

## Art & Technology 전공

구분	과목명	과목설명
전공필수 (Foundation in Creativity)	Intro to Art & Technology	This course introduces students the history of media technology and its relationship to the emergence of a new form in arts. Students will understand how the specificities of media are varied depending on the methods to record, process, transmit and manage information. This will lead to the knowledge of what is the newness in new media and help students to understand the overall structure of art and technology studies.
	Humanities & Creativity	During the previous century, the production of culture became dominated by professional elite producers. But today, a vast array of people are making and sharing their own ideas, videos and other creative material online, as well as engaging in real-world craft, art projects and hands-on experiences. We can see a growing engagement with a 'making and doing' culture. This orientation rejects the passivity of the 'sit back' model, and seeks opportunities for creativity. Therefore, this course is designed to get chances for creativity which is completely based on liberal arts.
	Intro to Digital Arts	This course introduces students develop basic skills to convey and articulate complex and abstract ideas and personal expression into digital visual forms. Students will learn the digital visual expressions that is basic skills in digital creations through lectures, hands-on practice, and group critique. During the class, they will explore different materials, techniques, and themes, grounded in detailed observation and free imagination. For the final project, students will be encouraged to apply further contemporary experimentation responding to his/her own style.
	Intro to Creative Computing	In this course, students will be introduced to using a computer as a creative medium. Students will learn how to use a computer for visual arts and designs. Topics include how to program images, animation, and interactivity. Fundamentals of computer programming (variables, repetition, functions, selection, object-oriented programming, etc.) will be taught. This course will use Processing and JavaScript as main programming languages. Students will be asked to make a creative application as final project.

	<b>Creative Capstone Project I</b>	This is part I of two semester-long creative capstone graduation projects. The aims of this course is to develop creative content, product, or service that has high degree of completion, meets sensitivity of consumers, and improves value of one's life. Each project group chooses a project that is proposed by institutions, companies, or students themselves. And they should perform overall process containing planning, design, production, and marketing. The final outcome will be shown to publics in the form of exhibition, performance and others.
	<b>Creative Capstone Project II</b>	This course is part II of two-semester long graduation projects to develop creative content, product, or service that has high degree of completion, meets sensitivity of consumers, and improves the value of one's life. Each project group chooses a project that is proposed by companies, institutions, or students themselves. Students have to perform overall processes of planning, design, and production. The final outcome will be shown to publics in the form of exhibition, performance, or others.
전공선택 Foundation in Creation	<b>Modern &amp; Contemporary Art</b>	This course offers students the opportunity to explore, in depth, the history of art from ancient times to modern and contemporary art, ranging from paintings to photographs as theoretical foundation. It also provides insights about artistic expression and art techniques, art periods and styles and issues/ themes that connect these artworks. Writing skill is important in the description, analysis, and comparison of these works as ways of critics through the semester. In addition, students can have a chance for self-expression in various artistic forms as well as group project.
	<b>Content Planning, Development, &amp; Business</b>	This course is designed to enhance student's integrated perspective on arts, humanities and technologies. It provides insights about methodologies for planning and developing digital contents and mobile & interactive technologies. In addition, this course is also designed to enhance students' understanding on digital content management & marketing & business of products and services. The students can learn key issues involved in the successful marketing strategies in digital contents. The course is intended to help you become effective content planners and managers.
	<b>Digital Fabrication</b>	This course introduces the fundamental digital fabrication skills that enable students to create tangible prototypes. Students can learn through building creative projects

		using Arduino with useful electronic components, sensors and actuators for bringing their creative ideas to the real tangible working prototypes. Furthermore the students also can learn about how to translate of digital designs into physical objects using computer-controlled machine such as 3D printer, laser cutter, PCB router for the fast prototyping designs of circuit, case design and mechanical structure.
	<b>Intro to Sonic Art</b>	This course investigates the artistic practices to utilize sound as materials. The topics are voice, improvisational performance, spatial structure, specific place, instrument, recording, sampling and mixing, and album and distribution. Students will examine the contemporary practices to produce sound on an alternative way and to traverse the boundary between temporal and spatial arts.
	<b>Visual Design</b>	This design fundamental course introduces ideas, methodologies, principles, and skills that comprise a common knowledge base important to all design disciplines. These fundamentals including color, shape, texture, space, form, balance, hierarchy, etc foster a multidisciplinary design experience among students and prepare them to move to the next level.
	<b>Spatial Dynamics</b>	Spatial dynamics is an art studio class which explores objects in space, and spaces of objects, in terms of formations, functions and temporal relations. Students will learn through lectures, hands-on practice, and group critique, developing an understanding of material capacities and core principles in the construction of form and structure, using paper, clay, and other basic plaster materials. Working as individuals or in groups, while taking an interdisciplinary stance bridging roles of artist, designer, and engineer, students will define theoretical and creative challenges found in nature and art to produce three-dimensional artworks integrating object and space, time and space, and form and function.
	<b>Intro to Web Development</b>	Web is the most popular interactive medium and evolving into a universal medium for communication, computing, and creative expression. In this course, students will be introduced to fundamental modern web technologies - HTML5, CSS3, and JavaScript - to develop creative content and service on the web through

