University of New Haven

Spring 2018 CSCI 6672 / CSCI 4452 Buckman 232 Android Development Friday 4:30 pm to 7:10 pm Credit Hours: 3	Tamara Luarasi Office: Buckman 251 Office hours: Friday, 3:30 to 4:30 Email: <TLuarasi@newhaven.edu> Email: <Tamara_Luarasi@hotmail.com>

COURSE SYLLABUS

Course Description:

The Android platform and application lifecycle, and how to make an Android application. Common UI layouts, design tools, and organization using Fragments. Relating to an SQL database, using built-in sensors and threads. 3 credit hours. In more detail: This course will cover the basic principle of Android design, tools, platform and application lifecycle. The student will create a number of common UI layouts using XML and design tools, persistent storage and Fragments. Most Android devices have sensors that measure motion, orientation, and various environmental conditions. The student will learn to read the sensors and use the readings to control an Android application. AsyncTask enables proper and easy use of the UI thread. This class allows you to perform background operations and publish results on the UI thread without having to manipulate threads and/or handlers.

Prerequisites(s):

— At least one object oriented programming language (Java, C++)
— The maturity to write your own code (not download).

Required Text(s):

1) https://developer.android.com/training/index.html
2) http://www.coreservlets.com/android-tutorial/
3) https://developer.android.com/reference/android/database/sqlite/SQLiteDatabase.htm
4) https://www.tutorialspoint.com/android/android_sqlite_database.htm
5) https://developer.android.com/reference/android/os/AsyncTask.html
6) http://www.vogella.com/tutorials/AndroidBackgroundProcessing/article.html
7) https://developer.android.com/guide/topics/sensors/sensors_overview.html
8) Andrew T. Campbell: Lectures in SmartPhone programming, http://www.cs.dartmouth.edu/~campbell/cs65/

Development Environment: Android Studio

— Download this yourself from downloaded Android Studio

Course Objectives:

To understand the structure and capabilities of an Android application and to test and use the application on a real or virtual device.

Student Learning Outcomes:

1. To create an an Android application
2. Describe the components essential for an Android application
3. To design and create an effective and efficient interface
4. To create a dynamic layout using fragments
5. To integrate the application with a database.
6. To use sensors in an application.
7. To use tasks and asynchronous background processing.

Course Structure and Format :

Lecture and discussion, in-class labs, solo and pair-programming, a final presentation.

Course Requirements & Assessment:

Please see the University of New Haven Academic Policies, linked below:

Undergraduate Grading System
Graduate Grading System

Course Expectations and Requirements

Participation is very important. I expect you to ask questions, volunteer ideas, and tell about relevant experiences.

Projects (format, and mode(s) of delivery)

- For homework and programs, it is important to follow my instructions because they will guide you through learning the things you need to know. However, let me know if you think there is an error in the instructions, and I will fix the problem.
- Good organization and style (by my definition), clarity, and good use of Java are needed for a grade better than 90% on a programming project.
- Reality is not flexible. I will accept late work but with a penalty. The biggest penalty for lateness is that you may not have it back in time for the next exam. Also, since many assignments build on prior assignments, one late program may cause following assignments to be late.
- The midterm exam will be in two parts. First, a pencil-and-paper test, proctored, and closed-book. Second, a programming exam, done in the lab with any reference material you want.
- If you want the privilege of making up a missed exam, you must contact me within 48

Policies and Procedures

—Work should be turned in through Blackboard. Paper documents can be left under the door in Buckman 251 or in the mail holders near the door. I will get them on Friday. In all cases, turn in your code and your test results in a zipped file.

—Send questions and pleas for help to me via email. I will answer them as soon as I can. Attach the source code and any error comments if your question is about a program. If you want me to cover or review a topic in class, let me know by Thursday morning so that I can prepare it.

Academic Honesty:
Your homework assignments are to be done alone or in conjunction with your teammate. No sharing and little discussion with other students should take place. You are expected to read, understand, and follow the UNH policy on academic honesty.

I am required to report violations, in writing, to the Dean of Students. My practice is (at minimum) to give a 0 grade for any exam or assignment that involved copying, collusion, or any other kind of academic dishonesty.

Plagiarism is a serious offense in industry and in our department. Employees are sometimes fired and students are sometimes dismissed for doing it. Copying work is also very foolish; there is no way to pass the exams without doing the work yourself. I DO notice plagiarism and I am disgusted that a few students do it. Copying another's work shows a lack of respect for yourself and for me, and a lack of concern for the student whose work you copy. In my classes, the giver and the borrower are equally guilty.

