CREATING MOBILE GAMES (CMG)

COURSE NUMBER: DIG2632	**INSTRUCTOR:** HEITZMAN
SEMESTER/YEAR: FALL/2019	**OFFICE LOCATION/HOURS:** NRG 116 TUE 2:00 PM – 3:00 PM
CREDIT HOURS: 3	**CONTACT EMAIL:** NICK@DIGITALWORLDS.UFL.EDU
CLASS LOCATION: NRG 205 PICT	**CONTACT PHONE:** (352) 294-2000
CLASS MEETING TIME(S): TUE 11:45 AM – 1:40 PM, THU 12:50 PM – 1:40 PM	**COURSE WEBSITE:** elearning.ufl.edu

COURSE DESCRIPTION

This is an introductory course on designing your own game with simple drag and drop programming and basic asset creation. Unity 5 is user-friendly, and you will create dynamic arcade-style platform or top-down video games while learning essential principles of game design and the development process.

PREREQUISITE KNOWLEDGE AND SKILLS: None

PURPOSE OF COURSE

This course focuses on providing students with a solid foundation in the technical skills needed to be successful in the emerging field of mobile game application design and development. Students will gain a strong knowledge of multiplatform mobile games and tools.

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

1. Understand the general work-flow for creating mobile games using industry standard software.
2. Define scope for their game by creating a Game Design Document.
3. Understand the various types of tools involved in designing a mobile game.

COURSE SCHEDULE:

The FINAL EXAM TIME SCHEDULED FOR THIS COURSE will be announced in advance of each semester by the University of Florida Registrar's Office at http://www.registrar.ufl.edu/soc/
Final Presentation Date: THURSDAY DECEMBER 12 2019

Week	Topics	Assignments/Quizzes
1	Course Objectives and Overview Creating a Simple 2D Platformer • Class Introduction • Syllabus review • Pipeline Process and Flow • 2D Platform Games	**Assignment 1:** Review three platformer games – first pass definition of game type, genre, and key gameplay mechanics.

2	Creating a Simple 2D Platformer • Game Design Document Overview • Sandbox Game Specifications Review • Review Industry GDD's • Milestones and Scope • Assignment GDD discussion and class exercise	**Assignment 2:** Simple Game Design Document v1.0.
3	Introduction to Unity 5 • Basic GUI Overview • Sorting and Layers • Image Formats • Creating/Importing Assets • Naming Conventions • Scenes / Levels / Concept Maps • Sprites • Background, Midground, Foreground • Platforms • Design Rules and Color Use	**Assignment 3:** Design your own rough platform level map concept to establish initial scale and gameplay space layout.
4	Player & Basic Gameplay Features • Visual Studio and script introduction • Movement • Physics and Collision • Main Camera • Player Health • Enemies • Hazards • Projectiles	**Assignment 4:** Set-up the Player and lock down physics, camera, base character systems; screenshot showing Player, camera FOV, and initial level state.
5	**PROTOTYPE MILESTONE** • Rough Map Template in Unity • First Pass Gameplay Platforms/Spaces • First Playable Completed Additional Gameplay Systems • Physics Materials; Bounce and Friction • Buoyancy and Water Volumes • Checkpoints	**PROTOTYPE MILESTONE:** Screenshot showing Prototype Milestone requirements.
6	Gameplay Elements • NPC or Story Narrative Mechanics • Introduction to Canvas UI • Custom Fonts • Player Health and Score UI	**In Class Exercise:** Narrative and user interface development.

