ILLINOIS TECH | **Lewis College of Science and Letters**

Date: April 5, 2022

To: Undergraduate Studies Committee

From: Games and Interactive Media Program Committee

Re: Proposal for Bachelor of Science in Game and Interactive Media Design

Attached is a proposal for a Bachelor of Science in Game and Interactive Media Design. This proposal has been approved by the Game and Interactive Media Studies Program Committee, the Dean of Lewis College, and the Humanities Chair.

Proposal for B.S. in Game and Interactive Media Design

Steering Committee: Jeremy Hajek (ITM), Carly A. Kocurek (Humanities), James Papademas (ITM)

1. Game and Interactive Media Design Profession and Education

Game and Interactive Media Design is an established academic and professional field. In 2021, the video game market in the U.S. alone totaled nearly 86 billion, showing strong growth even during the global pandemic and more than doubling in the past decade.[1]

Illinois is in the top 10 markets for game design job postings. Burning Glass analysis shows a strong need for creative, collaborative (more than 50% of postings), communication (more than 37% of postings), and problem solving (18% of postings) skills alongside technical proficiencies. Illinois Tech is uniquely situated to offer a program in this area given its role as the only technical university in Chicago, making the planned degree distinct from those offered by area schools like Columbia and DePaul. Particularly strong growth is projected for jobs in quality assurance, Unreal Engine development, prototyping, and level design. Given that most jobs in this field require a bachelor's degree, a B.S. is an ideal degree for this field. Additionally, this is a degree well suited to articulation with local CC curricula and should well serve students who have completed an A.A. or A.S. degree and wish to continue towards a B.S.

Burning Glass projects a growth of 9.3% in the number of game design jobs over the next decade. 97% of advertised positions in game and interactive design require a bachelor's degree. Current starting salaries average $77,879 for those with 2 or fewer years of experience, increasing to $89,630 for those with 3-5 years of experience, and then $99,021 for those with 6 or more years of experience, indicating strong earnings potential for graduates.

Game and Interactive Media Design is also a recognized academic discipline. WPI established the first degree in this area (under the name Interactive Media and Game Design) in 2005. Today, there are programs in all 50 states in the U.S., including advanced graduate degree programs, with prominent programs including those at the University of Southern California, New York University, and Rochester Institute of Technology.

Professional and academic organizations in the field often overlap, as exemplified by Foundations of Digital Games (FDG) and Digital Games Research Association (DiGRA). The International Game Developers Association (IGDA) is the largest professional organization, and Illinois Tech students have recently established a student chapter—the only campus chapter in the Chicago area at this time.

2. B.S. in Game and Interactive Media Design in Lewis College

Game and Interactive Media Design is a field that Illinois Tech students already demonstrate significant interest in. The humanities department has offered a minor in Game Studies and Design for several years. While the number of students completing the minor has been relatively small (likely due to difficulties with course scheduling), interest in the required courses has been substantial; HUM 371 Fundamentals of Game Design, for example, has had a waitlist every time it has been offered, and HIST 373 History of Video Games generally fills 60 to 80 seats depending on the size of the class. Students

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[1]

https://www.statista.com/statistics/246892/value-of-the-video-game-market-in-the-us/#:~:text=In%202021%2C%20the%20video%20game,with%2076.15%20billion%20U.S.%20dollars.

have expressed strong interest in additional educational opportunities related to game design, and there's an increase in related activity on campus, including the gamebIITes exhibit of student games, the IPRO Game Lab, the Illinois Tech eSports program, and student clubs dedicated to games ranging from chess to Warhammer. Students have also formed an Illinois Tech chapter of the IGDA.

The proposed program addresses this existing student interest and will appeal to students who may currently choose other technical universities over Illinois Tech; currently, we are one of a very few technical universities that does not have a program in this area.

The proposed degree is to be housed in the Humanities Department as a collaboration between Humanities, ID, ITM, and Lewis College. Administrative responsibility for the degree will use a shared model detailed in section 8 of this proposal.

3. Program Requirements: BS in Game and Interactive Media Design

The curriculum proposed focuses on three central learning goals:

- Proficiency with creative processes
- Effective collaboration to design and develop projects
- Understanding of games and interactive media in their ethical, cultural, and professional contexts

Courses address these through a multidisciplinary approach that incorporates classes that address both theoretical proficiencies and technical and professional skills, including a large number of project-based courses and hands-on learning experiences.

The proposed curriculum is designed to be flexible, enabling students to focus on their professional goals. For example, a student who wishes to work in a communication-heavy area of the profession might choose to focus their technical electives on communication courses while a student more interested in technical aspects of development would choose a more ITM-heavy set of technical electives. The curriculum is scaled to work well for transfer students, to work well as a double major or potential dual degree, and/or to enable students to pursue a minor in another discipline.

Note: This program has a 0 credit requirement of a portfolio of 5 or more games submitted prior to graduation.

Requirements for the Major		60 hours
Course Number	Course Name	Credit Hours
LCSL 100	Intro to the Professions	3
HUM 371	Fundamentals of Game Design	3
HUM 372	Interactive Storytelling	3
HUM 374	Game Design II	3
COM 424	Document Design	3
HIST 373	History of Video games	3
PHIL 374 OR PHIL 381	Computer Ethics AI Ethics	3
ITM 356	Intro to Open Source	3

ITM 311		Intro to Software Development	3
ITM 361		Fundamentals of Web Development	3
ITMD 362		Human Computer Interaction	3
ID 410		Introduction to Design Processes	3
Graphics Cluster	Any 2 courses from*: EG 225 EG 325 EG 329 *Other courses in animation, computer graphics, etc. as approved by advising team; We also expected partnership with Columbia to expand this list.	Engineering Graphics for Non-Engineers Advanced Engineering Graphics for Non-Engineers Graphic Representation for Non-Engineers	6
Technical Electives	Any 4 courses from: COM 421 COM 425 HUM 352 HUM 375 HUM 380 IDX 506 IDN 552 IDX 560 ITMT 492 ITMD 455 ITM 313 ITM 413 ITM 441	Technical Communication Technical Editing Gender and Technological Change Practical Magic: Experience Design Research Methods Fundamentals of Product Fundamentals of Visual Communication Introduction to Design Thinking Smart Technology Open Source Intelligent Device Applications Intro to Open Source App Development Open Source Programming Web Application Foundations	12
LCSL 400 LCSL 401		Capstone semester 1 Capstone semester 2	6

Further Core Curriculum Requirements		43 hours
CS	Fulfilled by degree requirements	0
STEM Module	Some students may fulfill part of this requirement with graphics cluster	16
Human Sciences Module		21
Interprofessional Projects		6

Free electives	23 hours

Free electives	Students may choose to use these to pursue a minor; students who pursue certain graphics cluster courses may have additional free electives	23

Total Credit Hours	**126**

4. Sample Curriculum

Year 1	
ITP (intro to professions)	ITM 311 Intro to Software Dev
Graphics cluster	HUM 371: Fundamentals of Game Design
ITMO 356: Intro to Open Source	Graphics cluster
Math	free elective
HUM/SS	Science
Year 2	
HIST 373: History of Video Games	PHIL 374 Computer Ethics or 381 AI Ethics
ITM 361: Fundamentals of Web Development	COM 424: Document Design
Math	HUM 372: Interactive Storytelling
free elective	ITMD 362: Human-Computer Interaction
free elective	Science
Year 3	
IPRO (Interprofessional Project)	IPRO
Science	HUM/SS
HUM/SS	HUM 374: Game Design II
free elective	free elective
technical elec	technical elec
Year 4	
capstone	capstone
technical elective	technical elective
HUM/SS	HUM/SS
ID 410: Interdisciplinary Design	Free elective
Free elective	Free elective

5. Program Requirements: Minor in Game and Interactive Media Design

This is an update, prepared in consultation with the HUM and ITM, to the existing Game Studies and Design Minor. In updating, it will also be renamed to match the related degree. Like the major, the minor is skills focused and so requires specific courses.

15 credits

- HUM 371: Fundamentals of Game Design
- HUM 372: Interactive Storytelling
- HIST 373: History of Video Games
- ONE class from ITM 311; ITM 361; ITMT 492; ITMD 455; ITM 313; ITM 413; ITM 441
- ONE class from PSYC 312; PSYC 423; PSYC 426; PSYC/ITMD 362; PSYC 363; PHIL 304; PHIL 374; PHIL 381

6. Student Advising

Lewis College has committed to overseeing advising for this program. Shamiah Okhai, Lewis College Program Coordinator, will serve as the central adviser, drawing on her professional expertise in student advising and student support. She will be supported by a program committee consisting of faculty from HUM (Carly Kocurek), ITM (Jeremy Hajek and James Papademas), and ID (dean has committed this support, but individual assignment is pending).

7. Admission

The admission requirements of the B.S. in Game and Interactive Media Design are comparable to those for ITM or HUM degrees. Program committee will work with the Undergraduate Admissions Office on marketing, recruitment, and admission processes.

8. Program Administration

- Program Committee (faculty). Responsible for the content of curriculum. Runs program assessment. Updates curriculum based on assessment results. Supports professional development activities for students on campus and works with related student organizations to help support the campus ecosystem for Game and Interactive Media Design. This committee should have a minimum of 3 members with at least one drawn from each of HUM, ID, and ITM. Committee will report on program to the chairs of HUM, ID, and ITM and the dean of Lewis College.
- Program Adviser (staff). Responsible for front-line advising of students to ensure students understand degree requirements and take the necessary courses. Points students to other resources, including program committee members, when they need specialized or additional support. Tracks majors through graduation.
- External Advisory Committee (external). A mix of academic and professional experts in Game and Interactive Media Design who will critique curriculum, recommend projects and co-curricular activities for students, advise on best practices, and promote students' career development. This committee has not yet formed, but we have established working relationships with potential members through the curriculum development process.

9. New Courses

Due to the robust interdisciplinary collaboration that has driven this program, the number of new courses needed is very modest:

- HUM 374: Game Design II
  This course would introduce students to digital game development, building on the skills in mechanics and design processes learned in HUM 371 (which focuses on analog game development) and HUM 372 (which focuses on interactive storytelling on digital platforms). Students would complete a project using a shared, profession-level platform such as Unity or Unreal.
- LCSL 400 GAIM Design Capstone 1
- LCSL 401 GAIM Design Capstone 2

This is a two-semester sequence for students to complete a capstone project during their senior year. Highly polished capstone projects will enable students to demonstrate the culmination of what they've learned and provide them with a highly polished work sample to serve them on the job market. The longer cycle (two semesters) will facilitate longer-term, more robust project development.

These classes would be available only to advanced undergraduate majors who have completed the majority of program requirements (HUM 371, HUM 372, graphics cluster, ITM 311, ITMO 356, ITM 361, and ITM 362 at minimum)

10. Assessment Plan

Learning Outcomes

1. Demonstrate proficiencey with creative processes
2. Effectively collaborate to design and develop projects.
3. Understand games and interactive media in their ethical, cultural, and professional contexts.

Assessment Process

Instructors for required courses will be asked to include course outcomes on their syllabus and to ensure course materials align with learning objectives.

Assessment will be conducted on capstone projects every year, and on a different course group each year:

- ITMO 356, ITM 311, HUM 371
- HIST 373, ITM 361
- HUM 374, ITMD 362
- ID 410, HUM 372

Faculty for the courses scheduled for assessment will be asked to collect student work (projects or exams) with which the course can be assessed. For smaller classes (<24 students), a full set is requested. For larger classes, a random subset (20%) should be chosen.

Learning Goals	Student works to assess this goal
1. Demonstrate proficiencey with creative processes	Portfolio artifacts; final projects from HUM 371, 372, 374, ID 410, ITM, capstone
2. Effectively collaborate to design and develop projects.	Portfolio artifacts; final projects from HUM 371, 372, 374, ID 410, ITM, capstone
3. Understand games and interactive media in their ethical, cultural, and professional contexts.	Portfolio artifacts; final projects from ITP, HUM 372, HIST 373, capstone

Rubric for Assessment					
Rate from 1-5 with 5.	1 (barely if at all)	2 (somewhat)	3 (adequate)	4 (proficient)	5 (excellent)
Proficiency with creative processes (assess through: self and peer evaluations of course and capstone projects, portfolio)					
Project demonstrates effective collaboration (assess through: self and peer evaluations, course and capstone projects)					
Student understands games and interactive media in their ethical, cultural, and professional contexts.					
				Overall average:	X

The program will aim for 90% or higher of portfolio projects to rank at a 4 or higher. Course assessments will be used to ensure students are gaining the fundamental skills they need to complete high-level capstone and portfolio work.

Assessment results will be used to revise curriculum at the course and program level and to inform development of cocurricular supports and opportunities.