

# INTERACTIVE MEDIA

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<http://com.miami.edu/programs>

Dept. Code: CIM

## Introduction

The Department of Interactive Media offers major in Interactive Media and minors in Game Design (GAME) and Interactive Media (CIMI).

The Department of Interactive Media strives to foster active learning in the design and research of technologies that improve society and people's lives. Our hands-on curriculum allows students to explore the role that interactive technologies play in communication and how they shape our world.

The majors and minors offered by the Department of Interactive Media are designed to enable students to customize their education within a learning environment that is collaborative and conducive to the pursuit, exchange, and development of ideas and information. The curriculum also further provides students with the tools necessary to succeed in a range of careers defined by a rapidly changing technology and media landscape and equips them to best leverage interactivity, emerging technologies, and innovative developments in the field.

### Goals of the Program are:

- To provide students with the technical and practical skills needed to make them career-ready through hands-on learning, problem-solving based inquiry, and advanced study.
- To nurture the individual talent, creativity, and discovery process of every student by fostering principles of collaboration, professionalism, and intellectual curiosity.
- To support the educational process through mentoring and advising by renowned faculty and seasoned professionals.
- To encourage students to integrate theory and practice, to cultivate the capacity to think critically, and to connect technology and art and/or design.
- To familiarize students with theoretical, historical, and cultural approaches and expose them to a range of traditions within the field of study.
- To provide access to state-of-the-art facilities, technologically advanced tools, and the latest technology platforms.
- To continue to build on our reputation as a place of innovation and interdisciplinarity
- We educate students according to the highest professional and ethical standards.

### Opportunities

As a major or minor in the CIM department, many opportunities await you, including access to the following facilities and equipment: the Emerging Media Lab used for fabrication, board games, physical computing, and digital screen-based games; the XR Studio is used for virtual reality, volumetric captures studio and augmented reality experimentation, the User Experience (UX) Lab supports interdisciplinary research on understanding how people use information systems. The New Experience Research & Design Lab (NERDLab) is a student-faculty cooperative driven by research, development, and an enthusiasm for social impact.

More Information on our facilities and labs can be viewed at <https://interactive.miami.edu/spaces/>

The Ribeiro Innovation Fund is an endowed fund support lectures and workshops that instill creative confidence in students. It enriches the academic curriculum promoting innovation in the field of interactive media by inviting industry leaders and innovators; thus tightening the link between the Interactive Media program and industry.

## Major Cognate Area

- Interactive Media:
  - STEM

## Minor Cognate Area

- Game Design Minor.
  - Arts and Humanities

- Interactive Media Minor:
  - STEM

Please note, students completing majors and minors within the same department may only satisfy one required cognate area of study.

## Degree Programs

The Bachelor of Science in Communication is offered in Interactive Media

### Majors are offered in:

- Interactive Media

Each candidate for the degree of Bachelor of Science in Communication will complete the School of Communication's requirements including courses in the School's General Education Required Areas of Study.

## Admission to the Interactive Media Major

Before admission as an Interactive Media major, a student must:

- Complete the five Core courses listed below, in residence at the University, all with grades of C or higher (C- is not acceptable).
- Students who have obtained the written approval of the Chair of Interactive Media to use transfer credit hours to satisfy one or more requirements of that major may be required to complete additional courses in residence at the University before being admitted to that major.
- Upon completion of a student's first 45 University credit hours while enrolled in the School of Communication, all University credit hours earned toward the major will be used in computing a student's major cumulative grade point average; only those students with a cumulative average of 2.5 or higher will be admitted to the major.
- A student who has completed 45 credit hours while enrolled in the School of Communication, but who has not been admitted to one of the Communication majors, may be dismissed from the School. A student who has completed 60 University credit hours while enrolled in the School, but who has not been admitted to one of the Communication majors, will be dismissed from the School.

