments and Exams**

**Reading**

The student is responsible for reading the material in the textbook. A reading schedule is provided with the class schedule on the course website. The student is expected to read the material before the class in which it is discussed. The book also includes material beyond what we will discuss in lecture, which you are encouraged to study on your own. Feel free to bring questions from the reading to lectures or to office hours.

**Assignments**

There will be approximately 20 projects, with multiple projects due almost every week. The assignments are designed to promote the course objectives listed above.

Assignments are due before 11:55 pm on the due date. You then have about a week to review feedback from the autograder and fix things. Autograders are turned off at that time. You can receive full credit if everything works before the autograder is turned off. I will turn autograders back on prior to an exam. If your assignment passes at that point, you can still get an $\frac{8}{10}$. Partial points may be possible. After the exam, you cannot receive points for an assignment which was covered on the exam.

**Quizzes**

This course will have about 7 quizzes in the semester. Quizzes are designed to check understanding of the course materials. Quizzes may be short in-class activities, or out-of-class activities.

**Exams**

There will be approximately 5 practical exams scheduled near the end of the semester. The practical exams will require students to complete hands-on work on computer systems, relating to homework assignments. The students will be expected to demonstrate the practical skills listed in the course objectives. The practical exams will be conducted in a time limited setting.

There will be a final exam as scheduled during finals week. The final will be a comprehensive written exam. The students will be expected to demonstrate understanding of the principles listed in the course objectives.

**Grading**

Assignments will count for 25% of your point total. Quizzes will count for 5% of your point total. The final exam will count for 10% of your point total. The practical exams will count for 60% of your point total.

Letter grades are assigned based on the percentage of possible points attained, according to the following chart:

| >= 94 | A   |
| >= 90 | A-  |
| >= 87 | B+  |
| >= 84 | B   |

Here is the grading scale:
Course Policies

Fall 2020 Antivirus

Face coverings that cover students’ noses and mouths, per CDC guidelines, must be worn by all students attending in-person classes. Wearing a face covering will protect students and instructors, especially those who are most vulnerable, and will lower the risk of spreading the virus. Students who are unable to wear face coverings may remotely participate in the class via interactive live stream.

Absences

Students are responsible for material covered and announcements made in class. School-related absences may be made up only if prior arrangements are made. The class schedule presented is approximate. The instructor reserves the right to modify the schedule according to class needs. Changes will be announced in class and posted to the website. Exams and quizzes cannot be made up unless arrangements are made prior to the scheduled time.

Time

Courses should require about 45 hours of work per credit hour of class. This class will require about 135 hours of work on the part of the student to achieve a passing grade, which is approximately 9 hours per week. If you do not have the time to spend on this course, you should probably rethink your schedule.

Late work

Late work is not accepted. You are expected to turn things in by the date they are due. If something is due at 11:59pm and you are 1 minute late, you will not receive credit. Your lowest assignment score will be dropped.

Any exceptions must be discussed with the instructor. Computer failure does not qualify as an excuse for late work.

It is your responsibility to see that assignments/projects are turned in and on time. If you come to me and say, “I turned in that assignment”, yet I have no record of it, you will receive a 0. The burden of proof is on you to prove that you turned in something at a given time. We are using an electronic submission system which records when a item is submitted.

Finally, no points can be contested after a test which covers that assigned material has been given. So for example, if you come to me at the end of the semester and say “Oh, but I turned in that assignment the second week of the semester”. If I don’t have a record of it, and we have already tested on it, you will not get the points.

Cheating and Collaboration

Limited collaboration with other students in the course is permitted. Students may seek help learning concepts and developing programming skills from whatever sources they have available, and are encouraged to do so. Collaboration on assignments, however, must be confined to course instructors, lab assistants, and other students in the course. Students are free to discuss strategies for solving programming assignments with each other, but this must not extend to the level of programming code. Each student must code his/her own solution to each assignment.

Cheating will not be tolerated, and will result in a failing grade for the students involved as well as possible disciplinary action from the college. Cheating includes, but is not limited to, turning in homework assignments that are not the student’s own work. It is okay to seek help from others and from reference materials, but only if you learn the material. As a general rule, if you cannot delete your assignment, start over, and re-create it successfully without further help, then your homework is not considered your own
You are encouraged to work in groups while studying for tests, discussing class lectures, discussing algorithms for homework solutions, and helping each other identify errors in your homework solutions. If you are unsure if collaboration is appropriate, contact the instructor. Also, note exactly what you did. If your actions are determined to be inappropriate, the response will be much more favorable if you are honest and complete in your disclosure.

Where collaboration is permitted, each student must still create and type in his/her own solution. Any kind of copying and pasting is not okay. If you need help understanding concepts, get it from the instructor or fellow classmates, but never copy another’s code or written work, either electronically or visually. The line between collaborating and cheating is generally one of language: talking about solutions in English or other natural languages is usually okay, while discussions that take place in programming languages are usually not okay. It is a good idea to wait a while after any discussion to start your independent write-up. This will help you commit what you have learned to long-term memory as well as help to avoid crossing the line to cheating.

Important Dates

I’m not going to list them all here but you should be familiar with calendar for the drop dates, and fee dates and stuff.

College Policies

Click on this link - http://academics.dixie.edu/syllabus/ - for comprehensive information on the Semester Dates, the Final Exam Schedule, university resources such as the library, Disability Resource Center, IT Student Help Desk, Online Writing Lab, Testing Center, Tutoring Center, and Writing Center. In addition, please review DSU policies and statements with regards to Academic Integrity, Disruptive Behavior and Absences related to university functions.

DSU strive to make learning materials and experiences accessible for all students so If you are a student with a medical, psychological, or learning disability or anticipate physical or academic barriers based on disability, you are welcome to let me know so we can discuss options. Students with documented disabilities are required to contact the Disability Resource Center located in the North Plaza Building, Next to the Testing Center (435-652-7516) to explore eligibility process and reasonable accommodations related to disability.

DSU seeks to provide an environment that is free of bias, discrimination, and harassment. If you have been the victim of sexual harassment/misconduct/assault we encourage you to report this to the college’s Title IX office at titleix@dixie.edu. If you report to a faculty member, she or he must notify the Title IX Director about the basic facts of the incident.

You are required to frequently check your Dmail account. Important class and university information will be sent to your Dmail account, including DSU bills, financial aid/scholarship notices, notices of cancelled classes, reminders of important dates and deadlines, and other information critical to your success at DSU and in your courses. To access your Dmail account, visit dmail.dixie.edu. Your Dmail username is your DixieID (e.g. D00111111) If you have forgotten your PIN, visit my.dixie.edu and click the Forgot Pin button.

Important Links

- Disability Resource Center - dixie.edu/drcenter
- IT Help Desk - dixie.edu/helpdesk
- Library - library.dixie.edu
- Testing Center - dixie.edu/testing
- Tutoring Center - dixie.edu/tutoring
- Writing Center - dixiewritingcenter.com