Copying another's work shows a lack of respect for yourself and for me, and a lack of concern for the student whose work you copy. In my classes, the giver and the borrower are equally guilty. It is unacceptable to work so closely with another student that your work is essentially similar. This kind of "help" will not help you master the material. To avoid accidental participation in someone else's offense, do not give or loan your work to another student at any time for any reason. Do not leave it in the lab, and do not leave copies of your files in public places.

Finally, students have been caught paying rent-a-coder to do assigned programs. This is ridiculous! The only way to learn is to struggle with the work yourself.

Where to go for Help

We have teaching assistants who are able to help you with Java. However, Android development is new to this campus and there is no TA help except for the one student who is in our class. He will help you if he can. If not, email your questions to me and hope that I have time to analyze the problem. Include your code (as a zipped attachment) and a short note about the nature of your problem. If you have compilation error comments or some output, send them also.

Attendance

I expect you to attend every class. If you miss a class, you are still responsible for all the

material. University policy regarding attendance can be found at www.newhaven.edu/academics/16648/

Grading:

Grades are based on your performance in approximately these proportions:

Midterm Exam	30%
Participation and Attendance	10%
In-class lab work	10%
Projects	30%
Final Project and Presentation	20%

Final Grades are assigned with the following scale:

		Undergraduate						
				Graduate				
97	-	100	A+					
93	-	< 97	A		94	-	97	A
89	-	< 93	A-		90	-	<94	A-
85	-	< 89	B+		87	-	< 90	B+
81	-	< 85	B		84	-	< 87	B
77	-	< 81	B-		80	-	< 84	B-
73	-	< 77	C+		77	-	<80	C+
69	-	< 73	C		74	-	<77	C
65	-	< 69	C-		70	-	<74	C-
61	-	< 65	D+				<70	F
57	-	< 61	D					
54	-	< 57	D-					
		< 54	F					

Expectations:

Students are expected to spend at least three hours on this course outside, and in addition to, each hour of class time.

2017-2018 Academic Calendar

Course Outline/Schedule:

Day/Date	Topic/Note	Items Due
Friday, January 19	Getting started with Android	
Wed. January 24	Ad-Drop deadline.	
Friday, January 26	Android programming basics Our First Android Application, **Main Activity**	- Have Android Studio installed on your own computer. - Turn in Hello Android.

Friday, February 2	**Intents** and starting another activity	- A simple project that displays a message when you press a button
Friday, February 9	**Activity life cycle**, States of an Activity; The live cycle methods; Declaring the app's launcher in the manifest; Implementing the activity lifecycle callback	- A simple project that displays a message when you press a button using another activity.
Friday, February 16	**User Interface**, Using XML and the design tool for specifying layouts; Styles and themes; Operations and attributes of views	- A simple project that implements the activity lifecycle callback. Use different messages for each method.
Friday, February 23	**User Interface**(continue), Create ListView layout; Use adapters and click listeners; Create picker widgets ; Save user data using SharedPreferfence	- A project that creates an interface, and allows you to put some data, operate with these data, and display the result
Friday, March 2	**Tool Bar** and **Fragments**	- Enrich the previous project using different layouts.
Friday, March 9	MidTerm	
Friday, March 16	Spring Break	
Friday, March 23	Building a **Dynamic UI** with Fragments, Use of the static support library; Creation and management of some tabs; How we can manage dynamically some fragments related to tabs	- A project that uses Tool Bar and Fragments
Friday, March 30	**Sensors** Overview; Some method of the class SensorManager for accessing and listing sensors;	- A project that provides a Dynamic Interface using Fragments
Friday, April 6	**Sensors** (continue) Example of a project about the Accelerometer Sensor; Example of a project about some Environmental Sensors	- A project that reveals the sensors in your device
Friday,	**SQLite** Database**;** Database –	- A project that get the

April 13	Package; Database Creation, Database Insertion; Database Fetching; Database Helper class	data from a specific sensor of your device
Friday, April 20	SQLite Database (continue); Project that uses a SQLite database	- Implementation of the Lesson example in your computer
Friday, April 27	Introduction to Background processing in Android; Usage of AsyncTask; AsyncTask's generic types; The 4 Steps. Example of a project	
Friday, May 4	Discussion about the final project	
Friday, May 11	Final Exam	

UNIVERSITY POLICIES

Academic Regulations

Adding and Dropping Classes

Tuesday, September 5, 2017 is the final day to drop this course so that it does not appear on your transcript. After the first week of class, self-service registration will not be enabled for students to directly add or drop classes. Students should contact the registrar's office directly or the Academic Success Center for assistance with adding and dropping courses during this time.

