

APPLIED DIGITAL MEDIA PROTOCOLS

COURSE NUMBER: DIG3878	INSTRUCTOR: ANGELOS BARMPOUTIS, PHD
SEMESTER/YEAR: SPRING 2018	OFFICE LOCATION/HOURS: NRG M & W 3 RD PERIOD
SECTIONS: 0629, 196H, 2C43	CONTACT EMAIL: ANGELOS@DIGITALWORLDS.UFL.EDU
CLASS LOCATION: NRG 0120	CONTACT PHONE: (352) 294-2000
CLASS MEETING TIME(S): M 5-6 Periods & W 6 Period	COURSE WEBSITE: digitalworlds.ufl.edu/programs/ba-in-das/
Credit Hours: 3.0	

COURSE DESCRIPTION

This course will introduce contemporary protocols for mobile application development. Topics covered include procedural and object-oriented programming, mobile software development practices, design and implementation of natural human-computer interaction for mobile and wearable platforms. The students will develop skills in programming their own applications with graphical user interfaces for portable digital media systems.

PREREQUISITE KNOWLEDGE AND SKILLS

- Theory of Digital Media Protocols DIG3873.

PURPOSE OF COURSE

The main goal of this course is to build upon the theory of digital media systems (covered in the prerequisite course: Introduction of Digital Media Protocols) and introduce the students to the basic principles of scripting and coding in major popular mobile digital platforms, ranging from smart-phones to tablet computers. The students will be able to develop their own applications using multi-media data, graphical user interfaces, and basic human-computer interaction.

COURSE GOALS AND/OR OBJECTIVES: *By the end of this course, students will be able to:*

1. Be able to read and understand coded computer logic.
2. Be able to write their own programs using object oriented principles.
3. Be able to develop computer applications with graphical user interface.
4. Be able to code custom human-computer interaction using keyboard, mouse, and touch screens.

COURSE SCHEDULE:

This schedule is only a guide and is subject to change. Unless otherwise indicated, assignments and readings are due the day they are listed on the syllabus, not the following day.

NOTE: FINAL PROJECT PRESENTATIONS WILL BE HELD IN CLASS ON APRIL 23 & APRIL 25.

Week	Topic	Assignments/Quizzes
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DIG3878 – APPLIED DIGITAL MEDIA PROTOCOLS

1	Introduction to Programming – JavaScript Syntax Review	Program. Assignment 1 will cover variables, conditions, loops, functions.
2	Data Structures using JavaScript Object Notations (JSON)	Program. Assignment 5 will cover data structures
3	Application Programming Interfaces (APIs)	Program. Assignment 3 will cover JS APIs, Audio, Arrays, Strings, VN, etc.
4	Graphics Processor Unit (GPU) programming using WebGL	Program. Assignment 4 will cover 3D geometries
5	3D graphics materials, shading, matcaps, normal maps	Program. Assignment 5 will cover GL materials
6	Object-Oriented Programming (OOP)	Program. Assignment 6 will cover creating classes
7	Real-Time Network Communications and multi-player user interaction	Program. Assignment 7 will cover multi-player network interactions
8	Project Proposal presentations and discussions	Project proposal submission
9	Releasing Apps to various platforms using XDK	Program. Assignment 8 will cover exporting to iOS, Android, Windows, or Mac
10	Body tracking using Microsoft Kinect	Program. Assignment 9 will cover body gesture interactions
11	Large scale planning and development– A case study will be covered and all faces of full project development will be demonstrated within 3-weeks	Program. Assignment 10 will cover game development
12	Large scale planning and development– contd.	
13	Large scale planning and development– contd.	
14	Special Topic – development in Integrated Development Environments (IDEs)	
15	Final Project Presentations	Final project submission

REQUIRED TEXTBOOKS AND SOFTWARE:

JavaScript Reference: <https://developer.mozilla.org/en-US/docs/Web/JavaScript>

Intel XDK software: <https://software.intel.com/en-us/intel-xdk>

VN API: <https://www.visineat.com/api/>

RECOMMENDED TEXTBOOKS AND SOFTWARE:

The Busy Coder’s Guide to Android Development, Mark L. Murphy, 2008.

Introduction to Programming Using Java, David J. Eck, 6th Ed., 2014.

COURSE FEES:

Course fees are assessed for certain courses to offset the cost of materials or supply items consumed in the course of instruction. A list of [approved courses and fees](#) is published in the Schedule of Courses each semester. (UF-3.0374 Regulations of the University of Florida).

Material and supply and equipment use fee information is available from the academic departments or from the schedule of courses (Florida Statutes 1009.24). The total course fee for this class is \$17.76

The total course fee for each course is listed on the UF Schedule of Courses. (<https://registrar.ufl.edu/soc/>).