## Minors in Interactive Media Department

The Department of Interactive Media offers minors in:

- Game Design
- Interactive Media

### **CIM 101. Internet, Media, and Society. 3 Credit Hours.**

Internet, Media, and Society is a foundational course intended to give perspectives on the continuing progression of technology through the lens of media and popular culture. Students will learn about the historical roots of the internet and early tech pioneers, including the various technologies, trends, and subcultures that bubbles up along the way, creating our current media and technological landscapes. From this perspective, students will gain an appreciation and greater understanding of how things came to be, especially the Internet's role in shaping society and their everyday lives.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

### **CIM 102. Interaction Design I. 3 Credit Hours.**

In this class, students will familiarize themselves with the disciplines of user experience (UX) and interaction design (IxD), including design principles, postures, and patterns and visual design concepts specific to designing interactive digital products. Students will learn how to use a digital prototyping tool in order to first design low fidelity, structural wireframes and then turn them into high fidelity interactive prototypes.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

### **CIM 103. Web Lab. 3 Credit Hours.**

This course is a practical introduction to web design. Students will learn how to produce websites using the latest web practices and techniques. Throughout each unit of the course, students will learn the skills to plan, layout, and build websites using HTML, CSS, and Javascript. Students will also learn how to optimize and market their websites.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**CIM 104. Introduction to Game Studies. 3 Credit Hours.**

This course is an introduction to the study of games as cultural, historical, and socially relevant artifacts. Students will gain an understanding of how games are used to accomplish specific communications goals and will also learn how society can often shape and be shaped by games. The course provides students with the foundation needed to be effective at critiquing, designing, and evaluating games.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**CIM 202. Interaction Design II. 3 Credit Hours.**

This course will give a deeper knowledge of interaction design and its practical application (building on Interaction Design I). Students will learn to formulate design problems and limit the scope of the design, carry out field studies and contextual analyses, lead design workshops, to carry out evaluation work, and understand technical limitations and produce deliverables adapted to those limitations.

Prerequisite: CIM 102.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**CIM 203. Intro to Creative Coding. 3 Credit Hours.**

This course will introduce students to the building blocks of creative coding within the visual and media environment.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**CIM 204. Introduction to Game Design. 3 Credit Hours.**

This is an introductory course about game design, theory, and development, and how games align themselves as a lens of study for all interactive media.

Prerequisite: CIM 104.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**CIM 383. Physical Computing. 3 Credit Hours.**

This course explores how to build a bridge between the physical and digital world. Students will learn to develop software and hardware to sense and respond to physical interaction. Through various projects, students will learn how to program sensors and other electronic components to convert the human senses into creative inputs and outputs, such as lights, sounds, and movement. Students will learn the ideation and design process through challenges presented in their assignments and personal projects. In this course students will also learn how to design for and use various digital fabrication tools, such as 3D printing, laser and paper cutting, and CNC milling. Students will have access to work hands on with these fabrication tools to enhance and build their prototypes.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Spring.

**CIM 389. Special Topics in Interactive Media. 3 Credit Hours.**

This course is designed to keep up with the fast-changing world of interactive media allowing for contemporary classes to be periodically added to the curriculum. Special topics classes will be added to the Interactive Media curriculum as electives.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**CIM 412. Human Computer Interaction. 3 Credit Hours.**

This course will teach students about the importance human computer interaction (HCI) in the design, implementation, and evaluation of interactive computing systems for human use. The course will provide both practical application and theoretical knowledge of HCI, with practical concerns balanced by discussion of relevant theory from the literature of computer science, human factors, and interaction design.

Prerequisite: CIM 102 and CIM 202 and CIM 443. And Requisite: Junior or Above.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Fall.

**CIM 413. Mobile Application Development. 3 Credit Hours.**

This course will provide students the ability to conceptualize, design, and develop a mobile application of their choosing. It covers various approaches to the development of mobile software applications using current development environments, frameworks, and programming paradigms. This course focuses on hands-on learning through which students practice with programming assignments and demonstrate the apps through virtual simulators and physical mobile devices.

