WORLD BUILDING PRE-PRODUCTION & PRODUCTION (GAM20X)

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Course University: Falmouth University
Course College/School: Faculty of Screen, Technology, and Performance
Course Department/Program: Games Academy
Course Level: Undergraduate
Course Credits: 15 (US SCH) [60 UK CATS, 30 EU ECTS]
Course Length: 30 weeks
Course Medium: Face-to-face
Course Keywords: Worldbuilding, game development, team project, cross-disciplinary collaboration, agile methodology, ethical production, cultural studies, interactive media pedagogy, group assessment, commercialisation in higher education.

CATALOG DESCRIPTION

In this course, you will work in a multi-skilled team to conceptualise, develop, and deliver a comprehensive digital 'world creation' project. Building upon your learning in the first stage of the programme, with particular attention to agile and iterative methodologies, your team will nurture an inclusive, constructive, and ethically-informed working culture that bridges disciplinary boundaries. Development will be informed by surveying and sensitively integrating a diverse range of fictional, historic, and cultural sources. Throughout the process, supervisors will provide formative feedback regarding the cultural and/or commercial potential of your concept, ensuring that your team meets high industry standards. You will navigate the full production pipeline from exploratory concept work and initial prototyping in the pre-production phase and an early alpha version through to a polished product in the production phase. By the end of the course, your world will be fully realised as a game or digital interactive experience, ready for release to a public audience.

COURSE PURPOSE AND OBJECTIVES

World Building Pre-production and Production serves as the backbone of the second stage of programmes within Falmouth University's Games Academy (https://www.falmouth.ac.uk/departments/games-academy). Immersed in a studio environment, multidisciplinary teams of artists, animators, composers, designers, programmers, and writers collaborate to conceptualise, prototype, and release a digital interactive experience set in an original world; typically, using a game engine. The main objective is to enable students to apply and integrate their developing disciplinary skills within a diverse team environment, reflecting the professional practices of contemporary game studios.

The course supports students to become able to:

1. **Present** - Communicate complex ideas from an informed position using appropriate presentation techniques;

2. **Collaborate** - Illustrate approaches to multidisciplinary collaboration which acknowledge diverse working cultures;

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3. **Innovate** - Employ original solutions to an established challenge, examining potential pathways to market;

4. **Reflect** - Examine key strengths and weaknesses in terms of professional attributes.

Unlike other courses that focus on the development of specific technical or creative competencies, this course deliberately contains relatively little discipline-specific instruction. Instead, the course is structured around the challenges of collaborative production, requiring students from diverse specialisms to work together in the creation of a substantial game or interactive experience. In this respect, the modules are less concerned with teaching individual skills than with creating the conditions under which students deploy, negotiate, and integrate those skills within a transdisciplinary team.

A central emphasis of the course is the development of professional identity and skills. Students work across disciplinary boundaries, adopting agile and iterative methodologies that require effective communication, project planning, problem-solving, negotiation, and collaborative decision-making. The students make use of enterprise-grade project management and version control tools to make their experience as authentic as possible. By engaging with the realities of team-based production, students gain experience of the workflows, roles, and responsibilities encountered in the games industry, while developing the ability to contribute constructively within a sophisticated creative and technical contexts.

The underpinning philosophy of the course reflects the realities of contemporary game development, where successful products emerge from the coordinated efforts of stakeholders with quite different skills and backgrounds. Students are therefore expected to navigate the social and organisational complexities of creative production, developing interpersonal competencies that are frequently identified by industry as critical but difficult to teach in isolation. Communication, negotiation, conflict resolution, leadership, project management, and the ability to give and receive constructive feedback become central learning experiences rather than ancillary concerns.

A key objective is that students learn to operate research and critical reflection as shared team activities rather than as discipline-specific tasks, ensuring that all team members, regardless of technical or creative specialism, are able to contribute substantively to discussions about the creative direction of their project. In doing so, students develop the ability to justify design decisions with reference to relevant materials, evaluate competing interpretations, and integrate diverse perspectives into a unified creative vision.

The culmination of the world building project is a public exhibition in which student teams showcase their work to external audiences. This Expo serves a pedagogic function that extends beyond celebration or dissemination. Preparing work for public display requires students to consider audience experience, accessibility, presentation, branding, and the communication of creative intent. Teams must make decisions about how their project is represented, how visitors will engage with it, and how they will discuss their work with players, industry guests, and members of the wider community. In doing so, students encounter many of the challenges associated with launching and promoting creative products in professional settings.

Importantly, the course also offers the opportunity for students to curate a substantial portfolio output, foregrounding the development of their professional identity and professional skills. By contributing to the development of a polished, publicly releasable product, students create tangible evidence of their professional capabilities. These artefacts, alongside demonstrable experience of collaborative production, provide valuable assets which students can leverage to support their progression into careers across the games and interactive media industries.

COURSE CONTEXT

Based within the Games Academy at Falmouth University, located in Cornwall in the United Kingdom, *World Building* is a compulsory course in the second stage of several undergraduate programmes including BA(Hons) Game Animation, BA(Hons) Game Art, BA(Hons) Game Development, BA(Hons) Sound Design,

and BSc(Hons) Computer Games Programming. For most students who enroll, it is their first experience of a long-form project in a multidisciplinary context and a shift in mode of delivery from traditional workshop-style teaching to supervised studio practice. Whilst they will have successfully completed their first stage of study, equipping them with the foundational knowledge of their discipline, they enter the module from a diverse range of routes and, therefore, capabilities.

The course is situated within a large studio environment separate from the other teaching spaces. Delivered entirely in person within and around a dedicated studio environment, the cohort operates at scale, with a typical annual class size averaging between 200 and 300 students. Over the past five years, the module has seen over 1,000 students successfully complete projects, establishing a robust and highly refined pipeline for large-scale peer learning. Within this ecosystem, students are organised into teams ranging from six to twelve students, allocated to ensure a range of skills that reflects commercial studio structures.

The student population possesses highly varied motivations and prior experiences. The cohort includes traditional gamers passionate about design, technical specialists focused on development, and creative practitioners who view the games sector primarily as a vehicle for strong employment prospects. Additionally, a distinct subset of digital artists use the course to explore game engines in non-traditional, non-gaming contexts. While complete digital novices are rare, baseline tech literacy fluctuates. For example, a few students were discovered to only have ever interacted with tablet devices, making standard mouse-and-keyboard PC setups a novel challenge. Furthermore, outside of computing majors, prior knowledge of version control has been practically non-existent. Because of this gap, version control training represents a critical instructional pivot point and a baseline requirement for overall team success.

Demographically, the student body is predominantly local, supplemented by a relatively small international contingent of only 5-10% of the cohort. Eleven percent of the cohort identify as Asian, Black, or from other minoritized ethnic groups. Mature entrants aged over 21 at enrollment make up 14% of the class. The gender distribution sits at 66% male and 26% female, alongside a large, visible transgender community comprising 8% of the student base. Notably, approximately 50% of the cohort formally declares a disability, including mental health conditions, neurodiversity, or specific learning differences.

