

Dept. of Convergence Design & Technology

This department was established to take on researching and developing a fashionable smart fashion offering customized service according to the purposes of users through a "differentiation" strategy instead of a "me-too" strategy in the wearable device form whose sales had been limited to ancillary smartphone products. The goal of the department is to develop a flexible electronics-based module system and smart fashion platform that would allow users to choose a specialized module for each function according to their purposes, attach and detach it, and reorganize it.

□ **Convergence Design Major Course**

Convergence Design Major aims to cultivate professional manpower for convergence design to propose the methodology and criticism, seeking for a new design based on basic design principles and engineering (electronic engineering, computer science, and materials science). That is to say, we produce high-quality human resources of academic field with both theoretical basis and realistic sense of design and promote development of convergence design.

□ **Convergence Electronic, Materials, and Computer Science Major Course**

Convergence Electronic, Materials, Computer Science Major aims to cultivate professional manpower for convergence between engineering and design to propose the methodology and criticism, seeking for a new engineering design based on basic design principles and engineering (electronic engineering, computer science, and materials science). For the purpose, this program provides the basic understanding of engineering principles and industrial design which lead to creation of design and devices for smart fashion. It also offers the research experience and course work required for convergence between engineering and design.

□ **Courses**

□ **Core Courses**

· **Convergence research (3)**

Graduate students are doing research on modular smart fashion in terms of convergence, which consists of design, engineering, and marketing. Students are urged to pursue an research and scientific writing with the guidance of faculty members.

· **Convergence technology seminar (3)**

Several experts in various areas such as electronic engineering, computer engineering, materials science and engineering, fashion design, industrial design will

give lectures in convergence technology's point of view. Students will study basics and applied knowledges on various fields.

- **Convergence technology and management (3)**

This lecture is composed of three parts. First part is to introduce typology of technology management, and basic concept and characteristics of technology innovation. Second part introduces strategic management of innovation process such as]managing R&D teams, projects, and organizations, based on theories of technological innovation. The last part includes cases and issues associated with technology management, e.g. R&D management, new product development, high tech marketing, and management of innovation output.

- **Convergence Design Major Course**

- **Emotional design trend research (3)**

It is a convergence project course designed to predict trends in the future society, write a future scenario based on them, and propose creative ideas about smart fashion products and services through multidisciplinary convergence.

- **Design and technology seminar (3)**

This course will focus on industrial design related to the analysis and principles of human emotional signal. Students will study the basic concept of emotional design, sensitivity measurement method, and human signal analysis.

- **Fashionology convergence project (3)**

It focuses on convergence researches to investigate design, technology, and market strategies and develop prototypes through the development of creative user-centric content on the topic of smart fashion.

- **Convergence Electronic, Materials, and Computer Science Major Course**

- **Advanced open source software (3)**

Advanced Open Source Software is a subject dealing with definition, concept, and properties of open source software. It generally uses the principles of the open source, and practices in the community of open source software using the self-developed software. Through advanced open source software, students learn that source code which is developed in a collaborative public manner provides the rights to study, change, and distribute the software to anyone and for any purpose.

- **Open source hardware architecture (3)**

Open source hardware architecture is a subject dealing with definition, concept, and

properties of open source hardware. It generally uses the principles of the open source, and practices in the community of open source hardware.

- **Networks and application (3)**

Students will understand the basic concept of network and study state-of-the-art network research areas such as next-generation wireless networks, next-generation IMS, SDR, cognitive radio networks, and cross-layer optimization methods.

- **Advanced multimedia (3)**

Advanced Multimedia lays the foundation for graduate students to build multimedia computing applications comprising images, video, and audio. The module covers the important multimedia computing methods by presenting comprehensive coverage of the underlying content processing, content transformation and resource optimization techniques in a variety of systems.

- **Interactive smart materials (3)**

In this course, graduate students will study the principles and application of interactive smart materials. Students will also research materials for smart fashion applications.

- **Convergence materials technology (3)**

In this course, graduate students will study the principles and application of interactive smart materials. Students will also research materials for smart fashion applications.

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