Prerequisite: CIM 203 Or ECE 118 Or CSC 120.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**CIM 418. Internet and Media Activism. 3 Credit Hours.**

In this course, students will examine the role of media in shaping social reform to document social issues such as poverty, human rights, social inequities, the environment, and powerless groups. We will review the philosophy and history of media as activism ranging from photography, documentary, cinema, the Internet, social media and newer forms of media. Emphasis is placed on developing a critical understanding of current media advocacy practices with a conscious goal; awareness, change minds, to affect policy, and action. At the end of the semester, students will have a fully developed project concept.

Requisite: Sophomore Standing or Higher.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**CIM 422. Human Centered Design. 3 Credit Hours.**

This course takes a comprehensive look at human limitations and abilities and how they are key to interaction design and a great user experience. Students will learn about human behavior and how to apply UX guidelines to the design of digital interfaces. Students will also learn how to produce design deliverables for real world practice

Prerequisite: CIM 102 and CIM 202 and CIM 443. And Requisite: Junior or Above.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**CIM 423. Building Virtual Worlds. 3 Credit Hours.**

The purpose of this course is to explore the construction of virtual environments. Students will learn the principles of constructing interactive 3D environments using a game engine. Students will be responsible for creating a world that can be interacted with on various platforms, including virtual and mixed reality.

Prerequisite: CIM 203 Or ECE 118 Or CSC 120.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Spring.

**CIM 433. Augmented Reality. 3 Credit Hours.**

This course will provide students the ability to design and develop augmented reality apps. It covers various approaches to designing and programming augmented reality apps using the latest technologies and devices. Students will be given hands-on programming assignments and learn about the key advantages in each of the approaches via in-class discussions.

Prerequisite: CIM 203 Or ECE 118 Or CSC 120.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Spring.

**CIM 443. Front End Fundamentals. 3 Credit Hours.**

This course focuses on the job-ready skills and production workflow techniques in highest demand for front end web developers. Students will learn, practice and demonstrate the skills and principles needed to make effective use of these technologies.

Prerequisite: CIM 103 Or JMM 341.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Spring.

**CIM 444. Designing Games for Impact. 3 Credit Hours.**

Students will explore the use of games as a communication tool for social good and will create their own game-based interventions.

Prerequisite: CIM 204.

**Components:** STU.

**Grading:** GRD.

**Typically Offered:** Fall.

**CIM 453. Dynamic Data. 3 Credit Hours.**

This course teaches data analysis through the development of interactive web applications. The course focuses on communicating through computer programming. Students will learn to build and use databases as a primary source and explore data as content. For this course students will be required to build custom software solutions through web programming languages that utilize third party APIs to interpret, analyze and manipulate data.

Prerequisite: CIM 103 or CIM 203 Or JMM 341.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**CIM 458. 360° Immersive Filmmaking and Storytelling. 3 Credit Hours.**

A hands-on course dedicated to design and produce VR/360° immersive video. Through a wide selection of materials, including videos, 360° films, articles, and presentations, students will develop a strong foundation on storytelling techniques, technologies (cameras, microphones, VR headsets, software), and best practices used across immersive media.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**CIM 464. Video Game Spectatorship and Esports. 3 Credit Hours.**

This course covers the historical and contemporary practices of game spectatorship, journalism, and Esports. It teaches the industry and best practices used in sharing video games through traditional media, streaming services, and Esports.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**CIM 469. Internship in Interactive Media. 1-3 Credit Hours.**

The internship is designed to provide valuable career-related work experience in a real - world setting, e.g., institutions, organizations and/or businesses. Students will identify an opportunity, supervisor, and write a proposal as to the relevancy to their goals. The Internship may be paid or unpaid.

Requisite: Sophomore Status, Cumulative GPA 2.5.

**Components:** IND.

**Grading:** GRD.

**Typically Offered:** Fall, Spring, & Summer.

**CIM 474. 2D Character Design. 3 Credit Hours.**

This is a comprehensive course devoted to the development of skills in creating characters for 2D animation and games. Students will develop an understanding of how shape language relates to the characters personality through the creation of weekly exercises. The course will be delivered in the form of studio projects, individual and class critiques, lectures, discussions, workshops and readings.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**CIM 489. Special Topics in Interactive Media. 3 Credit Hours.**

This course is designed to keep up with the fast-changing world of interactive media allowing for contemporary classes to be periodically added to the curriculum. Special topics classes will be added to the Interactive Media curriculum as electives.