The university has invested significant capital in its infrastructure. The physical delivery space consists of a large, open-plan studio housing approximately 250 high-performance workstations. Each machine is equipped with dual screens and high-spec computer with graphics capabilities tailored to run recent versions of game engines (e.g., Unreal Engine 5) alongside resource-intensive art software including Adobe Creative Suite, Autodesk Maya, ZBrush, and Marvelous Designer. Select stations feature advanced Wacom Cintiq displays to support professional digital painting. An on-site equipment stores service allows students to check out game controllers, virtual and extended reality (VR/XR) head-mounted displays, headsets, and external graphics tablets. There is an on-site GitHub Enterprise server, which runs alongside Microsoft project management tools in Azure to provide a seamless, industry-standard development environment.

COURSE PEDAGOGY

The pedagogy underpinning this world building course is founded on a simple premise: students learn to build compelling digital worlds most effectively through sustained participation in the collaborative production of those worlds in an authentic production environment. We endeavour to facilitate development teams working towards the public Expo. Our aim is not merely to teach skills, but to support students in becoming reflective practitioners capable of contributing to complex and multifaceted creative projects. Our pedagogical position is expressed through five commitments: authentic production, studio participation, relational synergy, scaffolded autonomy, and collaborative ethical inquiry.

Authentic Production

Central to the course is a commitment to *authentic production*. We require students to prepare a substantial digital artefact for the public exhibition, and as such the students engage with the same tensions that characterise professional development: limited resources, evolving creative goals, technical constraints, and external expectations. Assessment therefore focuses not only on what students know, but on how effectively they can apply that knowledge (Wiggins, 1998). In particular, students must reconcile narrative, artistic, technical, and gameplay considerations within a coherent world, mirroring the interdisciplinary nature of professional worldbuilding.



Figure 1 Students showcase their worlds in booths to the public at an industry-style Expo event

The requirement that teams produce a publicly exhibited, releasable digital artefact is not simply a capstone activity, but a structuring principle of the curriculum. The Expo, shown above in Figure 1, serves as more than a showcase; it functions as a pedagogical device that introduces genuine accountability, requiring students to consider usability, accessibility, communication, and audience engagement throughout development. The long-form nature of the course also serves to support the longer time frames typical for game prototype development (Gunnars & Palmquist, in press).

Studio Participation

We endorse a studio-based learning model where knowledge emerges through participation in a shared production culture (Hetland et al., 2013). *Studio participation* continuously exposes students to the successes,

failures, and decision-making processes of their peers. This approach is grounded in the belief that advanced creative and technical capability in game development is best cultivated through sustained participation in authentic, socially embedded production environments. Such a structure facilitates a natural transition from individual craft to a long-form, alpha-to-release development cycle.

Our studio model has its roots in a *situated* perspective of learning (Lave & Wenger, 1991), but we reject the notion that knowledge resides primarily with instructors. Instead, knowledge is distributed throughout the cohort, and so we empower students to learn equally from instructors, peers, their tools, and the collaborative environment. As such, faculty members act primarily as facilitators and mentors, shaping direction and modelling professional standards. In this environment, learning becomes a collective enterprise where learning emerges through collaboration, observation, critique, and negotiation. In our model, mentorship and peer-to-peer learning becomes a central mechanism for developing capability, allowing individual discoveries to enrich the wider studio community.



Figure 2 Teams working in a large studio environment designed to mirror industry standards

The studio, illustrated in Figure 2, operates as a professionally inspired environment. It allows students to gradually internalise professional identities and roles within a shared production culture. Following Schön's (1987) framework, we reject atomised testing models that reduce and evaluate skills in isolation. Complex practices such as worldbuilding cannot be effectively learned through detached instruction alone. Knowledge is constructed collectively through authentic production, reflection, and sharing. Students actively engage in *reflection-in-action* as they navigate their design practicum within the studio space. Learning does not happen in a vacuum. Instead, it occurs through the negotiation of tools (engines, version control), division of labour (coders, artists, designers), and community rules (team charters, agile sprint

deadlines). Learning therefore becomes a social enterprise in which individual successes and failures become shared opportunities for growth.

Relational Synergy

Complex creative production is fundamentally socio-technical. Game development is never an aggregation of discrete disciplinary outputs; instead, it requires a continuous negotiation between systems, aesthetics, constraints, and intentions. This aligns with Davies's (2009) concept of conjunctive contributions, where success relies on the interconnectedness of all parts. For this reason, collaboration, communication, and negotiation are not merely appended to technical learning. Instead, *relational synergy* is treated as a vital professional capability deserving of attention and tutelage in its own right.

We therefore adopt the position that effective collaboration is a learned practice rather than an assumed prerequisite. Students are supported in developing the relational and organisational capacities required for sustained team-based production, including communication protocols, shared decision-making, constructive critique, and distributed responsibility. However, we recognise that productive collaboration is "not likely to emerge spontaneously" and "must be intentionally developed" (Hughes & Jones, 2011, p. 60). Multidisciplinary teams inevitably encounter differences in expertise, creative vision, working styles, and levels of confidence. Rather than treating these tensions as distractions from learning, the studio model positions them as pedagogically productive sites of learning, where professional judgement and interpersonal capability are actively developed.

To support this, the course integrates agile production practices (Keith, 2020) as a structuring framework for teamwork. Iterative planning, sprint cycles, stand-ups, and retrospectives provide students with shared mechanisms for coordinating work, making progress visible, and responding to emerging challenges. These practices are not adopted primarily for industry simulation, but as pedagogical tools that externalise team processes, enabling students to reflect on collaboration in action and to iteratively improve how they work together as a collective.

Within this framework, supervisors and technical staff play an active facilitative role. Rather than intervening only in relation to technical output, they support teams in developing effective relational practice: mediating disagreements where necessary, helping redistribute workload, clarifying roles and responsibilities, and guiding students in constructive approaches to feedback and critique. Where teams experience imbalance in participation or asymmetries in confidence and expertise, these are treated as developmental conditions rather than failures.

Scaffolded Autonomy

We also adapt a notion of *scaffolded autonomy* from Melero, Leo, and Blat (2012). Our problem spaces are intentionally open-ended: the creation of a coherent, culturally grounded, and technically realisable digital world. This challenge provides the rich context through which students apply and integrate disciplinary knowledge. Though, as students move from individual craft to complex team production, the agile practices (peer code reviews, agile milestones, faculty coaching) and the facilitating supervisor act as a "scaffold." Rather than prescribing detailed pathways through projects, students decide their plan and priorities, adapting themselves accordingly. Teams are encouraged to define achievable goals, manage scope, review progress, and respond to emerging challenges through iterative development cycles. Agile therefore functions not simply as project management style, but as a set of pedagogical tools that help students develop self-regulation, collective responsibility, and the capacity to make informed production decisions under conditions of uncertainty. As the team approaches the end of the course, these scaffolds are gradually dismantled, enabling increasing levels of self-direction and responsibility. This progression reflects a commitment to learning as participation in practice rather than mere preparation for it, helping students

develop robust and transferable capabilities. Notably, we seek to empower students to be able to take their work further by seeking funding and incubation opportunities if they so choose (see McDonald, 2026).

