

Lecturer

Name: Piotr Penar

Name for daily/classes use: Peter

Background: BSc. of Computer Science

Specialization: Founder & CEO of DreamStorm Studios

Contacts:

Email: piotr.penar@dreamstormstudios.com

Web site: <https://dreamstormstudios.com/>

CV: <https://www.linkedin.com/in/piotr-penar/>

Name: Michał Łazowski

Name for daily/classes use: Mike

Background: BSc. of Game Design

Specialization: Creative Director of DreamStorm Studios

Contacts:

Email: michal.lazowski@dreamstormstudios.com

Web site: <https://dreamstormstudios.com/>

CV: <https://www.linkedin.com/in/micha%C5%82-%C5%82azowski-4bbab521b/>

Course Description

Title: Fantastic Games and How to Code Them

Fields of activity: Applied Sciences, Computer Engineering, Computer Science/Automatic Control/Informatics, Mathematics, Multimedia and Communication Design, Physics/Physics Engineering

Examination type: Group project/presentation: students will be expected to create their own game while working in small project groups, based on the materials and tutorials provided by the teachers. The game will be presented to and evaluated by the teachers on the last day of classes.

Number of ECTS credits issued: 1.0

Learning Goals and Objective: The goal of the course is to provide the theoretical background that participants can use and apply when creating a project which will be their own computer game.

Syllabus

Name of activity	Introduction to C# programming in the Unity Engine
Number of working hours	2 hours
Type of activity	Tutorial
Lecturer	Piotr Penar
Short summary of content	<ul style="list-style-type: none"> - Basic information about Unity Engine, - Walkthrough of Unity Engine interface, - Introduction to C# programming language
Bibliography	Everything needed is provided in the pre-materials down below.
Expected effect	Participants will gain basic knowledge about Unity Engine and will be able to smoothly navigate through the engine interface. They will also learn syntax of the C# language.

Name of activity	C# programming in the Unity Engine
Number of working hours	4 hours
Type of activity	Workshop
Lecturer	Piotr Penar
Short summary of content	<ul style="list-style-type: none"> - Working with first project in unity Engine, - Creating scripts in C# language, - Practicing C# syntax
Bibliography	Everything needed is provided in the pre-materials down below.
Expected effect	Participants will learn about C# programming. They will work on previously created projects to get acquainted with games created in Unity. They will be able to modify them and add new simple features.

Name of activity	C# programming in the Unity Engine - quiz
Number of working hours	0,5
Type of activity	Individual work
Lecturer	Piotr Penar
Short summary of content	<ul style="list-style-type: none"> - Summary of the introduction to C#, - Solving the quiz about C# and Unity Engine
Bibliography	Everything needed is provided in the pre-materials down below.
Expected effect	Each participant will consolidate his knowledge about C# programming and basics of Unity Engine. They will receive feedback on how much they learned.

Name of activity	Introduction to prototyping and testing
Number of working hours	2 hours
Type of activity	Lectures
Lecturer	Piotr Penar
Short summary of content	<ul style="list-style-type: none"> - Introduction to prototyping, - Principals, qualities and types of prototyping, - Elements of successful prototyping, - Introduction to testing, - Methods and examples of testing
Bibliography	Everything needed is provided in the pre-materials down below.
Expected effect	Participants will gain basic knowledge about prototyping methodology and testing new features. They will be able to characterise good prototype.

Name of activity	Prototyping and testing features of video games
Number of working hours	4,5 hours
Type of activity	Project work
Lecturer	Piotr Penar
Short summary of content	Prototyping a new feature and then testing it using methods from lectures.
Bibliography	Everything needed is provided in the pre-materials down below.
Expected effect	Participants will gain practical knowledge of prototyping new features and will how to put those features to test.

Name of activity	Introduction to level design
Number of working hours	2 hours
Type of activity	Lectures
Lecturer	Michał Łazowski
Short summary of content	<ul style="list-style-type: none"> - Introduction, - Theory, - Approaches to level designing, - Good/bad practices
Bibliography	Everything needed is provided in the pre-materials down below.
Expected effect	Participants will learn what is hidden behind the process of the level design and will get acquainted with examples of such processes.

Name of activity	Level design workshop
Number of working hours	4,5 hours
Type of activity	Workshop
Lecturer	Michał Łazowski
Short summary of content	Working in small groups with a task of designing a new level using materials and abiding the requirements from the lecturer.
Bibliography	Everything needed is provided in the pre-materials down below.
Expected effect	Participant will put theoretical knowledge into practice and will perform whole process of level design and its work concept.

Name of activity	Introduction to game reward system
Number of working hours	2 hours
Type of activity	Lectures
Lecturer	Piotr Penar
Short summary of content	<ul style="list-style-type: none"> - Why do people play video games, - Elements that keep players invested, - Concepts and examples of reward systems
Bibliography	Everything needed is provided in the pre-materials down below.
Expected effect	In this lecture participants will gain knowledge about models of rewards systems and their effects on players. They will also learn an example and applications of such systems.

Name of activity	Prototyping reward system
Number of working hours	4,5 hours
Type of activity	Workshop
Lecturer	Piotr Penar
Short summary of content	Participants will implement theoretical knowledge from the lectures, creating their own reward system.
Bibliography	Everything needed is provided in the pre-materials down below.
Expected effect	Through attendance in the workshop participants will have the ability to create games that keep players invested using reward systems.

Name of activity	Summary and preparing presentations
Number of working hours	2 hours
Type of activity	Project work
Lecturer	Piotr Penar, Michał Łazowski
Short summary of content	<ul style="list-style-type: none"> - Final touches to the game project, - Preparation of the presentation for final exam
Bibliography	Everything needed is provided in the pre-materials down below.
Expected effect	Through this preparation participants will collect and consolidate their knowledge gained during the course, preparing for the final exam.

Name of activity	Final exam
Number of working hours	2 hours
Type of activity	Examination
Lecturer	Piotr Penar, Michał Łazowski
Short summary of content	Exam will have form of group presentations where participants will show progress of their projects and ideas that they have implemented.
Bibliography	Everything needed is provided in the pre-materials down below.
Expected effect	During the examination participants will present progress of their projects on which they have been working through the course. Lecturers will grade participants' solutions to the problems and challenges that were presented during the classes and their implementation in the code.

Pre-materials

Here is a list of all the materials that are relevant for the course.

Name	Introduction to GitLab
Topic/field	Developers' tools
Short description	Participants can learn about version control system and concepts such as: branch, commit, pushing and pulling commits etc.

Name	Unity Engine Documentation
Topic/field	Unity Engine
Short description	Whole documentation of Unity Engine that can be useful during the course.

Name	C# tutorials
Topic/field	C# programming
Short description	Basic knowledge about C# programming.

Name	C# excercises
Topic/field	C# programming
Short description	Set of exercises that can help you learn the basics of C# language.