

THEORY OF DIGITAL MEDIA PROTOCOLS

COURSE NUMBER: DIG3871	CREDIT HOURS: 3
SEMESTER/YEAR: FALL 2017	CLASS LOCATION: WEB
	CLASS MEETING TIME(S): N/A
INSTRUCTOR: Mr. TIM DIFATO	OFFICE LOCATION/HOURS: TBA
LAB ASSISTANT: TBD	CONTACT EMAIL: CANVAS INSTRUCTOR
CONTACT PHONE: (352) 294-2000	COURSE WEBSITE: HTTP://ELEARNING.UFL.EDU/

COURSE DESCRIPTION

This course will cover the theory behind the design of digital media systems, data-flow logic, binary data structures, and pseudo-code description of computational algorithms. The students will be exposed to fundamental principles of computer coding and scripting and protocols of communication between digital systems.

PREREQUISITE KNOWLEDGE AND SKILLS

This course should be taken by students of level 3 or have consent of the instructor.

PURPOSE OF COURSE

The purpose of this course is to introduce the students the theory and architectural design principles of digital systems, how the data are represented in digital form, and how a set of high-level human instructions can be coded into a simple well-defined set of computer instructions. The students will be exposed into the theory and principles of binary logic, pseudo-coding, data structures, and algorithms.

COURSE GOALS AND/OR OBJECTIVES: At the conclusion of this course, students will be able to:

1. Articulate the theory of binary logic, the internal binary structure of digital systems, and their protocols of operation.
2. Explicate the forms of digital representation of data and the differences between various file formats.
3. Demonstrate their understanding of the theory of pseudo-coding by transcribing a high-level set of human instructions into the form of a well-defined pseudo-code for an abstract digital system.

COURSE SCHEDULE:

THERE IS AN ELECTRONIC FINAL EXAM ON DECEMBER 14 (DATE SET BY UF REGISTRARS OFFICE).

Week	Topic	Assignments/Quizzes
1	History of Computing	<ul style="list-style-type: none"> • Reading 1.1, 6.1 • Watch Video Week1 Lecture 1 • Watch Video Week1 Lecture 2 • Introduce Yourself
2	Introduction to binary logic	<ul style="list-style-type: none"> • Watch Video Week2 Lecture 1

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		<ul style="list-style-type: none"> • Watch Video Week2 Lecture 2
3	Representation of data in digital form	<ul style="list-style-type: none"> • Reading 1.2, 1.3, 6.2 • Watch Video Week3 Lecture 1
4	Computer architecture	<ul style="list-style-type: none"> • Watch Video Week4 Lecture 1 • Watch Video Week4 Lecture 2 • Homework 1 (Process a binary file of ages) • Homework 2 (Process an image binary file)
5	Finite state machines – Turing machines	<ul style="list-style-type: none"> • Reading 6.3 • Watch Video Week5 Lecture 1 • Watch Video Week5 Lecture 2
6	Protocols of Pseudo coding, variables, and conditions	<ul style="list-style-type: none"> • Watch Video Week6 Lecture 1 • Watch Video Week6 Lecture 2 • Homework 3 (Process a 3D object file) • Homework 4 (Draw a finite state machine)
7	Fundamental programming principles, loops, arrays	<ul style="list-style-type: none"> • Reading Ch.3 • Watch Video Week7 Lecture 1 • Watch Video Week7 Lecture 2 • Homework 5 (Implement a vending machine in scratch) • Homework 6 (Perform calculations in Java)
8	Fundamental programming principles, loops, arrays cont.	<ul style="list-style-type: none"> • Reading Ch.4 • Watch Video Week8 Lecture 1 • Watch Video Week8 Lecture 2
9	JavaScript overview, user event handling, mouse interaction	<ul style="list-style-type: none"> • Reading Ch.5 • Watch Video Week9 Lecture 1 • Watch Video Week9 Lecture 2 • Homework 7 (Mouse-Interactive HTML5 App)
10	JavaScript programming cont.	<ul style="list-style-type: none"> • Reading Ch.8 • Watch Video Week10 Lecture 1 • Watch Video Week10 Lecture 2
11	Coding animations	<ul style="list-style-type: none"> • Watch Video Week11 Lecture 1 • Watch Video Week11 Lecture 2 • Homework 8 (HTML5 Animation App)
12	Keyboard interactions	<ul style="list-style-type: none"> • Watch Video Week12 Lecture 1 • Watch Video Week12 Lecture 2
13	Object-oriented programming	<ul style="list-style-type: none"> • Reading Ch. 10 • Watch Video Week13 Lecture 1 • Watch Video Week13 Lecture 2 • Homework 9 (HTML5 Battleship game)

14	Object-oriented programming cont.	<ul style="list-style-type: none"> • Watch Video Week14 Lecture 1
15	Object-oriented programming cont.	<ul style="list-style-type: none"> • Watch Video Week15 Lecture 1 • Watch Video Week15 Lecture 2 • Homework 10 (HTML5 Object-Oriented Programming) • Homework 10 (Object-Oriented analysis of an existing game)
16	Review and Final Remarks	<ul style="list-style-type: none"> • Watch Video Week16 Lecture 1

REQUIRED TEXTBOOKS AND SOFTWARE:

1. "Introduction to Computing: Explorations in Language, Logic, and Machines" by David Evans. CreateSpace Independent Publishing Platform (August 15, 2011), Paperback, ISBN: 146368747824.(Open Access, CC, Download from: <http://www.computingbook.org/FullText.pdf>).

RECOMMENDED MATERIALS:

1. Jeliot (cs.joensuu.fi/jeliot/)
2. Scratch (scratch.mit.edu)
3. One of the following source-code text editors: Notepad++, Brackets, Sublime

MATERIALS AND SUPPLIES 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 \$8.50

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 4 up to week 16 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	55	55%

through Canvas.		
Quizzes: There will be quizzes during the semester. The quizzes will test the students on the material covered during the 2 classes prior to the pop-quiz. The students will complete the quizzes in Canvas.	5	5%
Participation – Students are expected to actively participate through the form of on-line peer reviews.	10	10%
Final Exam: The final written exam will test the students on the entire material covered in this class. The exam will be taken at the exam period officially scheduled by the University of Florida registrar’s office. (DECEMBER 14).	30	30%

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 POLICY

We value participation more than mere attendance. Each Instructor is responsible for communicating the specific details of what percentage of your grade (if any) will be assigned to participation, and how class participation will be measured and graded. Real Time [RT] interaction with your peers and the Instructor will empower you to greater achievement.

MAKE-UP POLICY

Presentations may not be presented late. Documented emergencies or medical situations may be the only accepted reasons for an excused absence on the day of a presentation.

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).

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 (<https://www.dso.ufl.edu/sccr/process/student-conducthonor-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.

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, www.dso.ufl.edu/drc/) 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/docs/NetiquetteGuideforOnlineCourses.pdf>

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] on-line 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>.

ONLINE COURSE EVALUATIONS

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. 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 <https://evaluations.ufl.edu/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.