Collaborative Ethical Inquiry

World building is inherently an act of interpretation and representation. For this reason, research, cultural literacy, and ethical judgement are integral to the development process rather than supplementary concerns. Students engage critically with historical, cultural, and fictional sources to evaluate how these influences shape their worlds. Because these decisions are made within a live production context, ethical considerations are encountered as practical design challenges rather than abstract academic exercises. Consequently, students develop critical, interpersonal, and ethical capabilities required for contemporary game development, moving beyond abstracted academic discourse distanced from industry realities.

Positioning research as a collective endeavour supports shared epistemic agency (Damşa & Andriessen, 2012). Responsibility for creative and ethical decisions is shared across the team, encouraging dialogue about representation, inclusion, cultural sensitivity, and audience impact. This structure ensures that ethical judgement becomes a baseline team responsibility rather than a siloed, specialist activity. Artists, designers, programmers, writers, producers, and audio specialists all contribute to discussions surrounding the interpretation, adaptation, and representation of source material. This collaborative synthesis ensures that the team's creative vision is not dictated from the top down, but emerges from a shared intellectual ownership. By involving all roles, students collectively build a culture of dialogue, reflection, and accountability where diverse perspectives shape the final outcome. Students ultimately develop the transdisciplinary skills required for modern development teams, where collaboration depends as much on informed judgement and mutual respect as technical expertise. This emphasis on collective inquiry mirrors contemporary agile game development, where decision-making is distributed rather than concentrated within traditional hierarchies.

Taken together, these commitments position worldbuilding not as a discrete subject to be taught, but as a collaborative practice through which students integrate creative, technical, research, and ethical forms of knowledge. The objective is not simply the production of a digital artefact, but the development of reflective practitioners capable of contributing thoughtfully and effectively to contemporary game development teams.

COURSE TEXTS, GAMES, SOFTWARE, AND HARDWARE

Mark J.P. Wolf's works are at the heart of the world building pre-production, since they offer a meta-structure for world building based on super-structures of time, space, and genealogy, which equate to the corresponding world building deliverables of timelines, maps, and family trees. Similarly, Wolf provides five hierarchically arranged infrastructures constituting a *pyramid* of worldbuilding: nature, culture, language, mythology, and philosophy, with each infrastructure building on the previous one and laying the foundations for the next one. For example, the creative decisions associated with a world's nature (referring to the physics, biology, and chemistry of a given world) arguably are a prerequisite for the same world's cultures (which respond to the physical problems posed by a set of physical circumstances, in the way that the Fremen in the world of *Dune* build and wear stillsuits to adapt to a world where water is scarce). Sierra's work on Todd Howard's building of the world of Tamriel in the *Elder Scrolls* series supports Wolf's work with a contemporary, in-depth case study. Conversely, Harrer's work offers a useful post-colonial and decolonising critique of traditionalist models of worldbuilding and storytelling, which students might otherwise lapse into through the unthinking deployment of fantasy or science fiction cliches (such as the concept of a "hero" conquering or redeeming an indigenous population).

- Wolf, M.J.P. (2020) *World-builders on World-building: An Exploration of Subcreation*. Routledge. https://www.routledge.com/World-Builders-on-World-Building-An-Exploration-of-Subcreation/Wolf/p/book/9780367496555
- Wolf, M.J.P. (2017) *Revisiting Imaginary Worlds: A Subcreation Studies Anthology*. Routledge. https://www.routledge.com/Revisiting-Imaginary-Worlds-A-Subcreation-Studies-Anthology/Wolf/p/book/9780367873974
- Wolf, M.J.P. (2013) *Building Imaginary Worlds: The Theory and History of Subcreation*. Routledge. https://www.routledge.com/Building-Imaginary-Worlds-The-Theory-and-History-of-Subcreation/Wolf/p/book/9780415631204
- Sierra, W. (2020) *Todd Howard: Worldbuilding in Tamriel and beyond*. Bloomsbury. https://www.thevideogamelibrary.org/book/todd-howard-worldbuilding-in-tamriel-and-beyond
- Harrer, S. (2018) Casual Empire: Video Games as Neocolonial Praxis, *Open Library of Humanities*, 4(1) Article 5. https://doi.org/10.16995/olh.210

At the broadest level, Fullerton and Schell's work provides classic foundations in game design, understood broadly as a structuralist foundation to the creative decisions surrounding what a game will be, connecting rules to meaningful player experience, which is then reinforced by Salen and Zimmerman's deeper exploration of games as systems that yield meaningful play. Swink's work on game feel provides a similarly holistic and nuanced understanding of player experience at the level of interacting mechanically with a world in discernable and integrated ways. While not all students in the module are designers, all must be aware of the effects that their given specialisms have on overall player experience.

- Fullerton, T. (2024). *Game Design Workshop: A Playcentric Approach to Creating Innovative Games* (4th ed.). MIT Press. https://www.routledge.com/Game-Design-Workshop-A-Playcentric-Approach-to-Creating-Innovative-Games/Fullerton/p/book/9781032607009
- Schell, J. (2020). *The Art of Game Design: A Book of Lenses* (3rd ed.). CRC Press. https://www.sciencedirect.com/book/monograph/9780123694966/the-art-of-game-design
- Salen, K. & Zimmerman, E. (2003). Rules of Play: Game Design Fundamentals. MIT Press. https://mitpress.mit.edu/9780262240451/rules-of-play/
- Swink, S. (2009). *Game Feel: A Game Designer's Guide to Virtual Sensation*. Morgan Kaufmann. https://www.sciencedirect.com/book/monograph/9780123743282/game-feel

World-building is inherently vulnerable to departmental siloing; writers design lore that artists cannot scale, or environment artists build spaces that disrupt narrative pacing. Tremblay's framework treats the game world not as a passive backdrop, but as a collaborative, cross-disciplinary system. She outlines specific production workflows that integrate narrative design with level design and systemic engineering. Lemercchand also helps to bridge the gap between pre-production and production through his framework of "playful production." His inclusion is vital because he demystifies how a world transitions from concept art and design guidebook entries into a physical, playable space:

- Tremblay, K. (2023).*Collaborative Worldbuilding for Video Games*. Routledge. https://www.routledge.com/Collaborative-Worldbuilding-for-Video-Games/Tremblay/p/book/9781032385549
- Lemarchand, R. (2021). *A Playful Production Process*. MIT Press. https://mitpress.mit.edu/9780262045513/a-playful-production-process/

The texts by Keith and Shore both provide rich, comprehensive frameworks for understanding and implementing Agile development (the former from a game-specific Scrum variant of Agile, and the latter from a more generalist software development perspective). This supports prototyping during pre-production and the transition to production. However, as the students progress into the final production phase of the

course, the inclusion of Hight and Novak (2007) is crucial as a stabilizing, traditional counterweight to the modern Agile approaches. While Agile thrives on flexibility and emergent design, large-scale world-building projects are notoriously susceptible to scope creep, asset bottlenecks, and scheduling disasters. Hight and Novak provide the foundational principles of classic game project management that Agile frameworks often take for granted.