Requisite: Junior Status.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**CIM 499. Projects and Directed Research. 1-3 Credit Hours.**

Individual study. No more than three credits may be counted toward a Communication major or minor.

**Components:** THI.

**Grading:** GRD.

**Typically Offered:** Fall, Spring, & Summer.

**CIM 501. Prototyping Techniques. 3 Credit Hours.**

This course covers accepted prototyping techniques introducing students to a wide variety of approaches for different kinds of user experience design problems and platforms. Students will learn to develop preliminary iterations of a solution to a design problem in order to communicate the essence of their idea without committing to a costly implementation.

Prerequisite: CIM 103.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**CIM 502. Designing Innovation. 3 Credit Hours.**

In this course you will be introduced to and will apply human centered design techniques and systems thinking to achieve goal-directed design of interactive systems. Students will work in small teams to iteratively generate and refine design concepts and to thoroughly document their design process.

Prerequisite: CIM 102 and CIM 202 And Requisite: Junior or Higher.

**Components:** STU.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**CIM 504. Designing Playful Experiences. 3 Credit Hours.**

Students will analyze and design games to gain vocabulary and tools to design playful interactive systems. Students will be exposed to a range of popular game prototyping technologies and will create several mini-projects as well as one final game project created using the platform of their choice.

Prerequisite: CIM 104 and CIM 204.

**Components:** STU.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**CIM 505. Technology Trends. 3 Credit Hours.**

Trends is a foundation course intended to promote a dialogue about the current state of business, art, health, culture, and innovation.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**CIM 511. Interactive Media Studio. 3 Credit Hours.**

The Interactive Media Studio is designed to allow a student to enhance his or her accumulated knowledge and skills in interactive Media. This course prepares students to gain employment in the field by creating and producing a professional design portfolio and resume. Students will also gain knowledge about how to set up, prepare for, and conduct themselves during professional interviews.

Prerequisite: CIM 101 and CIM 103 and CIM 202 and CIM 203 and CIM 383 And Requisite: Senior Standing And Interactive Media Majors.

**Components:** STU.

**Grading:** GRD.

**Typically Offered:** Spring.

**CIM 515. Interactive Media Business Essentials. 3 Credit Hours.**

This course takes a comprehensive look at managing interactive media projects from inception to implementation and maintenance.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**CIM 563. Design with AI. 3 Credit Hours.**

This course will provide students with the ability to understand the purpose, strengths and limitations of artificial intelligence (AI) technologies in order to design smart applications for everyday use. It covers topics including state-of-the-art AI technologies and the design principles for developing applications with such technologies. Issues such as ethics, bias, accountability, and privacy in these applications will also be discussed.

Prerequisite: CIM 203.

**Components:** LAB.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**CIM 579. Practicum in Interactive Media. 1-3 Credit Hours.**

Students will engage in the applied practice of Interactive Media to enhance classroom learning and provide opportunities to gain practical experience.

**Components:** THI.

**Grading:** GRD.

**Typically Offered:** Fall & Spring.

**CIM 582. UX Research Methods. 3 Credit Hours.**

This course provides a comprehensive overview of User Experience research methods and how they are incorporated into the product development lifecycle. Students will learn about user-centered design and will conduct a wide range of research methods including ethnography, questionnaires, online studies, and usability testing. There will be considerable focus on practicing research skills and reporting findings from these activities.

Prerequisite: CIM 102 and CIM 202 and CIM 443. And Requisite: Junior or Above.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**CIM 594. Game Development Studio. 3 Credit Hours.**

Game Dev Studio is a project-based course devoted to developing a game. In groups, students will start with a concept and create prototypes that will be refined through multiple iterations and playtests. Your final game will either be a well-polished 2D or 3D digital game.

Prerequisite: CIM 202 and CIM 204 or CIM 423 or CIM 504 or CIM 444.

**Components:** STU.

**Grading:** GRD.

**Typically Offered:** Fall.