7	Sprite Animation Introduction • Animation System Overview • Animated Sprite – Items • Animated Sprite – Characters • Animated Sprite – Design Driven • Animation Scripting	**Assignment 5:** Animated Player sprite; Idle or Walk cycles.
8	**MIDTERM (ALPHA) MILESTONE** • **MIDTERM Level State** • **Building the Game Executable** • **Testing and Issue Priority Basics**	**MIDTERM MILESTONE:** Screenshot of level with design overlay.
9	Basic Level Transitions • Level to Level Transitions • Teleporting • Intermediate or Narrative Levels • Boss or Epic Encounter Design	**In Class Exercise** Exploring the flexibility and functionality of the level transition script.
10	Using Depth and the Z • Layer Manipulation and 3D Location Techniques • Parallax Scrolling • Game Lighting • Point, Directional, and Spot Lights	**Assignment 6:** Isometric screenshot of your game level showing depth.
11	Particle Systems • Particle Editor • Smoke Effects • Rain Effects	**In Class Exercise:** Create smoke and rain particle effects.
12	Auxiliary Game Screens • Splashes and Logos • Game Start Screen • Animations in Splash Screens	**Assignment 7:** Create a custom splash screen for your game
13	Game Audio and Gameplay Review • Music and Audio in Unity • Using Audio Volumes and Priority • Evaluate Game State • Rescoping Exercise	**In Class Exercise** Add audio globally and locally.
14	Game Debugging and Testing • Prioritizing Late-Development Issues • Adding Tutorial Elements • Cutting and Replacing	**In Class Exercise** Game testing and polishing.

15	**GOLD MASTER MILESTONE** • FINAL Game Build • Bug and Issue Fixes • Playtest Each Other's Games • Submit Release Candidate	**GOLD MASTER MILESTONE:** FINAL tested game build submitted.

REQUIRED TEXTBOOKS AND SOFTWARE:

- Unity HUB and Unity 5 2019
- Adobe Photoshop CC

RECOMMENDED MATERIALS:

- Lynda.com, Online tutorial *(FREE access for UF students)*
- Official Unity Development Community https://unity3d.com/community
- Digital Graphic Drawing Tablet with Pen (Photoshop compatible)

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 $0.00

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
Participation – Synchronous students are expected to be present and participate in class. Asynchronous students are welcome to actively participate in class discussions. Asynchronous students are expected to review the class recordings in order to complete their assignments.	100	10%
Assignments – Assignments are due one the date and time indicated by each Canvas assignment. Asynchronous online students, who must wait 24-48 hours for the recorded course lecture to be uploaded, have a 48 hour grace period after the Canvas due date to submit their work – EXCEPT for the Final Project which must be submitted by ALL students on the same day and time.	600	60%

Final Project – Final Project is the Gold Master Milestone Build of their game demonstrating the skills and techniques they have learned during the semester.	300	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 – 59%	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.

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

In our course, attendance for synchronous 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**.

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

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.

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 University of Florida and Digital Worlds requires that students have access to and on-going use of a laptop/mobile computer for DIG courses in order to be able to function in the current learning environment. Students are required to access electronic forms of information, submit assignments and communicate with other students and faculty electronically. DW requires each student's mobile computer to meet certain minimum specs for heavy graphics use, the requirements documented below must be met.

DW Computer Requirements
http://digitalworlds.ufl.edu/programs/ba-in-digital-arts-sciences/new-student-buyers-guide/

COURSE COMMUNICATIONS
Students can communicate directly with the Instructor regarding the course material through the course management system (CANVAS).

Electronic communication outside class meetings is welcome, however unless absolutely urgent, will be responded to M-F from 9 AM to 5 PM.

When you send an email to your instructor, you should:

- Use the Canvas "Inbox" tool for your course unless you have specific directions otherwise
- Send to the minimum number of necessary recipients
- Use a descriptive subject line
- Be concise and clear
- Use standard file formats for attachments (e.g. PDF, DOCX, XLSX), or confirm that the recipient can open the format you intend to send
- Sign your message with your name and return email address

NOTE ON INSTRUCTION

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The course incorporates lecture, in-class exercises, and assignments to apply and reinforce skills learned. Additionally, students will be asked to participate in homework expanding on in-class lessons to strengthen their skills. Individual assignments will be explained in detail as the course progresses.

COURSE TECHNOLOGY SUPPORT:

The Technology Support Center provides computer support for Digital Worlds students who access Visimeet, lecture recordings, student equipment, facilities and other technology-based resources. http://digitalworlds.ufl.edu/support

For computer assistance related to Visimeet, lecture recordings, student equipment, and facilities request please Submit a Help Ticket or email support@digitalworlds.ufl.edu.

For support related to account services, technical consulting, mobile device services, software services, administrative support, application support center, and learning support services, please contact the UF Computer Help Desk available 24 hours a day, 7 days a week at 352-392-4357 or helpdesk@ufl.edu.

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.

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.

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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 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.
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> 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:

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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.