- Keith, C. (2020). *Agile Game Development: Build, Play, Repeat*. Addison-Wesley Professional. https://www.mountaingoatsoftware.com/books/agile-game-development-build-play-repeat
- Shore, J. & Warden, S. (2021). *The Art of Agile Development* (2nd ed.). O'Reilly Media. https://www.jamesshore.com/v2/books/aoad2
- Hight, J. & Novak, J. (2007) .*Game Development Essentials: Game Project Management*. Delmar Cengage Learning. https://www.jeannie.com/gde

COURSE ASSIGNMENTS

The assignments across the module are governed by a Group Working Strategy that has evolved over more than a decade of delivery. The central challenge is one faced by many collaborative game development courses: how to recognise and reward individual learning whilst simultaneously valuing the collective effort required to deliver a substantial artefact. Our approach therefore combines the assessment of team outputs with a structured body of evidence that captures individual contribution throughout the project lifecycle.

We adopt Evidence-Centred Design (Mislevy, Almond & Lukas, 2003), as endorsed by Scott et al (in press), for the instructional design of collaborative project-based learning. As such, each assignment is tightly coupled to the assessment process, be it formative or summative in nature. So, in accordance with the principle of constructive alignment (Biggs, 1996), to understand the assignment design, one must first revisit the learning outcomes. We frame each assignment around one or more of the following four board areas of capability:

1. **Present** – demonstrating an ability to synthesise and convey a sophisticated world concept which has been grounded in informed design decisions using appropriate presentation techniques;

2. **Collaborate** - demonstrating an ability to engage as an *agile practioner* with multidisciplinary working practices and demonstrating *effective teamworking* in a way that acknowledges diverse disciplinary cultures and perspectives;

3. **Innovate** – developing a concept for an original world in response to a prompt or opportunity;

4. **Reflect** - critically evaluating personal strengths, weaknesses, and professional development as emerging practitioners.

These outcomes are assessed through a combination of team-based deliverables and individual evidence gathered throughout production.

Supervised Studio Practice

The course includes dedicated studio sessions during which multidisciplinary teams work collaboratively on their projects. These timetabled sessions ensure that students from different degree pathways have protected time to coordinate production activities, conduct sprint planning and reviews, and engage in collaborative problem-solving. Studio practice provides the primary environment in which the pedagogical principles described earlier in the chapter are enacted. It is here that students negotiate disciplinary

perspectives, manage production constraints, and develop the collaborative capabilities required for professional game development.

World Pitch

The first major assessment is a team-based world pitch. Presented to a panel of academic staff and peers, this fifteen-minute presentation functions as a professional concept pitch and requires students to communicate the core vision of their project.

Teams present an elevator pitch, design pillars, world concept, gameplay mechanics, visual direction, narrative premise, market research, audience personas, and unique selling points. Following the approach endorsed by World (2013), teams are challenged to ensure they consider the nature, culture, language, mythology, and philosophy of their world are underpinned by appropriate scholarship and supported by rational ethical considerations. Particular emphasis is placed on the coherence of the proposed world and the extent to which design, narrative, aesthetics, and mechanics reinforce one another. Students are also required to justify their decisions through research and respond to questions from the review panel.

The pitch serves two purposes. First, it assesses communication and conceptual development. Second, it provides an early opportunity to evaluate the viability of the project before substantial production effort is invested.

Supervisor Meetings

Each team is assigned an academic supervisor who meets with them regularly throughout the project. These meetings provide opportunities to review progress, discuss project risks, receive formative feedback, and address both technical and interpersonal challenges. While a common agenda is provided to ensure consistency across teams, supervisors retain flexibility to respond to the specific needs of individual projects. Meetings frequently include reviews of sprint progress, workload distribution, and the overall health of the team. Supervisor meetings serve an important scaffolding function within the studio model. Rather than directing projects, supervisors support students in developing the judgement, planning, and decision-making skills required to manage complex collaborative work independently.

Critiques

Critique sessions, sometimes referred to as *crits*, provide opportunities for teams to receive feedback from both academic staff and their peers. During these sessions, teams present work-in-progress artefacts and engage in structured discussion concerning world design, gameplay, aesthetics, narrative development, and production challenges. The intention is to expose students to multiple perspectives and encourage the iterative refinement of ideas. Teams are encouraged to approach critiques as formal playtesting opportunities, gathering evidence through observation, discussion, and feedback instruments that can inform subsequent development decisions. Critiques also reinforce one of the core principles of studio pedagogy: that learning occurs not only through receiving feedback on one's own work, but through observing the work of others and participating in collective evaluation.

Peer Evaluation

Students participate in regular self- and peer-evaluation activities using Feedback Fruits. These exercises focus on collaborative behaviours, professional practice, and engagement with agreed team processes rather than technical achievement alone. Students assess themselves and their peers against criteria relating to teamwork, communication, contribution, and agile working practices. The process encourages reflection on both individual and collective performance while providing an additional mechanism for identifying

emerging issues within teams. Importantly, peer evaluations are not used directly to determine marks. Instead, they are treated as developmental tools that support reflection and provide one source of evidence that can be considered alongside other indicators of contribution.

Green Light Checkpoints

The second major team assessment focuses on the development of the game itself. At key points during production, teams demonstrate their work to supervisors and assessment staff. Early demonstrations typically focus on prototypes and proof-of-concept implementations, while later demonstrations evaluate a vertical slice or "beautiful corner" of the game world alongside supporting promotional materials.

Embedded within this process are formal Green Light reviews. These reviews reflect industry practice and provide structured opportunities for staff to evaluate both project viability and team health.

Projects receive one of three ratings:

- **Green** - only minor issues with the project or team are identified
- **Amber** - concerns exist but can be addressed through revision and/or further development
- **Red** – significant issues threaten either the project of the team's ability to deliver it successfully

A Red rating may result in a project reset or team reconfiguration, although teams are given the opportunity to respond to reviewer concerns and challenge the decision. The intention is not to penalise failure, but to encourage critical evaluation and adaptation. This reflects the module's longstanding philosophy of allowing students to fail, learn, and rebuild rather than persist indefinitely with unsustainable projects.

Continuous Professional Development

Alongside collaborative assessments, students submit an individual reflective report focused on continuous professional development. Using SMART objectives as a framework, students critically analyse their contribution to the project, evaluate their development as practitioners, and identify future goals. Rather than producing a chronological narrative of events, students are encouraged to engage critically with significant incidents, decisions, and challenges encountered during production. Reflection is therefore positioned not as an add-on to development work but as a mechanism through which students make sense of their learning and prepare for future professional practice.