Attendance Regulations

Students are expected to attend regularly and promptly all their classes, appointments, and exercises. The instructor has the right to dismiss from class any student who has been absent more than two weeks (pro-rated for terms different from that of the semester). A dismissed student will receive a withdrawal (W) from the course if they are still eligible for a withdrawal per the university "Withdrawal from a Course" policy, or a failure (F) if not.

A student who is not officially registered in the course is not permitted to attend classes or take part in any other course activities.

Students absent from any class meeting are responsible for making up missed assignments and examinations at the discretion of the instructor.

Religious Observance Policy for Students

The University of New Haven respects the right of its students to observe religious holidays that may necessitate their absence from class or from other required university-sponsored activities. Students who wish to observe such holidays should not be penalized for their absence, although in academic courses they are responsible for making up missed work.

Note: instructors should try to avoid scheduling exams or quizzes on religious holidays, but where such conflicts occur should provide reasonable accommodations for missed assignment deadlines or exams. If a class, an assignment due date, or exam interferes with the observance of such a religious holiday, it is the student's responsibility to notify his or her instructor, preferably at the beginning of the term, but otherwise at least two weeks before the holiday.

Course Withdrawal Policy

Students wishing to withdraw from a course **MUST** officially do so by completing the online form or by submitting a course withdrawal form to the registrar's office. The final date to request a withdrawal for this term is Friday, November 3rd. This request must be submitted to the Office of the University Registrar (and signed by the International Services Office if you are an international student). The grade of **W** will be recorded, but the course will not affect the GPA.

Incomplete:

A grade of Incomplete (**INC**) is given only in special circumstances and indicates that the student has been given permission by the instructor to complete required course work (with the same instructor) after the end of the term. In the absence of the instructor a student should contact the Department Chair.

Academic Integrity Policy:

The University of New Haven expects its students to maintain the highest standards of academic conduct. Academic dishonesty is not tolerated at the University. To know what it is expected of them, students are responsible for reading and understanding the statement regarding academic honesty in the Student Handbook. Please ask me about my expectations regarding permissible or encouraged forms of student collaboration if there is any confusion about this topic.

The Dean of Students Office provides support and advocacy for students.

Commitment to Positive Learning Environment:

The University adheres to the philosophy that all community members should enjoy an environment free of any form of harassment, sexual misconduct, discrimination, or intimate partner violence. If you have been the victim of sexual misconduct, we encourage you to report this. If you report this to a faculty/staff member, they must notify our college's Title IX coordinator about the basic facts of the incident (you may choose to request confidentiality from the University). If you encounter sexual harassment, sexual misconduct, sexual assault, or discrimination based on race, color, religion, age, national origin, ancestry, sex, sexual orientation, gender identity, or disability please contact the Title IX Coordinator, Caroline Koziatek, at (203) 932.7479 or ckoziatek@newhaven.edu. Separate title 9 from other forms of discrimination
Title IX at the University of New Haven

Reporting Bias Incidents

At the University of New Haven, there is an expectation that all community members are committed to creating and supporting a climate which promotes civility, mutual respect, and

open-mindedness. There also exists an understanding that with the freedom of expression comes the responsibility to support community members' right to live and work in an environment free from harassment and fear. It is expected that all members of the University community will engage in anti-bias behavior and refrain from actions that intimidate, humiliate, or demean persons or groups or that undermine their security or self-esteem.

Reporting Options

UNIVERSITY SUPPORT SERVICES

The University recognizes that students can often use some help outside of class and offers academic assistance through several offices.

Centers for Academic Success and Advising (CASA):

The Academic Success Center provides a wide range of academic support to day and evening undergraduate students beyond their first year of college.

Center for Learning Resources (CLR):

The Center for Learning Resources (CLR), located in the Peterson Library, provides academic content support to the students of the University of New Haven using metacognitive strategies that help students become aware of and learn to apply optimal learning processes in the pursuit of creating independent learners CLR tutors focus sessions on discussions of concepts and processes and typically use external examples to help students grasp and apply the material.

Writer to Writer:

Writer to Writer is a peer-tutoring program inspired by the belief that all writers struggle and can benefit from talking through their ideas. Tutors are undergraduate students trained to work with you at any stage in the writing process.

Accessibility Resources Center:

Students with disabilities are encouraged to share, in confidence, information about needed specific course accommodations. The Accessibility Resources Center, located in Sheffield Hall, is responsible for and committed to providing services and support that serve to promote educational equity and ensure that students are able to participate in the opportunities available at the University of New Haven. Accommodations cannot be made without written documentation from the Accessibility Resources Center.

Counseling & Psychological Services:

The Counseling Center offers a variety of services aimed at helping students resolve personal difficulties and acquire the balance, skills, and knowledge that will enable them to take full advantage of their experience at the University of New Haven.