**Course Title:** **ART40544** - Basics of Programming: Android

**Course Description:** This class introduces programming fundamentals and provides theoretical and practical knowledge to design and build Android based solutions. It will teach the students various techniques in Android development using the Java programming language.

**Prerequisites:** Fundamental understanding of programming concepts and basic knowledge of C/C++, C#, Java or one of the comparable programming languages.

**Instructor:** Kristian Secor (kdsecor@gmail.com/mm214.com)

**Classroom Location:** UC San Diego Extension, University City Center

6256 Greenwich Dr., San Diego, CA 92122

**Session:** Fall 2014

**Class Hours:** Tuesday 5:30 pm to 9:30 pm

**Course Length**: 11 Weeks, 44 Hours, 4 Credits

**Textbook**: Android Studio Essentials by Neil Smith

 **ISBN-10: 150061386X**

**ISBN-13: 978-1500613860**

Introduction to the Java Programming Language by Daniel Liang

ISBN 13: 978-0-13-293652-1 9th edition

The cheapest is half.com ([http://product.half.ebay.com/Introduction-to-Java-Programming-Comprehensive-Version-by-Y-Daniel-Liang-2012-Paperback-Revised/111123091&tg=info](http://product.half.ebay.com/Introduction-to-Java-Programming-Comprehensive-Version-by-Y-Daniel-Liang-2012-Paperback-Revised/111123091%26tg%3Dinfo)) where you can rent the book.

You can also use ebay

**Course Website: mm214.com/android.html**

**Course Materials mm214.com/android (Files will be zipped prior to the start of the class period: ie: mm214.com/android/week1.zip)**

**Course Competencies:** Upon successful completion of this course, the students should be able to:

* Understand and Program Basic Java
* Understand Android platform for mobile application development
* Understand Android SDK, software stack and basic framework
* Use development tools, Android APIs, core libraries, Dalvik virtual machine
* Understand Android application life cycle, activities, intents, app manifest, external resources
* Understand and handle user interactions and touch events
* Create elegant user interfaces using layouts, drawables, menus, and animations
* Create and use SQLite databases in the client side
* Create and use maps and location-aware apps and services
* Sign and distribute the applications in the Android Market

**Weekly Course Outline**

**(9/30) Week 1:**

**Java: Intro to programming –Data types, Logic**

**Read Chapters 1 & 2 (Liang)**

**Android: Setup Android**

**Read Chapters 1-6 (Smyth)**

 **(10/7) Week 2: Java: Conditionals, Loops**

**(Read Chapters 3 & 4 (Liang) (Only as a reference)**

**Android: Architecture/**

**Read Chapters 7-9 (Smyth)**

**(10/14) Week 3 Arrays and Methods**

**Read Chapters 5 & 6 (Liang) (Only as a reference)**

**Android: Activities/Life Cycles/State**

**Read Chapters 10-13**

**(10/21) Week 4: Objects and Multidimensional arrays MVC (Model View Controller) Architecture**

**Read Chapters 6 & 7 (Liang)**

**Android: Views and Layout**

**Read Chapters 14-15**

**Take home midterm (programming)**

**(10/28) Week 5: Intent Filters, Life Cycles and Threads**

**Read Chapter 31-33 (Smyth)**

**(11/4) Week 6: XML based Layouts/ Widgets and Containers/Camera Object**

**Read Chapter 16,48 (Smyth)**

**(11/11) Week 7: Google Maps/Locations**

**Chapters 50 Smith**

**(11/18) Week 8: Fragments, Menus, SQLite and storage techniques (CRUD)**

**Chapter 17, 40 (Smyth)**

**(12/2) Week 9: Embedding WebKit ,**

**Work on final project App**

**Chapter 52 (Smyth)**

**(12/9) Week 10: Android App due**

**TestFlight/Testing**

**GRading**

**FinAL Project 50%**

**Participation 10%**

**TAKE HOME MIdterm 10%**

**HomeworkS (6) 30%**

**Because we will want to review answers to homework assignments when they are due, no late homework will be accepted. You are also encouraged to submit homework regardless of whether it is finished/working or not. This will allow me to gauge if there is a problem with either the material or time management. All submissions will receive partial credit.**

**Note on attendance: We are all working adults. If you miss a class you are responsible for the material!**

**Grading Scale:** Grades on individual assignments and for the course will be calculated as follows:

|  |  |  |
| --- | --- | --- |
|  | A 93 -100 % | A- 90 - 92 % |
| B+ 87 - 89 % | B 83 - 86 % |  B- 80 - 82 % |
| C+ 77 - 79 % |  C 73 - 76 % | C- 80 - 72 % |
| D+ 67 - 69 % | 65 - 66 % D- 63 - 66 % | F 0 - 62 % |

**Project Grading Rubric:**

|  |  |
| --- | --- |
|  A  | Student performs in an outstanding way. Student exhibits excellent achievement and craftsmanship in all work. Student exceeds the design criteria and challenges him/herself to seek fresh solutions to design problems. Student exhibits commitment to expanding ideas, vocabulary and performance. |
|  B  | Student performs beyond the requirement of the assignments. Student exhibits above average progress and craftsmanship. Student meets and exceeds the design criteria. Student exhibits above average interest in expanding ideas, vocabulary and performance. |
|  C  | Criteria of assignment are met, and all requirements are fulfilled. Student exhibits average progress and improvement. Student spends the minimum time and effort on the assignments. Student exhibits moderate interest in expanding ideas, vocabulary and performance. |
|  D  | Student performance is uneven, and requirements are partially fulfilled. Student exhibits minimal output and improvement in work. Student does not meet the design criteria in all assignments. Student exhibits minimal interest in expanding ideas, vocabulary and performance. Student's attendance, participation and class involvement is less than adequate. |
|  F  | Student fails to meet a minimum of performance levels. Student does not exhibit achievement, progress or adequate levels of craftsmanship in any assignment. Student work is consistently incomplete or unsuccessful. Student's attendance, participation and class involvement is inadequate |

**Rules & Common Sense:** You’re encouraged to explore creative options for your projects, but YOU MUST COMPLY WITH ANY AND ALL LAWS AND ORDINANCES. Be creative but use common sense.

**Academic Honesty Statement:** DAC/CGD considers academic honesty to be one of its highest values. Students are expected to maintain the highest standards of academic honesty while pursuing their studies. Academic dishonesty includes but is not limited to: plagiarism and cheating; misuse of academic resources or facilities; and misuse of computer software, data, equipment or networks. Please be prepared to show your work product on any project upon request.

**Late work Policy:** No late work will be accepted

**Attendance:** Students are expected to attend all classes on time as scheduled throughout the quarter.

**General Student Conduct:** We expect students to conduct themselves in a professional manner at all times. An integral part of a student’s career and professional development is the expectation that he/she will conduct themselves during the educational processes in the same manner as will be expected in an employment situation.