IST346 – Instructor’s guide

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## What is this?

The purpose of this guide is to explain the intent behind the course. The goal is to help you to best deliver this course to your students in the manner for which is was designed. I will try to explain the rationale behind the decisions made in this course.

## What it’s not

This guide will not duplicate content or instructions anywhere else: the syllabus, assignments, etc. Our goal here is to give you the instructor’s take on that content.

# Resources

### Textbook

While there is no official textbook for the course a few chapters from the textbook “The Practice of System and Network Administration” are used. These chapters are linked in the Blackboard system.

### Labs

Labs are located here: <https://ist346.expressions.syr.edu/> The environment for the labs is ITELL. Contact the IT Services department for access. Each student is given a virtual environment with a Windows Server, Windows Workstation and Linux Server. The environment is NATted out to the internet. Student will use this environment to setup a corporate network with DNS, Web, Email, File Sharing, Backups, etc throughout the labs.

# Teaching Tips

### Taking Attendance

You can pass out an attendance sheet where the students sign their name as attendance. Please let your students know it is a violation of academic integrity to sign in for another student.

### Creating a Culture of Participation

If you want to teach in a dynamic classroom, you’ve got to figure out how to get students engaged in the content. I call this creating a culture of participation, and here how I do it.

* Hold them accountable for the work you assign outside of class.
* Form a connection to that work in class.
* Articulate to your students that wrong answers are acceptable, but no answer is not.
* Do not tolerate non participation. Let the awkward silence linger if you must. Eventually someone will say something, just don’t let it be you… make it be them!

### Student Preparation

Expect your students to be prepared for class. The easiest way to do this is to form a connection between what you do in class and what you’ve asked them to do outside of it. Ideas:

* Review the readings before class, and come up with a key question from the reading. It should be open-ended. For example: What is the difference between disaster recovery and business continuity?
* Give them a “diagnostic” to measure understanding - a quiz which does not count as a grade – just participation.
* Ask them to explain in their own words the “key points” of the readings.

### Getting Students to Participate

Instructors often fear the awkward silence of students not answering their questions. What you need to realize is they need time to process your question. In addition, you should make it known that you will hold everyone accountable for answering. This prevents the same student from answering your questions. Example:

* I’m going to give you 1 minute to ponder this question, then I’m going to call on someone and ask for their take…
* Take 30 seconds to answer the question, and another 30 to share it with your neighbor. When I call on you give me both answers.

### Wrong Answers are Okay.

What should you to when your student answers incorrectly? You can certainly explain the correct answer to the class but consider these alternatives:

* Calling on another student: “Can someone help Tommy?”
* Polling the audience: Who agrees with Margaret?
* Asking their neighbor if she/he agrees or how their answer is different.

These are better techniques to get students involved.

### Prep for Lecture

Review the readings. Review the slides. Take personal notes and figure out when / where / how you will engage students and tell your stories which highlight the experience you bring!

# Grading and Assignments

### Participation

* Keep students on their toes. Take attendance every class and measure participation. At the end of class announce when this particular class will count towards their grade.
* You can pass out an attendance sheet where the students sign their name as attendance. Please let your students know it is a violation of academic integrity to sign in for another student.
* Record non-participants when you call on them. So you know how to grade participation. Use the attendance sheet.

### Quizzes

* Use quizzes to make sure students are remembering terms and facts. What is the linux command to list files in a directory? What does MTBF mean? Etc. I like making multiple choice quizzes from the assigned readings and homework. Keep them high level and keep them to the key points of the topic.
* I like delivering my quizzes on paper. Let stuff can “go wrong” with a paper quiz and they are easy to grade, and give tangible feedback to your students.
* Use your drop quiz policy as a means to deal with students who were not in attendance and do not have a valid university provided excuse. “Hey Prof, can I make up that quiz I missed last week?” You: “I can’t allow that because I’ve returned the quiz back to your classmates. The good news is We do drop your lowest quiz grade.”

### Labs

* Consider labs practice. Student will work together on the labs and you have to assume that to some degree. This is okay. Help your students understand the value of the lab activity while they are completing it in class. A good way to do that is to reserve 15 minutes at the end of class or the beginning of the next class where you can discuss the lab with your students. While getting the commands “correct” is important, its more valuable if students understand the importance of the labs in context with the overall course lessons. Do not emphasize “doing” instead focus on “what did you learn?”

### Exams

* We ask open-ended questions that require the students to apply what they have learned to a new context on the exams. For example you might ask them the difference between SaaS and PaaS, and give a scenario under which the student must justify which solution is most appropriate to the problem.
* Exams have traditionally been essay format, but they could be multiple choice as well. Currently we provide the student with a pool of possible questions to study. We then select 7 questions to put on the exam and ask the student to answer 5 of the 7 questions.
* Each question has 2 parts. Worth 2 points each. 2 \* 2 \* 5 = 20 points for the exam.
* The answers are graded 2 correct 1 partially correct or 0 incorrect.

### Lab Practical Exams

* In the lab practical, we ask students to apply what they learned in the labs through a new setting.
* Lab practical should be started in class on the lab practical exam day, and then you may allow students to complete the rest as a take home by the end of the day.
* Lab practical submission is typically a check script with a series of questions the student must answer about the lab activity.
* You do not have to hold class the day of the lab practical, but it does give students time to work on the lab
* Typically We ask open-ended questions that require the students to apply what they have learned to a new context on the exams. For example you might ask them the difference between SaaS and PaaS, and give a scenario under which the student must justify which solution is most appropriate to the problem.

### IT Research Paper

* The research paper the culminating exercise in the class. It evaluates higher-order thinking over the course content. Typically students are asked to research a variety of products / solutions to an IT problem.
* The classic example might be an enterprise’s decision to outsource its email services. What exactly does that entail? Which options do you consider: Do you go SaaS? PaaS? IaaS? What do each of those options look like? What are the costs? The Risks? Considerations? Etc.
* When grading the research paper, expect quality sources. Did students get costs from the vendor adequate for the required scale? Did they use terminology and techniques used in the class?
* It’s important to not be “too specific” when specifying the research paper. The more specific you are, the more you are leading the student to the exact solution.
* Here’s a good example  
  You have just been hired as the CIO of a small company of 500 employees and have been tasked with replacing the current CRM with a new system that is: Customizable, Supports data integrations with RDBMS and is web and mobile friendly. Write a proposal which suggests 2 alternatives that are similar in features but different in their IT architectures. For each solution, explain its distinct advantages and disadvantages (as compared to each other, not the standard marketing speak) and include initial and recurring costs. For the best grade possible you must research primary sources of your information and apply concepts, techniques and terminologies learned throughout the course.

# Blackboard Tips

* Start the beginning of the semester with placeholders for all your assignments for which you have a due date already: Exams, lab practicals, labs, etc…
* Add columns as you grade Participation and quizzes
* Use the announcements tool to communicate with your students. Unlike email it also retains a record in the Blackboard system.