Demonstration Days

In the final week of the pre-production and production phases, teams participate in formal demonstration days. These sessions provide opportunities for academic staff to engage directly with the evolving world and its associated artefacts within the studio environment. During pre-production, teams present prototypes, design documentation, concept art, and other materials that communicate the emerging world and its underlying design rationale. During production, staff are able to play and experience the game itself, guided by members of the development team who explain design decisions, production challenges, and future development plans.

Unlike the initial pitch, demonstration days focus on the translation of ideas into implemented experiences. They allow staff to evaluate conceptual coherence, audience engagement, and innovative distinctiveness while also assessing the extent to which the world has been successfully realised through gameplay, aesthetics, narrative, and interaction. Because demonstrations occur within the studio environment, they also create opportunities for dialogue between students and staff, enabling formative feedback that can inform subsequent development.

These sessions serve an important pedagogical function. Students must not only create a world, but also

communicate, justify, and critically evaluate that world in response to expert questioning. Demonstration days therefore reinforce the idea that game development is simultaneously a creative, technical, and intellectual practice.

Expo

The culmination of the module is a public Expo in which teams exhibit their completed projects. The Expo functions as both a showcase and a pedagogical device, providing students with an authentic audience beyond the university and introducing forms of accountability that are difficult to replicate through conventional assessment.

The event is structured around three audiences. A private preview allows students to share their work with family and friends, recognising the personal investment involved in long-term creative projects. An industry day brings together developers, recruiters, alumni, and other invited guests from across the country, creating opportunities for networking and professional feedback. Finally, a public exhibition day opens the work to a broader audience and serves as an important outreach activity for the institution.

Throughout the Expo, students are responsible for presenting and discussing their work. Whilst not formally assessed, it is an opportunity for students to communicate their creative vision, respond to external critique, and engage with diverse audiences. From a pedagogical perspective, it is the culmination of the course's commitment to authentic production. The world is no longer evaluated solely by lecturers and peers, but by players, families, industry professionals, and members of the public. This shift fundamentally changes how students think about quality, accessibility, presentation, and audience experience, reinforcing the professional and public dimensions of game development practice.

ARTIFICIAL INTELLIGENCE IN THE COURSE

The position of generative AI (genAI) tools within this course is complex and reflects an ongoing tension between student sentiment, institutional policy, and rapidly evolving industry practice. We do not prohibit AI use, but instead promote a structured ethical framework formed around three principles: authenticity, responsibility, and accountability. Authenticity emphasises alignment with industry realities and evolving workflows; responsibility foregrounds the importance of not substituting core and fundamental skill development with automation; and accountability requires transparent declaration to enable academic scrutiny and informed judgement (Kennedy et al., 2023).

Within this framework, students are expected to observe several practical expectations when engaging with genAI tools as part of the course. First, teams must collectively and explicitly agree on whether, and to what extent, AI tools will be used within a given project. This is intended to prevent uneven or hidden adoption that could distort collaboration. Second, any use of AI must not undermine the course learning outcomes or reduce opportunities for individual team members to develop essential skills, whether technical, creative, or organisational. Third, students should acknowledge that intellectual property law remains unsettled with respect to AI-assisted creative production, which may complicate any future attempts to commercialise work developed during the course. Finally, students are expected to consult supervisors prior to substantive AI use, particularly where it may influence design decisions or production pipelines.

Despite our ameanable approach, a significant proportion of students enter the programme with strong reservations about genAI in creative practice. Concerns frequently focus on authorship, the displacement of creative labour, and the perceived devaluation of artistic skill. These concerns are not abstract; they are shaped by ongoing industry debates, including controversies surrounding AI-generated content in game development. The disruption to the labor market has contributed to a broader climate of uncertainty and mistrust, particularly within creative disciplines where originality and authorship are culturally central.

Within the studio environment, this results in a relatively low level of overt, declared AI use in core production work. However, the situation is complicated by less visible engagement with artificial intelli-

gence; particularly, in parallel modules with essay-based coursework, where students appear more willing to engage privately with writing assistance, summarisation, and research support. This divergence between private use and public disclosure suggests that current discourse around AI lacks sufficient nuance and may inadvertently encourage concealment rather than critical engagement.

In practice, the most consistent and accepted uses of genAI tools within teams tend to occur at the margins of production: early-stage ideation, exploratory scoping of research directions, assistance with documentation, and, in some programming contexts, debugging support analogous to searching Stack Overflow. Anecdotally, some computing students report feeling particularly exposed and demonised in team settings, while others (especially those with disabilities they do not wish to disclose to peers) report reluctance to adopt assistive technologies they are offered because they make use of AI techniques. As a result, the pedagogical aim of fostering openness can paradoxically produce reticence. The course team therefore continues to refine its approach, seeking to move beyond polarised positions toward a more mature, critically informed understanding of artificial intelligence as an uneven but potentially entrenched feature of contemporary creative production.

COURSE ASSESSMENT

The course assessment strategy draws upon the framework established by Scott et al (in press) which asserts that the assessment of student group projects can be categorised according to five interrelated dimensions: *Principle*, *Process*, *Professionalism*, *Product*, and *Progress*. Each of these dimensions of assessment are present in the World Building course, but have been mapped to the learning outcomes, assigned tasks, and assessment criteria in a nuanced manner. All assessment criteria are criterion referenced, with assessors evaluating student performance against pre-defined rubrics to ensure adequate validity and reliability.

Assessment is not conceived as a series of isolated grading events. Instead, students participate in a sequence of *public accountability rituals* through which their ideas, processes, and artefacts are repeatedly exposed to progressively wider audiences. Beginning with internal pitches and critiques, continuing through Green Light reviews and demonstrations, students are required to communicate, justify, and defend their work throughout the development lifecycle. Assessment therefore becomes an ongoing process of professional accountability rather than a retrospective judgement applied at the end of production. The approach culminates in the public Expo which although isn't itself graded lends authenticity to the student experience.

The key assessments in the pre-production phase (weeks 1-15) include:

World Pitch

The students deliver a pitch that illustrates the world which they have envisioned. The focal point of the world, at this stage, is in the underpinning ideation and scholarship which supports concept development rather than the substantiveness of any prototype. This task is assessed against the Present and Innovate learning outcomes, which on this occasion, focus on the principle dimension (7%). Most of the available marks are shared by the whole team, but there is a question and answer portion to allow for individual marking.

Development Logs

A distinctive feature of the course is the use of development logs formed of materials aggregated across the various course assignments. While pitches, critiques, demonstrations, and exhibitions provide visible moments of accountability, the development logs provide the longitudinal evidence that connects these events. Supervisors synthesise observations gathered across the project lifecycle, including supervision records, peer evaluations, project management activity, version-control data, and green light reviews, to

construct an evidence-based picture of each student's contribution to the collaborative process. These are aggregated by the supervisor according to the agile practitioner and effective team worker criteria, respectively focusing on the process (8%) and professionalism (8%) dimensions. Each student receives an individual mark.

World Demonstration

The team demonstrates a prototype of their world that has been built in a game engine, typically Unreal Enging 5. The assessors will typically play through the demo, as the team narrate the experience and explain their idea, for approximately 30 minutes and then examine supplementary materials that help to illustrate the world. This task is assessed against the Innovate learning outcome, which focuses on the product dimension (10%). The mark is shared by the team.

Then, in the production phase (weeks 16-30), the key assessments include:

Development Logs

These development logs are the same as those in the pre-production phase, except for the period of production phase, and with increased weight for both agile practitioner, focusing on process (17%), and for effective teamworker, focusing on professionalism (17%). Each student receives an individual mark.

Game Vertical Slice Demonstration

Similar to the world demonstration at the pre-production stage, the team now demonstrate a higher fidelity vertical slice of a game based on their world. This follows the same format. Again, the task is assessed against the Innovate learning outcome, which focuses on the product dimension (13%). The mark is shared by the team.

Written Reflective Report

Each student prepares a written report in which they reflect on their experience throughout the project to identify strengths and weaknesses. They follow a template which encourages them to undertake a employability gap analysis with respect to their professional attributes and anticipated graduation trajectory, devising corresponding SMART goals: specific, measurable, actionable, relevant, and time-bound. This task is assessed against the Reflect learning outcome, focusing on progress (20%). Since this is a personal reflective task, the mark is individual.

Collectively these weightings ensure that approximately two thirds of the available marks are awarded during the production phase and that the majority of marks are attributable to individual rather than group performance. Each task is compulsory. In cases where students do not submit, do not attend, and/or do not contribute to any task, they are declared a ‘non-submission.’ In cases where students fail a task, even should they accumulate marks on other learning outcomes, they are declared a ‘technical fail.’ We believe that this scheme helps to ensure individual capability is measured faithfully and that every student who passes the course has demonstrated each of the learning outcomes.

EXPANDED COURSE OUTLINE

Large-cohort studio teaching requires deliberate scaffolding of complexity rather than its simplification. Given the scale and diversity of the student body, learning is structured through iterative cycles, clear production gates, and continuous formative feedback rather than fixed lectures or uniform pacing. Supervisors monitor and build these scaffolds, ensuring that teams operate within manageable scope while still

experiencing creative autonomy. In this sense, the pedagogical design reflects professional tensions: constrained resources, diverse expertise, evolving goals, and the need for sustained collaborative alignment.

The high-level structure is illustrated below in Figure 3, which shows the course across the two study blocks, labelled pre-production and production, each spanning approximately 15 weeks. The course commences with an induction and an intense period of ideation and concept development, which is supported by structured workshops on critical world building and pitching alongisde a practical introduction to agile development principles and game engines. This culminates towards a pitch in the fifth week in which teams strive to solidify and articulate their world concept.

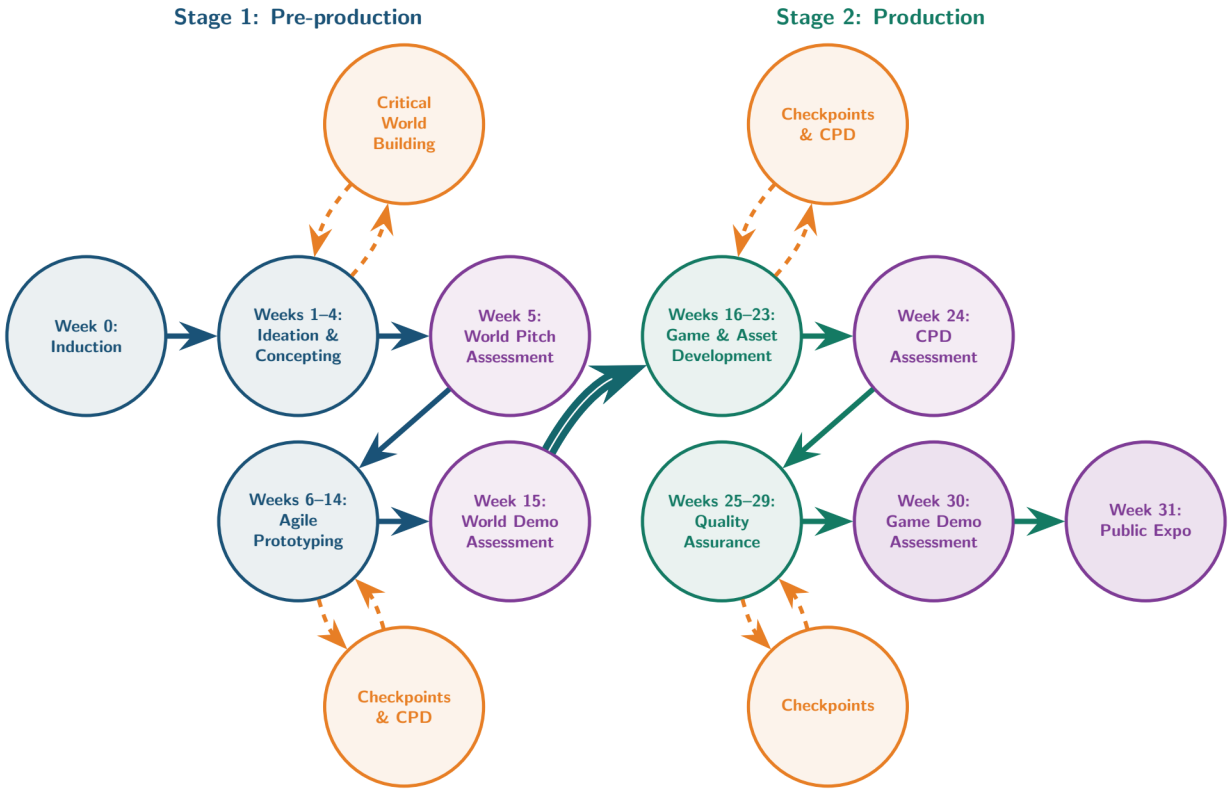


Figure 3 Over-arching structure of the course, spanning 32 weeks split into two study blocks: pre-production and production

Following the pitch, student spend the following nine weeks undertaking agile prototyping, striving towards a game based on their world. Whilst there are a few workshops on agile practice, prototyping methods, and playtesting, This period consists mostly of supervised studio practice, with supporting sessions oriented around feedback to the team. These checkpoints and continuing professional development activities rotate week-by-week as shown in Figure 4 below. Typically the sequence follows supervision meetings, critiques, and CPD tutorials, and peer evaluation. There is a green light checkpoint activity which replaces one of the activities (typically, at the mid-point) which is informed by the other activities as well as the development logs kept by the team and its supervisor.

