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Mon & Friday 6-7 PM

# **DIG4930 – Special Topics in DAS: Level Design & Assembly in UE5**

## **Spring 2026**

**Course Meetings:** Online Lectures - Monday and Wednesday 5-6 pm

**Course Modality:** Online Asynchronous

### **Course Description**

This course explores the intersection of level and technical design in modern game development. Students design interactive environments that balance creative intent with technical execution, focusing on spatial storytelling, logic scripting, system design, and performance optimization. Projects emphasize both the artistic and technical aspects of production, supported by the theory behind effective gameplay and systems design.

### **Course Prerequisites**

Digital Arts and Sciences BA major (DAR\_BA) & (DIG 2632 (C)

DIG 3873 or COP 3502 with minimum grade of C.

### **Learning Outcomes**

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

- Apply spatial and structural principles to design engaging, readable 3D environments.
- Implement gameplay logic and interaction systems using visual scripting tools.
- Integrate modular design and technical systems to support cohesive gameplay experiences.
- Evaluate and optimize level performance through testing and iteration.
- Document and communicate design intent and technical implementation using industry-standard

practices. **Required**

### **Supplemental**

- Rogers, Scott. *Level Up! The Guide to Great Video Game Design* (3rd Edition). Wiley, 2024. ISBN-13: 978-1394298761

- Totten, Christopher W. *An Architectural Approach to Level Design* (2nd Edition). CRC Press, 2019. ISBN-13: 978-0815361367

## Technology Requirements

- Students must have a high-powered GPU/CPU capable of running Unreal Engine 5.4+. On-campus students may use the Digital Worlds Computer Lab; online students must have hardware that can support the software requirements.
- Unreal Engine 5.5
- MS Office Suite

## Course Schedule

This schedule is only a guide and is subject to change. Unless otherwise indicated, assignments and readings are due the day they are listed on the syllabus, not the following day.

Week	Subject	Assignment Quizzes	Assignments Due
1	Intro to Level & Technical Design LD vs TD roles, UE workshop, version control	Project 1 – Graybox: Room of Purpose	
2	Spatial Composition & Readability Sightlines, flow sketches, scale references	Quiz 1 – Spatial Flow & Readability	Project 1 – Due Friday, 11:59 PM; Peer Review 1 – Due Sunday, 11:59 PM; Quiz 1 – Due Sunday, 11:59 PM
3	Grayboxing playable blockout Workflow Iterative blockouts, collision pass, playtest loop	Project 2 – Playable Blockout + Metrics	
4	Metrics & Navigation Validation Space sizes, bottlenecks, navmesh checks	Quiz 2 – Metrics & Navigation	Project 2 – Due Friday, 11:59 PM; Peer Review 2 – Due Sunday, 11:59 PM; Quiz 2 – Due Sunday, 11:59 PM
5	Modular Systems & Prefabs (Technical Design) Reusable door/switch prefabs; artist overrides	Project 3 – Modular Door Prefab	Project 3 – Due Friday, 11:59 PM; Peer Review 3 – Due Sunday, 11:59 PM
6	Environmental Communication & Lighting Affordances, leading lines, post-process cues	Project 4 – Lighting & Feedback Cues	Project 4 – Due Friday, 11:59 PM; Peer Review 4 – Due Sunday, 11:59 PM
7	Professional Practice & Designer Communication Problem solving & communication; portfolio platforms (Behance/ArtStation); documentation & critique skills	Presentation 1 – System Pitch Portfolio Midterm Submission (compile Projects 1–4 into Behance/ArtStation) Reading: GDC – Effective Design Docs (short)	Presentation 1 – In class; Portfolio Mid-course – Due Friday, 11:59 PM
8	Challenge Design & Interaction Logic Triggers, state machines, debugging tools	Project 5 – Puzzle Room (Logic + State) Quiz 3 – Interaction & Logic	Quiz 3 – Due Sunday, 11:59 PM

9	Beautiful Corners & Cinematic Composition Fixed camera, focal hierarchy, color script	Project 6 – Beautiful Corner Scene	Project 5 – Due Friday, 11:59 PM; Peer Review 5 – Due Sunday, 11:59 PM
10	Systems & Data-Driven Design	Quiz 4 – Data Systems	Project 6 – Due Friday, 11:59
	Data tables, parameterized encounters		PM; Peer Review 6 – Due Sunday, 11:59 PM; Quiz 4 – Due Sunday, 11:59 PM
11	Audio & UX Feedback (Technical Polish) Timing, cues, SFX sets, prompts	Project 7 – Procedural/Parameterized Encounter	
12	Performance & Final Optimization LODs/Nanite sanity, cleanup, packaging checks	—	Project 7 – Due Friday, 11:59 PM; Peer Review 7 – Due Sunday, 11:59 PM
13	Open Studio & Final Packaging Final polish, build checks, submission prep	Presentation 2 – Final Showcase Portfolio Final Submission	
14	Final Showcase & Reflection Critique, documentation, final polish		Presentation 2 – In class; Portfolio Final – Due Friday, 11:59 PM; Final Peer Review – Due Sunday, 11:59 PM

