STATE UNIVERSITY OF NEW YORK
COLLEGE OF TECHNOLOGY
CANTON, NEW YORK

MASTER SYLLABUS

GAME 140 – Unity Development 1: C# Programming

For available course numbers, contact the Registrar's Office at registrar@canton.edu

CIP Code: 11.0202

For assistance determining CIP Code, please refer to this webpage
https://nces.ed.gov/ipeds/cipcode/browse.aspx?y=55
or reach out to Sarah Todd at todds@canton.edu

Created by: Roberto Comella
Updated by: Roberto Comella

School: Canino School of Engineering Technology
Department: Decision And Graphics Media Systems
Implementation Semester/Year: Fall 2027

A. TITLE: Unity Development 1: C# Programming

B. COURSE NUMBER: GAME 140

C. CREDIT HOURS (Hours of Lecture, Laboratory, Recitation, Tutorial, Activity):

# Credit Hours per Week	3
# Lecture Hours per Week	3
# Lab Hours per Week	
Other per Week	0

D. WRITING INTENSIVE COURSE:

Yes	
No	x

E. GER CATEGORY:

Does course satisfy a GER category(ies)? If so, please select all that apply.

[1-2] Communication	
[3] Diversity: Equity, Inclusion & Social Justice	
[4] Mathematics & Quantitative Reasoning	
[5] Natural Science & Scientific Reasoning	
[6] Humanities	
[7] Social Sciences	
[8] Arts	
[9] US History & Civic Engagement	
[10] World History & Global Awareness	
[11] World Languages	

F. SEMESTER(S) OFFERED:

Fall	
Spring	x
Fall and Spring	

G. COURSE DESCRIPTION:

This course introduces students to the fundamentals of programming in C#, covering core language concepts such as data types and structures, conditional statements, loops, exception handling, file I/O, and basic 2D UI programming in Unity.
Designed for beginners with some exposure to scripting languages like Python or JavaScript, the course emphasizes problem-solving through practical exercises, culminating in a final project.

H. PRE-REQUISITES: GAME 110
CO-REQUISITES: None

I. STUDENT LEARNING OUTCOMES:

Course Student Learning Outcome [SLO]	Program Student Learning Outcome [PSLO]	GER	ISLO & Subsets
a. Demonstrate the basics of C# programming.	PSLO1 - Present working prototypes and listen to, analyze and evaluate, and respond critically to the ideas of others.		5
b. Use 2D Unity UI and other well-known Unity game development techniques.	PSLO8		5
c. Demonstrate practical awareness of persistent data, use of C# tools to write binary data on hard drives and read the same data within applications at runtime	PSLO8		5
d. Design and develop simple functions.	PSLO2 - Research, organize, evaluate, and document gathered information for a comprehensive examination of the design process and manage a professional game design, development, and production workflow, including development roles and the specific skill sets required by each role, in order to develop a successful career path.		1

e.			

KEY	Institutional Student Learning Outcomes [ISLO 1 – 5]
ISLO #	**ISLO & Subsets**
1	**Communication Skills** Oral [O], Written [W]
2	**Critical Thinking** *Critical Analysis [CA], Inquiry & Analysis [IA] , Problem Solving [PS]*
3	**Foundational Skills** *Information Management [IM], Quantitative Lit, /Reasoning [QTR]*
4	**Social Responsibility** *Ethical Reasoning [ER], Global Learning [GL],* *Intercultural Knowledge [IK], Teamwork [T]*
5	**Industry, Professional, Discipline Specific Knowledge and Skills**

J. APPLIED LEARNING COMPONENT:

Yes	x
No	

If yes, select [X] one or more of the following categories:

Non-Clinical Practicum	x	Community Service	
Internship		Civic Engagement	
Clinical Practicum		Creative Works/Senior Project	
Practicum		Research	
Service Learning		Entrepreneurship [program, class, project]	

K. TEXTS: None.

L. REFERENCES: Free online documentation.

M. EQUIPMENT: PC or laptop, with Unity, Visual Studio and Notepad++. OBS for screen/video recording.

N. GRADING METHOD: A - F

O. SUGGESTED MEASUREMENT CRITERIA/METHODS: Assignments, midterm exam and final project

P. DETAILED COURSE OUTLINE:

Week 1: Syllabus and introduction to Unity and Visual Studio (hardware/software check and engine overview)

Week 2: Intro to C#: basic syntax

Week 3: Intro to C#: data types and structures + Assignment 1 (graded)

Week 4: Intro to C#: operators and conditional statements

Week 5: Intro to C#: loops and methods + Assignment 2 (graded)

Week 6: Intro to C#: exceptions handling and file I/O

Week 7: Midterm exam

Week 8: Unity scripting system and project setup

Week 9: 2D UI programming: calculator (project 1 – part 1) + Assignment 3 (graded)

Week 10: 2D UI programming: calculator (project 1 – part 2)

Week 11: 2D UI programming: calculator (project 1 – part 3) + Assignment 4 (graded)

Week 12: Final exam-project (part 1)

Week 13: Final exam-project (part 2)

Week 14: Final exam-project (part 3) – assistance to students

Week 15: Final exam-project delivery (no lecture)

Q. LABORATORY OUTLINE: