Outline

The course will consist of small teams with the end goal of developing an entire application environment:

This would include:
- Building a Test environment
- Building a Production environment
- Creating Automated Infrastructure and Application Deployment
- Use of a build system
- Unit Tests
- Debugging and UI testing
- Project management and Issue tracking
- Team collaboration and communication

Each group will consist of 4 or 5 people (or as close as possible)
And include defined roles as--roles can be shared or duplicated, but one person must be responsible for each category. Descriptions start with but are not limited to:

- **Project Manager**
  - Making sure resources are allocated and schedules are met
  - Solving bottlenecks and developer issues
  - Reaching out to customer (me) for objective clarifications
  - Delivering the product
- **Developer(s)**
  - All of the coding and business logic
  - Coordinate with Operation on choice of language, database, server platform (stack)
  - Working with Operations to deploy a seamless automated deploy
  - Interact with school's OTS to implement CAS authentication (using your @hawk credentials)
  - Work in conjunction with operations to create business Metrics and implement a metrics and logging system
- **Operations and Infrastructure (Ops)**
  - Creating all infrastructure via scripts or code for fully manual deployments
  - Setting up the project information to use Jenkins for automated testing and building
  - Working with developers to solve issues
  - Work in conjunction with developers to create business Metrics and implement a metrics and logging system
- **UI/Designer and Tester**
  - Developing a coherent user interface
  - Developing a consistent branding
  - Developing use of CSS/JavaScript methods
  - Testing user functionality
- **Security**
  - Responsible for preventing security vulnerabilities in the application (it happened last semester one group was lazy and was hacked)
  - Implementing Database encryption
  - Securing all RSA keys, passwords, and other sensitive data
  - Acquiring Let's Encrypt HTTPS certs
  - Requesting DNS adjustments

- Choosing and integration of opensource license