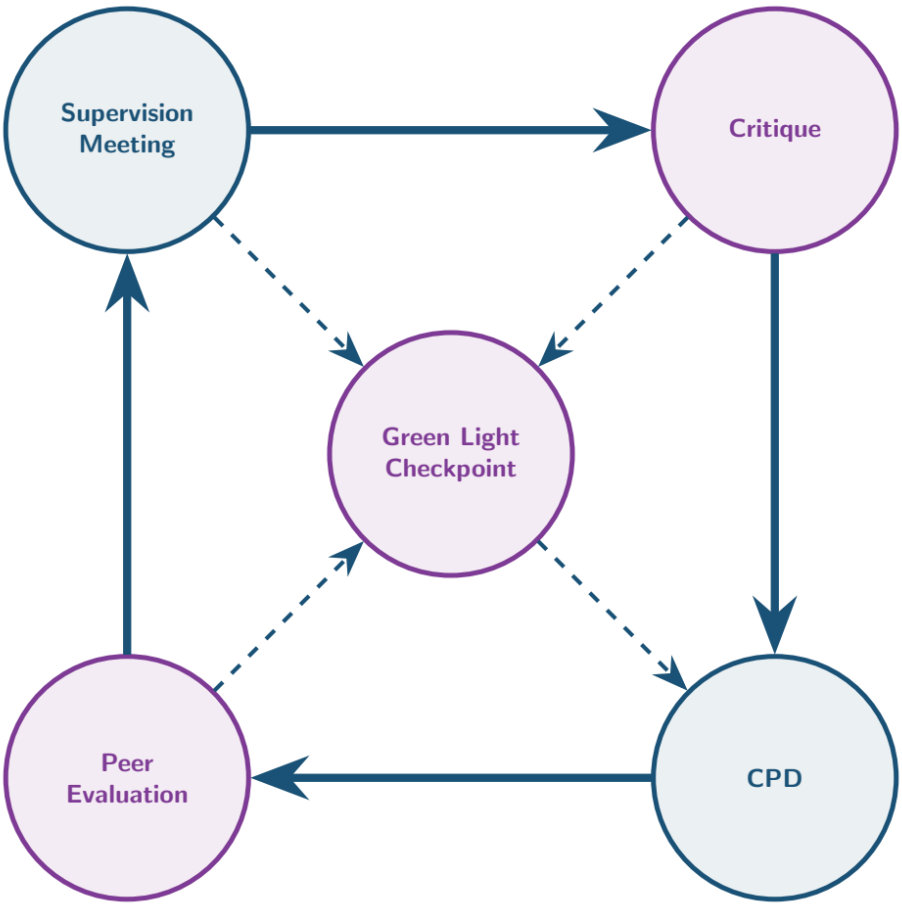


Figure 4 Typical arrangement of rotating checkpoints and continuing professional development situated alongside supervised studio practice for each period

At the end of study block one, students show a demo of their world during the first demonstration day. This concludes the pre-production phase of the course, and transitions into production for study block two. Again, there are workshops oriented around production with renewed emphasis on scope management, player-centred evaluation, and quality assurance. Students also receive support in honing their written reflective reports. However, the focus of the period is on refining the gameplay and implementing high-quality assets. In week 24, students submit their reports, and the teams typically feature lock their game in order to prepare for their final demonstration and expo. This period focuses on quality assurance, with many teams producing promotional materials to help showcase their game. Though, there are a few workshops on digital innovation which serve to broaden students' commercial awareness and serve to help estimate any further investment they may need to complete their projects were they to pursue them in the future. Then, in Week 30, they show their game at the second demonstration day. The following week, they show their game to members of the public at the Expo.

COURSE BEST PRACTICES

The following best practices have been synthesised from our experiences supporting the course. It is not intended to be prescriptive, but as thoughts which have emerged through lessons learned and iterative refinement over the past decade.

Consider Scale Carefully

One of the most significant lessons from delivering the course has been the challenge of scale. While studio-based learning is highly effective for developing authentic production capability, managing twenty or more concurrent development teams introduces substantial coordination complexity. Without careful design, supervisory workload, feedback cycles, and assessment moderation can become overwhelming. A key practice, therefore, is to design the entire course architecture around scale from the outset, rather than attempting to retrofit scalability once teams are formed. This includes: establishing consistent production milestones (e.g., critiques, mid-term reviews, pitches and demonstrations) across all teams; standardising supervisory touchpoints by timetabling them; and ensuring that all teams operate within comparable scope constraints. Without such alignment, variability between teams can quickly undermine both learning consistency and assessment reliability.

Appoint a Studio Manager

A critical enabling role in the course has been the introduction of a dedicated studio manager function. This role is essential in large-cohort studio environments where academic staff alone cannot effectively mediate both creative supervision and interpersonal coordination at scale. The studio manager provides continuity across teams, supports operational oversight, and plays a key role in identifying and addressing early signs of team dysfunction. Importantly, this role also supports conflict resolution. Multidisciplinary teams frequently encounter misalignment in expectations, workload distribution, and communication styles; these issues are normal rather than exceptional. However, without structured intervention pathways, they can escalate and significantly affect learning outcomes.

Give Clear Feedback Instructions

Peer evaluation can be useful as a source of formative feedback. However, it relies on timely, constructive commentary. Provide students with explicit instructions and scaffolded frameworks on how to deliver such commentary. Rather than relying on unstructured text boxes or arbitrary numeric scales, the peer evaluation activity must guide students to isolate specific behaviors, detail their impact on the workflow, and propose concrete adjustments for the subsequent sprint. Providing this explicit structural support will likely improve both the quality of student reflection and the fairness of assessment outcomes (Tai et al, 2018). By replacing social anxieties with objective, professionally framed criteria, students are empowered to participate honestly, turning the process into a genuine engine for team development.

Separate Peer Feedback from Grades

Students dislike being marked by their peers, especially when peer evaluation activities give the impression that their peers are marking them (Mitchell et al, 2021; Mitchell et al, 2022). This is because social dynamics and team etiquette frequently compromise objective evaluative judgement, which introduces bias and reduces assessment reliability. It also risks shifting the students' focus from constructive feedback to strategic scoring behaviors within their teams. We recommend that a clear distinction be maintained between formative peer feedback, supported through structured reflection tools (e.g. FeedbackFruits), and summative assessment, which remains the responsibility of the supervisor. Peer feedback must be positioned explicitly as a developmental tool for the team. While these tools can anonymously surface team dynamics to the supervisor, supervisors must use this data strictly to trigger timely, independent coaching interventions, rather than as an indirect proxy for individual grading. This preserves the psychological safety required for honest reflection and prevents strategic masking behaviors.

Align Supervisors

Consistency across supervisors is essential. Supervisors should operate as a coordinated team rather than a collection of independent instructors. Without alignment, students experience uneven expectations, which can undermine both learning and perceived fairness. A key best practice is therefore the implementation of regular supervisor briefings and the use of shared forum. These ensure shared understanding of production milestones and expectations, and how to interpret assessment criteria. Shared dialog with the module leader functions as a space for reflection and coordination among staff, enabling continuous refinement of delivery.

Timetable Team Contact

A common design flaw in project-based courses is the assumption that students will book spaces themselves and collaboration will occur naturally outside scheduled teaching time. However, with so many different majors and minors trying to coordinate, it becomes difficult for students to identify suitable times to work together. In practice, this leads to uneven engagement and fragmented team coordination. So, explicitly timetable studio practice and structured team meetings with supervisors. This ensures that collaboration is not left to chance and that all teams benefit from regular, scaffolded opportunities to learn.

