IT4991: Seminar in Information Technology: Chef

Fall 2015 Syllabus

Chef turns infrastructure into code. With Chef, you can automate how you build, deploy, and manage your infrastructure. Your infrastructure becomes as versionable, testable, and repeatable as application code.

Required Prerequisites:

• IT1100 should be taken prior to enrolling in this course (And completed with a passing grade)

Recommended Prerequisites:

• IT1200 – A+ Computer Hardware/Win OS
• IT2400 – Intro to Networking
• IT3100 – Systems Design & Admin I

Course fee:

The fee for this course is $25.00, used to assist in maintaining the CIT infrastructure.

Sections:

1. T,R 9:00-10:30am in Hazy 120

Final exam: Thursday December 17, 9:30-11:30am

Instructor: Jared Everett

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• Phone: 435-740-0528
• Office Hours: Email or by appointment.

Instructor: Florin Stan

• Email: Contact Jared

Objectives

The following is an outline of what will be taught during the semester:
• Introduction
  o OS X Environment
  o Tools (chefDK, git, ruby)
• Introduction in Cloud Computing
  o History
  o Concepts
  o Service Models
  o Deployment Models
  o Security
• Introduction in system management
  o Principles of system management
• Introduction to Ruby
• Introduction to OpenStack
• Introduction to Chef
• Principles
• Chef environment elements:
  o Chef Server
  o Workstation
  o Nodes
  o Environment
  o Cookbooks/Recipes
• Chef Cookbook development
  o LWRP vs HWRP

Resources

Texts
There is no required text for this course. Any reading materials will be assigned during class.

Computer Resources
You may use the computers in Udvar-Hazy 151 and Udvar-Hazy 200. There will also be lab assistants in these labs. You will also have access to virtual machines to complete most of the tasks.
Course Website

You are responsible for announcements, the schedule, and other resources posted in Canvas. 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

If there are reading assignments it is up to you as the student to read them. Any information found in reading assignments can be considered testable.

Assignments/Projects

Assignments will be graded for accuracy of function and style of design. It is important that you start early and get each of your assignments done before its due date. Many problems will take much longer to solve in a single sitting than in many shorter sessions. Give yourself time to think; sleep on difficult problems. Finish early so you can go back and refine your initial approach.

Assignments are due on the date listed in the schedule, and must be passed off to the instructor. Your instructor will tell you how to appropriately submit assignments. Some assignments could be graded automatically using Continuous Integration testing.

Exams

Details about exams will be given in class before. There are no scheduled exams so if one is assigned you will be given plenty of time to prepare and complete it. Exams may be assigned as a Canvas test or Project.

Grading

Projects, exams, and misc each contribute to your point total.

The breakdown for the above items is as follows:

- Assignments/Projects = 60%
- Tests = 30%
- Misc = 10%

Here is the grading scale:

>= 94 = A    >= 90 = A-
>= 87 = B+   >= 84 = B   >= 80 = B-
>= 77 = C+   >= 74 = C   >= 70 = C-
>= 67 = D+   >= 64 = D   < 64 = F
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

No late work will be accepted. All work done in the first half of the semester must be turned in before midterms. Likewise, all work in the second half of the semester must be turned in before finals. 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 and projects are turned in 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 zero. 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 that records when an item is submitted.

Finally, no points can be contested after a test that covers assigned material has been given. For example, if you come to me at the end of the semester and say “I turned in that assignment the second week of the semester” but 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. See the section on cheating.

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 at least 30 minutes 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**

Additional college policies, calendars, and statements are available online at [http://new.dixie.edu/reg/syllabus/](http://new.dixie.edu/reg/syllabus/).