## Grading Criteria

Assignment / Assessment	Total Points	% of Grade
<b>Attendance &amp; Participation:</b> On campus students earn attendance points each class (10 pts, total 280 pts) while online students complete weekly discussion posts (10 pts, total 280pts). Both modalities demonstrate participation and engagement through assignment peer review feedback (50 pts each, total 350 pts). This measures professional collaboration and engagement with design critique processes.	630	15
<b>Projects:</b> Seven design and technical assignments (100 pts, total 700 pts). These projects develop foundational skills in level design, scripting, iteration, and modular assembly while reinforcing creative problem-solving and technical application.	600	40
<b>Quizzes:</b> Four formative assessments (50 pts, total 200 pts) that evaluate student understanding of theoretical concepts, readings, and production techniques discussed in class. Quizzes ensure retention of core terminology and design principles.	200	15
<b>Presentations:</b> Two in-class presentations (100 pts, total 200 pts) promote professional communication, documentation, and design articulation skills.	200	10
<b>Portfolio:</b> Students will communicate their work to the public through a portfolio. This comes in the form of a mid-course Portfolio (100 pts) + Final Portfolio (100 pts) including reflection & documentation.	200	20

## Grading Scale

Letter Grade	% Equivalency
A	94 – 100%
A-	90 – 93%
B+	87 – 89%
B	84 – 86%
B-	80 – 83%
C+	77 – 79%
C	74 – 76%
C-	70 – 73%
D+	67 – 69%
D	64 – 66%
D-	60 – 63%
E, I, NG, S-U, WF	0 – 59%

More information on grades and grading policies is here: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

## **Materials, Supply, and Equipment Fees**

Material and supply and equipment use fee information are available from the academic departments or from the schedule of courses (Florida Statutes 1009.24). The total course fee for sections where students are located on-campus is \$26.05 as they have access to the Digital Worlds Computer and Design Lab. The total course fee for each course is listed on the UF Schedule of Courses. (<https://registrar.ufl.edu/soc/>)

## **Course Policies**

### **Attendance Policy, Class Expectations, and Make-Up Policy**

The 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. The UF Digital Worlds Institute is committed to the idea that regular student engagement is essential to successful scholastic achievement. No matter if the class is held in a traditional classroom, an online classroom, or a combination of the two, interaction with your peers and the instructor will empower you to greater achievement.

For on-campus students, attendance is required and will be taken at the beginning of each class. Students must arrive on time to receive full attendance credit. Late arrivals earn 50% credit, and students who leave early will not receive full credit. Each class meeting is worth 10 attendance points, contributing to the overall Attendance and Participation grade. For online students, attendance is recorded through Canvas discussion forums. Missing a weekly discussion post counts as an absence for participation credit.

For both modalities, collaboration and communication are demonstrated through assignment peer review feedback, which serves as the participation component of the course. Peer Reviews must be completed thoughtfully and submitted on time to receive full credit.

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 students will be required to have access to and use a personal computer with access to the Internet. Word editing software will be required for written assignments.

For this course, students must have a high-performance computer with a capable GPU and CPU to effectively run Unreal Engine 5.5+. On-campus students may utilize the Digital Worlds Computer Lab, while online students are required to have personal systems that meet the necessary hardware specifications to run the software efficiently. This link shows recommended hardware specifications for the technology: <https://dev.epicgames.com/documentation/en-us/unreal-engine/hardware-and-software-specifications-for-unreal-engine>

e

The University of Florida and Digital Worlds requires that students have access to and ongoing use of a laptop/mobile computer for DIG courses in order to be able to function in the current learning environment. Digital Worlds requires each DAS major's laptop computer to meet certain minimum specs for heavy graphics use, the requirements documented below must be met.

<https://digitalworlds.ufl.edu/programs/ba-in-digital-arts-sciences/technology-requirements/>.

## **Course Communications**

Students can communicate directly with the instructor regarding the course material through the course management system (CANVAS) using "Canvas E-Mail".

## **Course Technology Support**

### **UF Computing Help Desk**

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 Computing Help Desk](#) available 24 hours a day, 7 days a week at 352-392-4357 or [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu).

## **University Policies**

Information about university-wide policies and resources can be found here:

<https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/>

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.