Ensure Teams Scope to a Vertical Slice

To support both creativity and assessment clarity, the course makes use of a vertical slice approach, sometimes described to students as developing a "beautiful corner" of the world. This strategy encourages teams to produce a highly polished, coherent segment of their world that demonstrates visual and narrative cohesion, technical integration, and gameplay or interaction quality. This approach has proven more effective than expecting uniform completeness across entire projects. It allows teams to demonstrate depth rather than breadth, and it provides assessors with clearer artefacts for evaluation.

Recognise Disciplinary Differences in Collaboration Style

A subtle but important insight from delivery is that different specialisms operate with different production logics. Artists, programmers, designers, writers, and audio specialists often work at different temporal rhythms, with different conceptions of iteration, and with different expectations of "completion." These differences can lead to misalignment unless they are explicitly acknowledged and mediated.

A best practice is therefore to surface disciplinary working norms early in the course, and to support students in negotiating these differences explicitly within teams. This reduces friction and improves shared understanding of production workflows. Another is to help build rapport between the team members through team training and team building interventions (e.g., Scott et al, 2019). Explicit instruction on the sequence of team development and the various coordinating mechanisms which can help support team integrity is valuable in the early stages of the course.

Set Clear Expectations

A persistent challenge in creative studio modules is assessing highly diverse projects. Without intervention, teams naturally diverge in ambition, scale, and complexity. To address this, the course enforces clear expectations around scope, standardised milestones, and common expectations around formats (e.g., compatibility with git). This does not constrain creativity, but rather ensures that assessment focuses on comparable dimensions of performance across teams. In practice, this has significantly improved both grading reliability and student understanding of expectations.

Make Reasonable (Blended) Adjustments

While the course is designed primarily as a face-to-face studio environment, students often need flexibility in order to acommodate their individual circumstances. Blended forms of learning, whilst seemingly a significant risk of losing ambient studio learning, often manifest as a reasonable form of adjustment to allow students (particularly students with long-term medical conditions and/or disabilities) to engage with the course. This must be carefully integrated by supervisors to facilitate the peer work that is central to the pedagogy. Any remote adaptation must deliberately recreate visibility of teamwork process through shared digital workflows (usually, committing to a version control system) and shared digital boards, mandatory synchronous meetings for task coordination (e.g., daily stand-up meetings) and sprint reviews, asynchronous work-in-progress showcases, and structured peer critique. Similarly, supervisor visibility becomes even more important online, requiring more deliberate scheduling of check-ins, and the use of hybrid rooms for meetings to ensure their team is engaging.

Across all of these practices, a principle emerges: studio learning at scale does not arise organically. Instead, it must be designed, structured, and actively maintained. The success of the course depends not only on pedagogical philosophy, but on operational systems that support collaboration, maintain fairness, and make complex creative production legible to both students and staff. The key pedagogical lesson here is that studio-based learning requires explicit relational infrastructure, not informal or ad hoc support mechanisms.

In this sense, the pedagogy and its implementation are inseparable: the studio is not merely a teaching format, but an engineered learning ecosystem.

FUTURE COURSE PLANS

The review by Gunnars & Palmquist (in press) offers many things to consider in the future development of the *World Building* course. We anticipate that future development will be shaped by a more deliberate relancing of game development as both a *production* practice and an *epistemic* practice. While rapid changes in game engines, pipelines, and AI-assisted tools continue to influence industry workflows, our primary concern is how these developments influence the way in which students learn to think, justify, and negotiate meaning within collaborative creative contexts. In particular, we are increasingly interested in strengthening the course's role as a site of critical and ethical inquiry, where game development is understood not just as the act of making an artefact but as a form of practice-based research: socio-cultural and ethical knowledge production. Worldbuilding has the potential to grow beyond mere concoction towards more active interrogation of representation, interpretation, systems design, and presentation. These decisions generate knowledge about how worlds are structured and understood, and about how meaning is distributed across technical, aesthetic, and social dimensions of design.

This perspective requires us to place greater emphasis on our pedagogical committment to collaborative ethical inquiry. We are therefore exploring ways to more explicitly scaffold and support collective judgement within teams, ensuring that questions of inclusion, representation, authorship, and audience are not treated as (we suspect) isolated reflective exercises or disconnected provocations by supervisors. We are striving towards continuous and integrative approaches which establish a virtuous cycle between the theoretic and the practical aspects of worldbuilding. Such approaches will likely entail strengthening students' capacity to articulate and defend design decisions in relation to both creative intent and ethical consequence.

At the same time, we are looking to re-establish the role of and opportunity for critical thinking. While studio participation remains rooted in authentic production, we are mindful of the risk that production velocity can overshadow both reflective depth. Future iterations of the course will therefore need to consider critical checkpoints, particularly in a longer pre-production stage, to slow down decision-making at key moments in order to foreground debate, synthesis, and justification. If necessary, team allocation mecha-

nisms could also then ensure students are practicing skills relevant to their discipline ought to be considered.

Alongside this, we are responding to a growing need to better structure and support teamwork at scale. We have seen little uptake of structured team charters (e.g. Oakley et al., 2004), and we are considering how these might be more formally integrated into the early stages of the course as a way of making expectations around contribution, communication, accountability, and acceptable workflows more explicit.

We are also refining our use of peer evaluation tools such as Feedback Fruits, with ongoing experimentation around the optimal cadence for reflective checkpoints. Too infrequent and issues of workload imbalance persist unchecked; too frequent and the process becomes onerous, draining, and performative. Formative feedback is valuable, and as such this calibration remains an active area of pedagogical design, particularly as cohort sizes and resource constraints continue to tighten.

We are also increasingly aware that team composition itself is becoming a design variable rather than a fixed starting condition. Differences in disciplinary thinking, particularly between programming, which often implies more formally structured ontologies of systems and interaction, and disciplines such as art or narrative design, which operate more fluidly, can create friction that is both productive and challenging. Additionally, misalignment between team goals and personal employability goals can create tension. Consider, for example, the choice between spending time on personal portfolio development over contributing to the team project, especially when the skills needed by the team aren't aligned with one's choice of major and industry places such importance on portfolio. We are therefore exploring more intentional approaches to team allocation and forming teams around seeded prompts, ensuring a more balanced distribution of skills while also considering how pluralistic ontological perspectives can be synergised (see Harvey, 2019).

Ultimately, we see the course evolving toward a more explicitly dual-purpose studio: one that continues to develop technical and creative competence, but that also positions game development as a rigorous site of critical thought, ethical reasoning, and epistemic inquiry.

AI STATEMENT

AI-assisted editorial tools including Grammarly (NLP-CoEdIT) and ChatGPT (GPT-5.5) were used to help synthesise and express the syllabus as well as to refine the spelling, punctuation, and grammar of this chapter.

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