

# **CMSC436: Programming Handheld Systems**

# Course Goals

Introduce programming technologies & design approaches for handheld systems

Study relevant applications to better understand these technologies & design approaches

Construct our own applications using the Android Platform

# General Topics

Basic Android platform

APIs & underlying patterns

Higher-level services

Maps, sensors, graphics, networking

Special topics & projects

Cloud connectivity, testing, security

# Basic Platform

Overview

Android development tools

Application building blocks

As we go along, I'll point out the patterns and approaches that underlie many mobile platforms

# Higher-Level Services

Graphics and Animation

Maps

Sensors

Networking

Many others

# Special Topics

Security

User interface design

Programming patterns

Cloud connectivity

Others? Let's hear from you

# Semester Project

One large semester project

Students will work in 4-5 person teams

I will post some project suggestions and allow students to provide some of their own

Students will bid on specific projects and then be assigned to teams

Teams will present their projects

Looking to focus on “Smart City” projects

# Class Style

This course will involve a lot of hands-on work

Will usually have lecture on Tuesday do hands on assignments on Thursday



# Expected Benefits

The one who does the work, is the one who learns

Valuable class time is available for hands-on activities that cement learning

Instructors are available when students are experimenting

# Additional Reference Materials

Lots of resources

Many on-line and free

I'll point some out during the semester

Find your own & share

If you copy code from any resource, acknowledge it

# Work Submission

Week begins on Monday

Each week's work due at 23:59 pm ET the following  
Monday

# Work Submission

You must submit a good-faith effort

Can be failed for the course if you do not

Late submission up to 9am the next morning

Score is multiplied by 0.8 (it's not in your best interest to submit late)

Only last submission will be graded!

# Work Grading and Class Accounts

We will use the submit server for some work submission: <https://submit.cs.umd.edu>

Will use a git repo for programming assignments

# Work Grading and Class Accounts

You should bring your own own laptop to class for course work

Laptop cart can be available

At various points, we'll have some handheld devices available as well

# Work Grading and Class Accounts

Course grades and accounts will be managed using <https://grades.cs.umd.edu>

Linked from course web page resources

# Software & Hardware

I will mostly be using:

Java 1.8 and AndroidStudio 3.1.4

Again - if you can, please bring your laptop to class, so you can have your own environment set up the way you want



# Exams

Midterm: Thursday, Oct. 18, 2018, 2:00-3:15pm

Final: Saturday, Dec. 15, 2018 10:30am-12:30pm

# Privacy and Ethics Simulation

We will be doing a simulation game to explore issues of privacy and ethics in mobile app development

This activity is mandatory and graded

Currently scheduled for November 6 and 8

# Grading

	% total
Weekly Activities	25
Ethics Sim Activity	10
Semester Project	25
Midterm Exam	20
Final Exam	20

# Discussion and Questions

Web-based discussion pages

Can post to forum from off-campus

Linked from course web page

<https://piazza.com/umd/fall2018/cmssc436/home>

# Discussion and Questions

Post questions, comments, pointers to resources, test cases, etc.

Will be monitored by professor and TA

It's your forum, though. Speak up, but be professional

# Discussion and Questions

Use good judgment

Collaboration is highly encouraged

Except for tasks designated as “Individual Effort”

Posting code or pseudocode that gives away exact solution approaches, robs other students of their chance to figure things out. Please don't do this.

# Personnel

Professor: Adam Porter,

`aporter@cs.umd.edu`, 4125 AVW

TA: Multiple – see class webpage

All hours will be posted on web page

<http://www.cs.umd.edu/class/fall2018/cmsc436>

Or set up an appointment

# Excused Absences

Religious holidays or other personal conflicts

Let us know as soon as you can

Medical and other emergencies

Must provide documentation stating what dates/times you were incapacitated

Self reporting is not always sufficient



# Stay Up To Date

Class website

<https://www.cs.umd.edu/class/fall2018/cm436>

Contains:

Announcements

Lecture notes

Project assignments

Resources

And more!