

Course Syllabus

Utah Valley University

Department of Digital Media

Course Syllabus: DAGV 1700 – Scripting for Games

Credits: 3

Course Description

Students will learn Unity engine workflows and integrate existing C# scripts to build a 2D side-scroller platformer. Topics include Git version control, UnityEvents, ScriptableObjects, physics, UI, audio, and basic AI. Emphasis is on engine proficiency and project-based learning rather than fundamental programming instruction.

Prerequisites: Basic computer literacy; familiarity with 2D games is helpful but not required.

Required Materials

- GitHub account & [GitHub Desktop](#) [Links to an external site.](#)
- JetBrains Rider EDU license & GitHub Copilot plugin
- Unity 2024.x (LTS) & Rider integration
- Fork of the [Essentials repo](#) [Links to an external site.](#)
- [ArtisanDream.Tools](#) [Links to an external site.](#)
- Pixel Adventure 1 & 2 art packs (Unity Asset Store)
- Free audio assets from [Freesound.org](#) [Links to an external site.](#) or [OpenGameArt.org](#) [Links to an external site.](#)

Student Learning Outcomes

By the end of this course, students will be able to:

1. Use GitHub Desktop and Rider to manage version control and collaborate on Unity projects.
2. Navigate the Unity editor to create and configure GameObjects, Transforms, and Prefabs.

3. Integrate and customize provided C# scripts (CharacterController, Collectible, UI, Audio, AI).
4. Employ UnityEvents and ScriptableObjects to decouple data and behavior.
5. Implement basic 2D physics, colliders/triggers, and pathfinding.
6. Design and polish UI, audio, and particle systems for gameplay feedback.
7. Build, package, and deploy a playable side-scroller and showcase work in a portfolio.

Communication Protocol

All course communications will be conducted through Microsoft Teams. Please install the Teams app (desktop or mobile) and join our class team before Week 0. Use Teams chat for quick questions, direct messaging for private inquiries, and the General channel for announcements and discussions. Live class sessions will be hosted and recorded in Teams—recordings will be automatically posted in the class channel within 24 hours. Students are expected to check Teams at least once daily during the week and to respond to any instructor messages within 24 hours on weekdays. Office-hour appointments may also be scheduled via Teams video call.

Course Structure

- **Units:** 15 modules (Unit 0 through Unit 14; see Schedule below)
- **Project:** Incremental development of a 2D side-scroller platformer
- **Assignments:** Unit Assignments and Milestone Assignments

Each week you'll complete a quick, 1-point assignment designed to keep you moving steadily forward: submit clear images of your work in Canvas, include the GitHub URL(s) for your two commits, and attach a brief (~200-word) progress report. These weekly tasks are graded pass/fail—no surprises, just regular practice and accountability. Every four weeks, you'll tackle a more substantial, 10-point milestone: record a 1–2-minute unlisted YouTube video that walks through your progress, share your GitHub URL(s), and turn in another 200-word write-up. Milestones are evaluated with detailed faculty feedback and a rubric, giving you actionable advice and the chance to refine your work before moving on.

Grading: Pass/Fail with instructor feedback; revisions are allowed to improve grades.
10% penalty per day late.

Course Schedule

Unit	Title
0	Git & Project Setup
1	GameObjects & Transforms
2	Character Controller Basics
3	3D Colliders, Triggers & Rigidbody
4	Layers & Matching
5	Prefab Basics
6	Animation Basics
7	ScriptableObjects Basics
8	User Interface Basics
9	Audio Basics: Sounds & Music
10	Particle System Basics
11	NavMesh & Pathfinding
12	Finalizing the Game
13	Playtesting & QA
14	Application & Portfolio

UVU Policies

Attendance & Participation

Regular attendance is expected. More than three unexcused absences may result in a lowered grade.

Late Work

Late assignments incur a 10% daily penalty, up to three days. After three days, submissions are not accepted unless prior arrangement is made.

Academic Honesty

All work must be your own. Plagiarism or cheating will result in a zero on the assignment and may lead to disciplinary action per UVU Student Conduct Code (§5-22):

<https://www.uvu.edu/policies/pdf/policy-5-22.pdf>

Accommodations (ADA)

Students needing accommodations should contact the Center for Students with Disabilities (CSD): csd@uvu.edu | (801) 863-8747.

Religious Observances

Per UVU policy, excused absences for religious holidays require written notice at least two weeks in advance.

Title IX & Reporting

Report harassment concerns at <https://www.uvu.edu/titleix> | (801) 863-9232.

Wellness & Counseling

Confidential counseling at CAPS: <https://www.uvu.edu/counseling> | (801) 863-8888.

Required Course Syllabus Statements

Generative AI

We allow and embrace the use of AI tools. If used, students must honestly disclose usage as they would with any other tool.

Required University Syllabus Statements

Accommodations/Students with Disabilities

Students needing accommodations due to permanent or temporary disability, pregnancy, or pregnancy-related conditions may contact UVU Accessibility Services at accessibilityservices@uvu.edu or (801) 863-8747.

Accessibility Services is located in BA 110 on the Orem Campus.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services at DHHservices@uvu.edu (BA 112 on Orem Campus).

Academic Integrity

At Utah Valley University, faculty and students operate in mutual trust. In all academic work, ideas and contributions of others must be appropriately acknowledged, and UVU students are expected to produce original scholarly work. Students share responsibility to promote academic integrity by not participating in or facilitating academic dishonesty. Detailed policies are in UVU Policy 541: Student Code of Conduct.

Equity and Title IX

Utah Valley University does not discriminate based on race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, citizenship, genetic information, or other basis protected by Title IX and 34 C.F.R. Part 106. Inquiries may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at (801) 863-7999 – TitleIX@uvu.edu – 800 W University Pkwy, Orem, 84058, Suite BA 203.

Religious Accommodation

UVU values and acknowledges a diversity of worldviews, faiths, and religions. Accommodations may include scheduling or due-date modifications or make-up assignments for missed work. To seek an accommodation, students must provide written notice to the instructor and the Director of Accessibility Services at accessibilityservices@uvu.edu, including date, time, and a brief description of the conflict, as soon as possible. UVU also provides a dedicated space for meditation, prayer, reflection, or other forms of religious expression.

Additional Resources

- **Essentials Repo:** <https://github.com/anthonyromrell/Essentials>Links to an external site.
- **ArtisanDream.Tools:** <https://github.com/anthonyromrell/ArtisanDream.Tools>Links to an external site.
- **Pixel Adventure 1:** <https://assetstore.unity.com/packages/2d/characters/pixel-adventure-1-155360>Links to an external site.
- **Pixel Adventure 2:** <https://assetstore.unity.com/packages/2d/characters/pixel-adventure-2-155418>Links to an external site.
- **Free Audio Assets:** [Freesound.org](https://www.freesound.org/) | [OpenGameArt.org](https://www.opengameart.org/)
- **Unity Learn:** <https://learn.unity.com>
- **GitHub Desktop Docs:** <https://docs.github.com/desktop>Links to an external site.
- **GitHub Learning Lab:** <https://lab.github.com>Links to an external site.
- **JetBrains Academy:** <https://www.jetbrains.com/academy>Links to an external site.

- **YouTube Tutorials:** Curated Unity, Git, Rider playlist (links on Canvas)
- **UVU DAGV Info:** <https://www.uvu.edu/programs/animation-game-development>
- **UVU Canvas:** Course announcements, submissions, grades