İZMİR UNIVERSITY OF ECONOMICS

VCD 436 - Introduction to Programming for Designers

https://ilt.ieu.edu.tr/en/syllabus/type/read/id/VCD+436

Spring 2025
Tuesday 13:05 - 16:35
@D206

INSTRUCTOR Ceren Kayalar - cerenk@gmail.com
Please don't hesitate to contact me via my Gmail, I'll get back to you as soon as I can. Just don't expect a quick reply after work hours and over the weekend/holidays. I'm also checking my IEU mailbox regularly. Students are obliged to check their university emails and Blackboard page regularly (ideally daily) throughout the semester.

COURSE DESCRIPTION

This course provides an introduction to programming (coding) for design students using Processing language, with a focus on interactivity. No prior programming experience is necessary. The course will follow two learning tracks:

1. **"The how"** Principles of writing code: syntax and semantics. How to divide a problem into subproblems and tell the computer to solve them? Principles of working with interactive media and fundamentals of computer graphics.
2. **"The what to make and why"** Using programming concepts as a tool, the students will compose interactive scenes, create animations and make media respond interactively to user input.

COURSE OBJECTIVES

The aim of this course is to improve students' computational literacy skills and teach them computer programming by introducing the art of creating responsive and engaging visual representations. Students will learn fundamental interactive design principles, and gain practical experience by creating interactive sketches using *Processing*, a programming language developed specifically for artists and designers. This course also covers a brief introduction to the web domain using the language *p5js* and physical interaction using *Arduino* prototyping board.

EVALUATION

Participation	20%
Homework(s)	60%
Project	20%

Participation is graded in class according to your participation in coding exercises. If you miss the class, you won't be receiving any points from that lab. Each lab is graded as 2pts.

Homeworks will be announced on Blackboard with detailed briefs. You have to upload your work to Blackboard as instructed before the deadline (within 1 or 2 weeks).

Homework #1, Homework #5	8 pts
Homework #2, Homework #3	10 pts
Homework #4, Homework #6	12 pts

Project will be proposed by you individually and built upon your unique skills acquired during the semester. Your project grade will be a weighted sum of your project proposal, project progress and project submission/presentation. Your work will be evaluated on (I) the idea and execution, (II) coding abilities presented and (III) 'look and feel' of the experience.

COURSE POLICIES

Late submission If you miss the deadline for homeworks, 10% will be deducted from your grade for the first day late, and an additional 5% will be deducted on each subsequent day. Latest submission deadline will be the following Friday evening of the homework due date to avoid overlaps (thus, unnecessary panic) in successive submissions. Learning programming is similar to learning a new language: you need to practice regularly. Homeworks and labs are the backbones of this practice. Please submit attempts even if you were unable to complete the task and submit on time. Remember: finished is better than perfect. If you encounter any emergencies, contact me as soon as possible. If you won't be able to attend final project presentations, contact me in advance.

Attendance The university's attendance policy will be followed.

Academic Integrity You are expected to practice the highest possible standards of academic integrity. Any deviation from this expectation will result in a minimum academic penalty of your failing the assignment, and will result in additional disciplinary measures. This includes improper citation of sources, using another student's work, and any other form of academic misrepresentation.

Plagiarism Using the words or ideas of another as if they were one's own is a serious form of academic dishonesty. If another one's (including GPTs) complete sentence, syntax, key words, code, media (photographs, sounds, images, etc.), or the specific or unique ideas and information are used, you must give credits through proper citation. Although the Processing community is generously sharing code snippets online, you can only use someone else's work for inspiration. Cheating will immediately earn you a failing grade for the entire course.

TIPS (by C. Reas)

- Take your time and be careful
- Take a break if coding gets frustrating
- Work in a study group and help each other
- Start working early, well before the deadline
- Ask questions!

+ Bring a sketchbook to class

TEXTBOOK

Reas, C. and Fry, B. (2015). Getting Started with Processing, 2nd Edition. Maker Media.

WEB MATERIALS

Processing - https://processing.org
Shiffman's Coding Train - https://thecodingtrain.com, https://www.youtube.com/@TheCodingTrain

SUGGESTED READING MATERIAL

Maeda, J. (2004). Creative Code: Aesthetics + Computation. Thames&Hudson.
McCarthy, L., Reas, C. and Fry, B. (2016). Getting Started with p5.js. Maker Media.
Reas, C. and Fry, B. (2015). Processing: A Programming Handbook for Visual Designers and Artists, 2nd Edition. The MIT Press.
Reas, C. and McWilliams, C. (2010). Form+Code in Design, Art and Architecture. Princeton Architectural Press.
Richardson, A. (2016). Data-driven Graphic Design: Creative Coding for Visual Communication. Bloomsbury.
Shiffman, D. (2015). Learning Processing, 2nd Edition: A Beginner's Guide to Programming Images, Animation, and Interaction. Morgan Kaufmann.

COURSE SCHEDULE *tentative

Week	Topic	Assignment	Due Date
Week #1 Feb 11, Tue	Introduction, Objectives and Expectations Computing without a Computer Hello Processing: Instructions and Statements	Experiments with https://hello.processing.org (ungraded)	next class
Week #2 Feb 18, Tue	Variables and Response Graphic Elements: 2D Primitives, Color *Coding exercise(s) #1*	Homework #1 (short)	Feb 24, Mon 22:00
Week #3 Feb 25, Tue	Conditionals - I Graphic Elements: Custom Shapes, Curves *Coding exercise(s) #2*	Homework #2 (long)	Mar 10, Mon 22:00
Week #4 Mar 04, Tue	Conditionals - II Media: Images and Text *Coding exercise(s) #3*	-	-
Week #5 Mar 11, Tue	Repetition and Patterns Media: Sound *Coding exercise(s) #4*	Homework #3 (long)	Mar 24, Mon 22:00
Week #6 Mar 18, Tue	Modularity: Functions - I Scene Management *Coding exercise(s) #5*	-	-
Week #7 Mar 25, Tue	Modularity: Functions - II Media: Review *Coding exercise(s) #6*	Homework #4 (long)	Apr 07, Mon 22:00
** No class on **Apr 01**, **Tue -** Bayram holiday			

** No class on **Apr 08, Tue** - Midterm week			
Week	**Topic**	**Assignment**	**Due Date**
Week #8 Apr 15, Tue	Arrays, Modularity: Review Animations *Coding exercise(s) #7*	Homework #5 (short)	Apr 21, Mon 22:00
Week #9 Apr 22, Tue	Modularity: Object Oriented Programming - I Working with multiple instances of interactive elements *Coding exercise(s) #8*	Homework #6 (long)	May 02, Fri 22:00
Week #10 Apr 29, Tue	Modularity: Object Oriented Programming - II Introducing basic game components: timer, points, levels *Coding exercise(s) #9*	**Project Proposal**	May 05, Mon 22:00
Week #11 May 03, Sat *makeup for Bayram holiday*	Introduction to hardware: Arduino	-	-
Week #12 May 06, Tue	Introduction to web: p5js *Coding exercise(s) #10*	**Project Progress - I**	May 12, Mon 22:00
Week #13 May 13, Tue	Advanced Topics #1 Project Work Session	**Project Progress - II**	May 19, Mon 22:00
Week #14 May 20, Tue	Advanced Topics #2 Project Work Session	**Project Submission**	(TBA)
Finals Week (TBA)	**Project Submission & Presentations**		