MIS 407

Week 1, Class 1

Prof. Smith
timsmith@iastate.edu

For Today…

- Introduce Course
- Brief introduction to Course Tools
  - Python
  - CMD Line/Terminal/Shell
  - Git & GitHub
  - Slack
  - SQLite
  - Atom
  - Jupyter/Ipython
  - Python packages
  - Linux
  - Flask

Welcome to MIS 407!

- You use computers, in many forms, everyday.
  - This course is about one of the “languages” that is use to make the devices do what we want them to do.

Course Intro

- We cover many interesting topics:
  - We will use Python, various technologies (i.e. Github, Slack, HTTP server), and various techniques (SQL DB, Data Wrangling, Machine Learning) to build programs.
- It is an advanced course
  - You **DO** need to have programming experience and exposure to concepts such as OOP
  - You **DO** need to take ownership of your learning: patience, perseverance, and a willingness to learn.

Our Focus:
Skills Development

- This course will build skills and knowledge in each of the following areas:
  - Tools
  - Programming Concepts & Syntax
  - Problem Solving Capability/Skill
  - Communication
  - Collaboration

Tools

To be an effective programmer, you need to not only know the language you will code, but also be fluent in the use of various tools to support the development process. We will focus on the tools of Social Coding.

- Git and GitHub
- Atom Text Editor (and relevant packages)
- Python (and relevant libraries)
- Jupyter Notebooks (python only)
- Slack

Programming

We will solve problems in Python, and thus you'll need to understand how some of the concepts you learned in previous programming courses apply within this new language, and what new constructs and ideas the Python language introduces.

- Syntax: The rules (similar to grammar and punctuation) that you need to know to "speak" the language.
  - These will be quite different than Java, in many ways – easier and more enjoyable to work with
- Constructs/Concepts: You should familiar with concepts such as Classes and Objects, but what about List Comprehensions, Iterators, Generating Expressions and Generating Functions?
  - Python introduces new ways of doing things that are not found in Java.

Problem Solving

In Business Programming, you are very solution focused

- You program (or "code") to accomplish a task, to get work done, create new value, and - in general - make a valuable contribution to your organization.
- "Knowing" the syntax, the concepts, and the tools is not enough - you need to immerse yourself the practice of developing code that responds to problems, requirements, and a myriad of other influences that define success.

Programming, like driving a car, learning to ride a bike, or ice skating – these are skills that can't be learned from a book alone. You need to practice and experience programming in order to develop sufficient skill and competence.

Communication

Often, the success of your work - no matter how technical - requires you to posses some level of communication skill.

- Brilliant work not communicated well will not influence decision making or adoption of your ideas.
- If you're going to be successful in MIS you need an ability to work as a member of a team, and communicate your results/work in way the people understand and are persuaded to give it more consideration.

In this course you'll be called upon to present your ideas, results, and progress. This is so that you can develop communication skills through practice.

- Let’s make this is a "safe place" to practice, respect and support your peer contributions.

Collaboration

It's been said for some time now that you can no longer write the killer app as a one of two person team:

- This has usually be used as a justification to collaborate more broadly with others on your team and within your organization.

This is still relevant, but what is becoming increasingly important for your productivity as a programmer/analysis is to have the ability to participate in “social coding”:

- Understand how to find and use others code
- Understand how to be a good "citizen" and contribute back to code you're used
- Understand how to write your own code and launch your own projects that others will want to use and contribute to.

Course Syllabus

- The course syllabus is posted to Blackboard.
- The Syllabus contains a wealth of information about the course, make sure you review it before next class.

- Let's review…

Assessment

	Total Points	#	Points Each
Individual Assignments	240	6	40
Group Assignments	200	2	100
Final Project	290	1	290
Tests	150	5	30
Class Participation	120	1	120
Learning Journal	50	BONUS	BONUS
Total	1000		

My Expectations of you

- Arrive to class before 8:00 AM
- Focus on the task – avoid multi-tasking
- If you need to leave before the end of class, please try to sit on the aisle to avoid disruptions

My expectations for you

- Be prepared for each class
- Be constructive
  - Both in electronic/written and verbal communications
- Be professional

Your Expectations of Me

- I will arrive by 5 minutes before class, if not earlier
- I will answer emails within 24 hours during the week, 48 hours over weekends and breaks

My Commitment to you

- I will be constructive in my critiques
- I will provide timely feedback
- I will treat every one with respect
- I will be accessible to students
- I will be firm, but fair

A note on using Slack…

- Slack is service that many organizations are now using to facilitate team collaboration and communication.
- Use slack to interact with fellow students, ask questions, etc.
- Within our Slack team site, you'll find the **#Helpdesk** channel.
  - This is where you post any questions about course material.
  - Our TA will monitor this area and attempt to provide you with the help you need.
- Do not post information of a personal nature, as everyone on the class can read your posts.
- We will use Slack as a community tool, that is, if you know the answer to someone – feel free to provide an answer. If you want to propose a meetup, study group, etc. then this is the place to do it!

A note on using GitHub…

- GitHub is version control service that many organizations are now using to facilitate team collaboration and communication.
- GitHub uses Git to allow users to version and manage code, and to pull and push code to a central repository.
- We will use Git and GitHub extensively in this class.
- You need to sign up to GitHub, and email me your user name.
- I have made arrangements with GitHub to have a number of private repositories available for your work.
- Any code you push to your own repository will be public, any code you push to the private repos we will use in the course, will not.
- I will cover this in great detail during next class, for now, just create a GitHub account (if you don't have one already) using your iastate.edu email address, and email me your username.

- By next class…
  - Create your GitHub account and email me your userID.
    - NOTE: Though you may already have an account, you cannot use it unless it is associated with your ISU email. Even if you have a GitHub account, I'd suggest creating a new one specifically for this class.
  - Join our MIS407 "Slack" team`
    - You should will soon receive an email invitation message to join the team. This will be sent to your ISU email account. **If you have not received this by Tomorrow at noon, please contact your TA for assistance**.
    - Your first task is to make sure you have joined the #introductions channel, and post a brief personal introduction (name, major, and anything you'd like to share)
- During Next class…
  - I'll spend more time introducing our Python programming environment and workflow
  - We'll being work on using Git and GitHub