

Kwangwoon University

Department of Immersive Convergence Content

Immersive content industry in Korea is experiencing rapid growth and is increasingly in need of adaptation in response to both domestic and international paradigm shifts and trends. In recent years, with the advancement of the Fourth Industrial Revolution, ICT-related fields have become essential, and convergence content with technical expertise and creativity has emerged as a rising core area. The Department of Immersive Convergence Content is adapting to changes in industry trends by integrating the IT industry with traditional content domains, laying the foundation for excellence, and nurturing creative professionals in the field of convergence content.



Vision

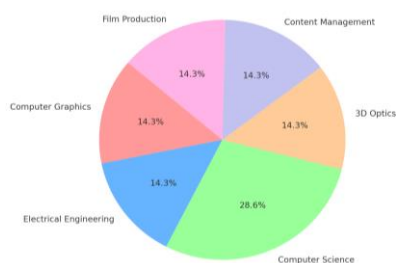
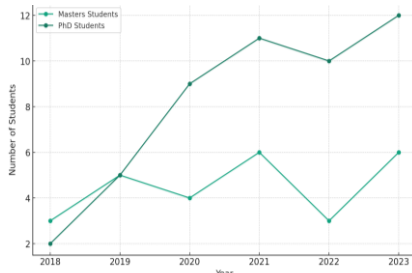
- From first best Challenging
- For the best Performance
- Immersive content Specialization

Policy

- Training the best content leaders
- Building the best human network
- Excellent faculty
- Various scholarship system

Core policy of department of Immersive Convergence Content

1. Establishment of Immersive Convergence Content Department in Oct. 2018
2. High quality education program : 35 major courses
3. Excellent faculty : 10 full-time professors, 5 adjunct professors
4. Solid human network : 77 graduates and students are leading technologies
5. Abundant scholarship system : Special scholarship for civil servants, military personnels, International student, and industrial personnels



Faculty for Department of Immersive Convegence Content



Seunghyun Lee

Professor

✉ shlee@kw.ac.kr

Electronic Engineering Hologram Printing, Immersive Content, Digital Holography, VR/AR/MR/XR



Soonschul Kwon

Professor

✉ ksc0226@kw.ac.kr

Intelligent Imaging Processing, 3D Graphics (VR/AR/MR), Hologram Display, Human-Computer Interface



Hobyung Chae

Professor

✉ hb_chae@kw.ac.kr

3D Image Processing, Digital Hologram (CGH), Digital Signal Processing and Circuit



Sangil Kim

Professor

✉ silgam@kw.ac.kr

UHD content production, 4K and 8K Displays, High-Bandwidth Streaming



Leehwan Hwang

Professor

✉ optics.hwang@kw.ac.kr

Near-eye Display(NED) for VR/AR/HR Display, Holographic Optical Element Development



Philippe Gentet

Professor

✉ p.gentet@gmail.com

Three-dimensional imaging, Digital holographic printing Holographic material analysis



Alaric Hamacher

Professor

✉ stereo3d@kw.ac.kr

3D Movie Production, VR/AR Content Production, Metaverse Content Production, Digital Storytelling

Introduction of the Department of Immersive Convergence Content

Virtual and Augmented Reality Technology



The "Virtual and Augmented Reality Technology" program educates students about VR and AR technologies, covering principles, applications, hardware, and software tools. VR immerses users in virtual environments via headsets, while AR overlays virtual content on the real world through apps or AR glasses. This program equips students with knowledge to develop VR and AR, exploring applications in education, entertainment, and more. Students learn to design projects and solve real-world problems with these technologies.

3D Modeling and Animation Production



The "3D Modeling and Animation Production" program teaches students how to create 3D models and animations. It covers 3D modeling principles, animation, and rendering using industry-standard software. Students gain skills in character animation, special effects, and storytelling. Through hands-on projects, they create 3D animations for film, gaming, advertising, and simulations. This program prepares students for careers in 3D modeling, animation, and visual effects by fostering creativity and technical expertise.

Video Editing and Production



The "Video Editing and Production" major imparts crucial skills and knowledge to students, focusing on creating top-notch videos. They gain expertise in cinematography, covering camera operation and lighting techniques. Video editing is a central component, teaching various software and techniques for effective visual storytelling. Scriptwriting for video is also emphasized, enabling students to craft compelling narratives and tailored scripts. Furthermore, students explore visual effects and animation to enhance their projects. In summary, this major equips students with practical skills and creative insights necessary for a successful career in video production and editing.