EVALUATION OF GRADES

Assignment	Total Points	Percentage of Grade
Weekly Homework projects: Every week starting from week 1 up to week 11 the students will receive homework assignments related to the material covered in each week of classes. The students will have 1 week to work on each homework assignment. The assignments will be submitted through the course's learning management system.	40	40%
Final Paper/Project – Final Project is the final result of the semester long effort in learning. It is expected that in this final assignment, students manifest their knowledge on the matter, and successfully deploy this knowledge in the practical format.	40	40%
Participation – Students are expected to actively participate in class discussions, both in class as well as online by writing peer reviews.	10	10%
Pop-Quizzes: There will be at least 5 unannounced pop-quizzes during the semester. The pop-quizzes will test the students on the material covered during the 2 classes prior to	10	10%

the pop-quiz.		
Extra Credit – All students who wish to submit their class data for anonymous use in a research study will receive 5% extra credit towards their final grade when they sign the UF-approved Informed Consent provided by the instructor.	5	5%

GRADING SCALE:

Letter Grade	% Equivalency	GPA Equivalency
A	94 – 100%	4.0
A-	90 – 93%	3.67
B+	87 – 89%	3.33
B	84 – 86%	3.00
B-	80 – 83%	2.67
C+	77 – 79%	2.33
C	74 – 76%	2.00
C-	70 – 73%	1.67
D+	67 – 69%	1.33
D	64 – 66%	1.00
D-	60 – 63%	.67
E, I, NG, S- U, WF		0.00

More information on grades and grading policies is here:
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

COURSE POLICIES:

PARTICIPATION / ATTENDANCE

In our course, attendance for On-Campus and RT On-Line students is mandatory. Students are allowed **three unexcused absences**. If you miss more than **three classes** during the semester, each additional absence will lower your overall grade by **100 points**. If you miss more than **six classes**, you will fail the course. Exempt from this policy are only those absences involving university-sponsored events, such as athletics and band, and religious holidays, family emergencies, and health issues for which **you must provide appropriate documentation in advance of the absence**.

Additionally, tardiness will not be tolerated. If you are tardy for three class periods, you will receive an unexcused absence.

YOT On-Line students will be expected to stay in sync with the rest of the class, and to achieve their

participation portion by recording/writing their responses to course material in advance of each lecture at least once a week.

MAKE-UP POLICY

Unless discussed at least 72 hours in advance of the deadline, late assignments will not be accepted. Excluded from this policy are any assignments missed due to medical emergencies.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

COURSE TECHNOLOGY

The students will be required to have access to, and use a personal computer with the access to the Internet. Word editing software will be required for written assignments.

COURSE COMMUNICATIONS

Students can communicate directly with the Instructor regarding the course material through the course management system (CANVAS). Electronic communication must demonstrate a formal tone and style and, unless absolutely urgent, will be responded to M-F from 9 AM to 5 PM.

VIDEO LECTURE CAPTURE

High-quality video lecture capture of this course is available only for enrolled students. These video captures are edited and posted within 24-48 hours of the class meeting for the benefit of the Your Own Time [YOT] students and to offer the potential for review by on-campus and Real Time [RT] online students. For the on-campus and RT students, watching lectures in lieu of attending and participating in class is NOT acceptable.

Your Instructor will provide you with this semester's login information during the first week of class. It is not permissible to share or distribute video login information to anyone other than officially enrolled students of this course. Lecture videos can be found at <https://vimeo.com/digitalworlds>.

UF POLICIES:

UNIVERSITY HONESTY POLICY

UF students are bound by The Honor Pledge that states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The [Honor Code](#) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any

condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

PLAGIARISM

Plagiarism is a violation of the UF honor code. A student shall not represent as the student's own work all or any portion of the work of another. Plagiarism includes but is not limited to:

- “1. Quoting oral or written materials including but not limited to those found on the internet, whether published or unpublished, without proper attribution.
2. Submitting a document or assignment which in whole or in part is identical or substantially identical to a document or assignment not authored by the student.”

Students shall not use unauthorized materials or resources in an academic activity. Unauthorized materials or resources includes any paper or project authored by the student (or another student) “and presented by the student for the satisfaction of any academic requirement if the student previously submitted substantially the same paper or project to satisfy an academic requirement and did not receive express authorization to resubmit the paper or project.”

CLASS DEMEANOR

Students are expected to arrive to class on time and behave in a manner that is respectful to the instructor and to fellow students. Please avoid the use of cell phones and restrict eating to outside of the classroom. Opinions held by other students should be respected in discussion, and conversations that do not contribute to the discussion should be held at minimum, if at all.

STUDENTS REQUIRING ACCOMMODATIONS

Students with disabilities requesting accommodations should first register with the [Disability Resource Center](#) (352-392-8565) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

NETIQUETTE COMMUNICATION COURTESY

All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats, more information can be found at: <http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf>

ONLINE COURSE EVALUATIONS

Students are expected to provide feedback on the quality of instruction in this course by completing [online evaluations](#). Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at [evaluation results](#).

CAMPUS RESOURCES

HEALTH AND WELLNESS

U Matter, We Care

If you or a friend is in distress, please contact umatter@ufl.edu or 352 392- 1575 so that a team member can reach out to the student.

Counseling and Wellness Center

<http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS)
Student Health Care Center, 392-1161.

University Police Department, 392-1111 (or 9-1-1 for emergencies). <http://www.police.ufl.edu/>

ACADEMIC RESOURCES

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. <http://www.crc.ufl.edu/>

Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/>

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/>

Student Complaints Campus:
https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf

On-Line Students Complaints:
<http://www.distance.ufl.edu/student-complaint-process>

Disclaimer: This syllabus represents the instructor's current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.