IT 3110: Systems Automation

Fall 2019 Syllabus

Course Description

This course will enhance a student’s administrative skills by promoting the use of programming structures to manipulate, configure, and maintain systems. Image creation, collection, and dissemination will also be covered.

Prerequisites

IT 3100 with a C- or better

Course fees

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

Disability Statement

Sections

One section:

1. MWF 11:00pm - 11:50pm Smith 108
   Final exam Wed May 1, 11am-12:50pm

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 2019 Schedule

<table>
<thead>
<tr>
<th>Days</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>MWF</td>
<td>8am - 9:00 - By appointment only</td>
</tr>
<tr>
<td>MWF</td>
<td>9am - 10:00 - Office</td>
</tr>
<tr>
<td>MWF</td>
<td>10am-10:50 - IT1100 (113)</td>
</tr>
<tr>
<td>MWF</td>
<td>11am-11:50 - IT3100 (117)</td>
</tr>
<tr>
<td>MWF</td>
<td>12pm-12:50 - IT4200 (113)</td>
</tr>
<tr>
<td>MWF</td>
<td>1pm-1:50 - Office</td>
</tr>
<tr>
<td>MWF</td>
<td>2pm-2:50 - IT3300 (107)</td>
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</tbody>
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Objectives

The student will be able to discuss the principles of:

- disk servers and disk sharing;
- configuration management
- machine automation
- dhcp

The student will be able to demonstrate practical skills in:

- shell scripting;
- DHCP;
- Ansible and saltstack;
- image creation and dissemination;

**Resources**

**Texts**

There is an optional reference for this course:

1. *bash cookbook, 2nd edition* [safari online](http://www.safaribooksonline.com/)

The book will be utilized heavily and is available online.

**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](https://www.canvas.dixie.edu/), which requires a valid Dixie username and password. The course website is accessible at [http://cit.cs.dixie.edu/courses/](http://cit.cs.dixie.edu/courses/).

**Assignments and Exams**

**Reading**

**Assignments**

There will be several projects, with multiple projects due some weeks. The assignments are designed to promote the course objectives listed above.

Assignments are due before 11:55 pm on the due date.

All assignment submissions will be weighted equally.

**Exams**

There will be approximately 4 practical exams scheduled throughout 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, during class time.

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

**Grading**

Assignments will count for 50% of your point total. Exams will count for 50% of your point total.

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

Here is the grading scale:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;= 94</td>
<td>A</td>
</tr>
<tr>
<td>&gt;= 90</td>
<td>A-</td>
</tr>
<tr>
<td>&gt;= 87</td>
<td>B+</td>
</tr>
<tr>
<td>&gt;= 84</td>
<td>B</td>
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<tr>
<td>&gt;= 80</td>
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<tr>
<td>&gt;= 64</td>
<td>D</td>
</tr>
<tr>
<td>&lt; 64</td>
<td>F</td>
</tr>
</tbody>
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**Course Policies**

**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 work.

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.

**College Policies**

Click on this link - [http://academics.dixie.edu/syllabus/](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.

If you are a student with a medical, psychological, or learning disability or think you might have a disability and would like accommodations, contact the Disability Resource Center (652-7516) in the Student Services Center. The Disability Resource Center will determine eligibility of the student requesting special services and determine the appropriate accommodations related to their disability.

**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