User Experience Design and Interface (UI/UX)



The "User Experience Design and Interface (UI/UX)" program focuses on teaching students to create user-friendly and immersive experiences in virtual and augmented reality (VR/AR). It covers designing intuitive interfaces, optimizing user interactions, and crafting engaging VR/AR environments. Students use cutting-edge tools to create immersive digital worlds with a focus on user preferences. Through hands-on projects, they gain practical experience in designing and testing VR/AR applications for compelling user-centered experiences. This program prepares students for careers in VR/AR development and design, equipping them to create immersive and user-focused digital environments.



AI-Based Computer Graphics and VFX



The "AI-Based Computer Graphics and VFX" program explores the use of artificial intelligence (AI) in computer graphics and visual effects (VFX), with a focus on virtual and augmented reality (VR/AR). It covers AI algorithms for improved rendering, realistic simulations, and content creation. Students gain hands-on experience in applying AI to create compelling VR/AR content. This program prepares students for careers in AI-driven graphics and VFX, equipping them with the skills needed to excel in the VR/AR industry.

AI-Enhanced VR/AR Content



The "AI-Enhanced VR/AR Content" program explores the integration of artificial intelligence (AI) into virtual and augmented reality (VR/AR) experiences. It covers using AI to enhance graphics, enable real-time interactions, and create personalized, intelligent simulations. Students learn to develop AI-powered VR/AR applications through hands-on projects. This program equips them for careers in AI-driven VR/AR content creation, meeting the industry's evolving demands.

Holography Technology and Production



The "Holography Technology and Production" program focuses on holographic technology, emphasizing its application in virtual and augmented reality (VR/AR). This course covers holography principles, 3D immersive visual creation, and manipulation techniques for VR/AR content. Students gain hands-on experience in designing and producing holographic images and videos suitable for VR/AR applications. This program prepares students to excel in the growing field of holographic technology within the VR/AR industry, where realistic and immersive visual experiences play a crucial role.

Content Marketing and Management



The "Content Marketing and Management" program, with a focus on immersive content development, teaches students to create and manage content for virtual and augmented reality (VR/AR). It covers strategies for crafting engaging VR/AR experiences, including storytelling and user engagement. Students gain hands-on skills in designing and producing VR/AR content for marketing purposes. This program prepares students for careers in immersive content marketing and management, where creating compelling VR/AR experiences is vital for successful marketing campaigns.

Curriculum for Department of Immersive Convergence Content



Major

Virtual and Augmented Reality Technology	<ul style="list-style-type: none"> ● VR/AR Hardware and Technology ● VR/AR Development and Programming 	<ul style="list-style-type: none"> ● VR/AR Hardware and Technology ● AI for VR/AR
Video editing and production	<ul style="list-style-type: none"> ● Cinematography ● Scriptwriting for Video 	<ul style="list-style-type: none"> ● Video Editing Techniques ● Visual Effects and Animation
3D Modeling and Animation Production	<ul style="list-style-type: none"> ● Visualization and Rendering ● Texturing and Lighting 	<ul style="list-style-type: none"> ● Digital Sculpting ● 3D Modeling
Interactive Media Design and Production	<ul style="list-style-type: none"> ● Multimedia communication ● Multimedia Production 	<ul style="list-style-type: none"> ● Software architecture ● Web and Mobile App Development
User Experience Design and Interface (UI/UX)	<ul style="list-style-type: none"> ● Software Development Methodology ● Usability Testing and Evaluation 	<ul style="list-style-type: none"> ● Sensor Network ● Information Architecture
AI-Based Computer Graphics and VFX	<ul style="list-style-type: none"> ● Computer Graphics ● Visual Effects Production 	<ul style="list-style-type: none"> ● Machine Learning for Computer Vision ● Deep Learning for Image Processing
AI-Enhanced VR/AR Content	<ul style="list-style-type: none"> ● AI Integration in Virtual Environments ● Machine Learning for Immersive Experiences 	<ul style="list-style-type: none"> ● Advanced XR Content Analytics ● Augmented Reality Programming
Holography Technology and Production	<ul style="list-style-type: none"> ● Holography theory ● Geometric Optics 	<ul style="list-style-type: none"> ● Fourier Optics ● Wave Optics
Content Marketing and Management	<ul style="list-style-type: none"> ● Interactive Marketing in Virtual Environments ● Immersive Content Strategy 	<ul style="list-style-type: none"> ● Principles of Marketing ● Analytics and Measurement in Immersive Marketing