

CSSE 483 Android Application Development, Summer 2014

Rose-Hulman Institute of Technology

Instructor

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Office Hours

I will check the discussion forums and respond at least Mon/Weds/Fri mornings, so you can expect an answer within 48 hours, except weekends.

Fancy catalog description

This course is an introduction to programming mobile applications using the Android stack. Topics include the activity lifecycle, resources, layouts, intents for multiple activities, menus, fragments and dialogs, Action bar, adapters, data persistence via shared preferences, SQLite, and content providers. Emphasis is on hands-on use of these components in applications. Includes a substantial team project.

Prerequisites

CSSE230*

Comfort with Java. Ability to write code independently from a short spec. Effort, creativity, and ability to create a complex app.

Outcomes

After successfully completing this course, you will:

1. be able to independently create simple Android apps.
2. be confident and able to create more complex apps using features learned independently.
3. be able to explain ideas unique to mobile app development

What must you do to master each outcome? How will you be assessed?

Read & listen, practice twice, apply/extend in project!

Learn to keep learning, so you can create slick Android apps as an entrepreneur or for your company, even other platforms!

Links to Course Materials

1. www.rose-hulman.edu/class/csse/mobile/html/AndroidMaterial.html Course site
2. moodle.rose-hulman.edu : Gradebook and project/lab dropboxes.
3. piazza.com : introduce yourself, ask and answer questions.
4. developer.android.com (api reference, tutorials)
5. sites.google.com/site/roseandroidfall2013/ google site & docs from in-class version (slides, labs, project, if you want to look ahead)

Optional Text

Learning Mobile App Development, Iversen and Eierman (\$70, or \$35 for Kindle edition).

<http://www.amazon.com/Learning-Mobile-App-Development-Hands/dp/032194786X>

It has a nice intro to mobile development in general, and covers both Android and iOS. Some people like me like learning from texts, others don't - you can choose. But I won't assign anything from the text.

Course Structure

This course is online and mostly asynchronous, meaning you have some flexibility as to when to watch the videos and do the assignments.

The calendar is: www.rose-hulman.edu/class/csse/mobile/html/AndroidMaterial.html

There are two due dates: a suggested one to keep on track - and a firm one (usually around 3 days later), after which I will start deducting points. You are always welcome to work ahead - I hope to have materials posted online about a week before I expect you to start them.

Each week, you will view the videos of concepts and **code-along** app development. (This means I expect you to type the code that I am typing in the video, and will likely ask for all the code-along Eclipse projects at the end of the course. You will then go to the activity page for that lesson and answer questions about the video. Most units culminate with a lab assignment, although some have two. There will sometimes be readings as well. At the end of the unit, you will complete a brief quiz (self-assessment) in Moodle.

The learning activities progressively shift focus from me to you:

- I discuss concepts using slides (I tell)

- I write code in videos (I show and you copy)

- You write code in labs (You create simple apps with guidance from me)

- You write code on exams (you create simple apps from only a specification)

- You write code on the project (you create a complex app, learning new features as needed)

- You are on your own (post-class)

Grading

Category	Weight
Video engagement (did code-alongs and activities, answered self-assessments in Moodle)	5%
Labs: zipped Eclipse project, short video showing the app running in emulator or device. Both submitted to Moodle dropbox.	15%
Exams (3 exams, worth 10%,15%, and 15%), same submission as labs.	40%
Term project (see milestones document. Mostly Word docs or google doc links to Moodle dropbox)	35%
Course engagement (contributed to forums, helped classmates, worked well with partner)	5%

Scale: if (average \geq 90) { grade = "A"; } else if (average \geq 85%) { grade = "B+"; } else if { /* etc. down to 60% to pass */ }

I reserve the right to modify grades +/- 5% for any exceptional behavior not categorized above.

Late policy: -20% for each day past the firm due date, unless an extension granted. Poor planning isn't a reason for an extension.

Assignment Submission and Feedback

Submit assignments as described above. You can expect feedback from me within 5-7 days of the firm due date. Grades will be posted in Moodle, and when written feedback is appropriate, I will add it as a comment to the gradebook or email it to you.

Time and Time Management

I expect you to invest in this class as much time as you would a typical Rose-Hulman course: 12 hours per week. In a face-face class, 4 hours of this would be in class, and the rest is devoted to homework. You'll need to start early and work consistently, since you have more freedom. Please manage your time appropriately.

I expect you to check and respond to piazza and email at least three times each week, although checking in daily is better. I will post new announcements to piazza.

We will have two online, three-way meetings this term. At the end of project sprints 1 and 2, you, your partner, and I will meet so you can show me your progress and discuss your next steps.

Technology Requirements

1. Fast internet connection, to watch videos
2. An external monitor to display video while coding along with video.
3. Software for pair programming and meetings with instructor. (Google Hangouts, Skype, Lync, or Saros (Eclipse plugin: <http://www.saros-project.org/>). Other pair-programming options for non-Android code editing (syntax highlighting) are collabedit (web), firepad.io, codebunk, coedit.me.
4. An Android device (phone or tablet): we have some tablets available to loan.
5. A webcam to record app demos.

Getting Help

The best way to get technical help on course material, or to ask for clarification on assignments is via piazza, the online discussion forums - you'll get faster answers, and the whole class will benefit from your questions and answers.

Important Note: If you encounter technical difficulty in completing or submitting any online assessment, immediately contact the Help Desk at **812-877-8989**. Also, contact your instructor at the email address listed above.

University Policies

This course adheres to all Institute policies described in the Student Handbook. A few to pay close attention to are noted below. Rose-Hulman expects its students to be responsible adults and to behave at all times with honor and integrity. All students are expected to abide by this Code and to aid in its enforcement by reporting violations of it.

Plagiarism: Read and adhere to the [Rose-Hulman policy on student plagiarism](#).

Dropping the Course: You are responsible for understanding the university's policies and procedures regarding withdrawing from courses found in the current catalog. You should be aware of the current

deadlines according to the [Academic Calendar](#).

Students with Disabilities: Rose-Hulman Institute of Technology is committed to providing reasonable and appropriate accommodations to students with disabilities. Students with documented disabilities should contact Karen DeGrange, listed on the [Disability Accommodations](#) page, 30 days prior to the course start date. Further information and a link to the General Disability form can also be found on the [Disability Accommodations](#) page. If you need any help with course materials due to a disability, please let me or Ms. DeGrange know.

Allowed resources

For this course, you may use the following resources for all assignments and exams: developer.android.com, these course materials (videos, slides, etc), code you wrote for this course, and the optional textbook.

Additionally, you may also use stackoverflow.com and other such question/answer sites for the labs and project. You may also ask other people for help. However, beware of relying too heavily on these resources. The goal is to internalize the material. To this end, all code you submit must be your own, typed by you (not copy-pasted), understood by you, and adapted by you to your situation as needed. (For some specialized features on the project, you may be OK to copy-paste - but ask your instructor for permission.)

To be clear, for exams, you may not use any other websites other than the course materials I provide and developer.android.com. No stackoverflow, no other website, no Google/internet searches allowed. No communication with other people about the exam material, either asking or giving help.