		programming interactivity. Students will learn how to build all the fundamental parts that run within a web browser (front-end web development). Students will also learn history of web technologies, current standards, and techniques & tools for web development.
	<b>Creative Algorithms</b>	This course introduces students to fundamental computer algorithms for creative applications. This course comprises two parts. In the first part, wide range of creative algorithms will be introduced in five themes: Repetition, Parameterization, Transform, Visualization, and Simulation. Specific topics include Generative Design, Recursion, L-System, Slit-scanning, Trans-Coding, Data Visualization, Particle System, Genetic Algorithms, Cellular Automata, etc. The second part of the course focuses on machine learning algorithms for creative applications. Students will learn computational processes of various machine learning algorithms such as k-NN, Decision Tree, Neural Networks, SVM, Linear/polynomial Regression, etc. Through hands-on workshops, they will learn how to apply the various algorithms for creative applications in practice. In the course, Processing is used as a main programming language.
	<b>Sound Design</b>	The course is divided into four main parts which provide accumulative knowledge for understanding and using digital audio in a variety of settings. A brief introduction to music composition in theory and practice begins course followed by an brief overview of film music composition in theory and practice. The focus is then shifted to the designing of electronic sounds. Practical examples and exercises for live performance and museum interaction practices provide a hands-on method for learning. An easily understandable theoretical and practical introduction to the MIDI language and its use for the control of synthesizers and samplers is included. The course concludes with an exploration of 8 bit Game Music and works toward gaining a practical understanding or composing game music. Prerequisite: ANT2011 Intro to Sound or equivalent.
	<b>Visual Story</b>	This course will be explored how to make content and form. This class is mainly designed to make short films such as fiction, documentary, animation, video arts

		and diverse media arts. Therefore, each student will make a short film for his/her own final project. Filmmaking is totally based on how to discover creative idea and develop it for a good story telling. This is called “content” as a screenplay. Students will be experienced how to discover great ideas and develop original stories throughout this course. Finally, students will carry their own story in film production as well as learn about what cinema language is through the short film production.
	<b>Foundation Seminar</b>	This foundation seminar course is to set foundations to build a successful career in creative industries. Topics covered include project managements, proposal writing, portfolio making, idea generation methods, communication skills, entrepreneurship, finance fundamentals, start-up founding process, etc.
	<b>Intro to Storytelling</b>	This is an introductory course to storytelling. Students will explore origins of narratives through the western and east asian myth including Korean folk stories. Students will learn how to make a new story based on the narrative principles and techniques.
	<b>Experimental Media</b>	In this course, students will explore to decompose the technological foundation and social convention of the production and projection of moving images into basic elements and to reorganize them in an experimental manner. This course will examine historical and current cases to combine projection and the language of arts, and encourage students to try to produce a new form of projection in media performance and installation.
	<b>Cinema Literacy</b>	Basically, this course is going to be detailed analysis of several theatrical films from conception through critical reception to develop an understanding of cinema as art, craft, and industry. More specifically, the course studies the anatomy of a film by examining a major current release with guest speakers involved in the making of the production such as film directors, producers, cinematographers and writers. The class covers the gamut of the Korean film business, from story concept to film exhibition. Guest speakers and lectures discuss and cover the role of the writer, agent, studio executive, producer, director, as well as address the topics of marketing, publicity and distribution.

	<b>3D Modeling Studio</b>	This course focuses on 3D character design and modeling for animation, game, and other 3D applications. Students will be introduced to character design and modeling methods such as modeling with primitives, NURBS, polygons and subdivision surfaces. Design methods for 3D printers will be introduced as well.
	<b>UI/UX Design</b>	This course provides a comprehensive overview of the user interface and user experience design process, and is intended to familiarize students with the concepts and techniques necessary to make user interface and user experience design an integral part of developing media interfaces. The course provides students with an opportunity to acquire the skills and hands-on experience they need to design, develop, and evaluate media interfaces from a user-centered design perspective.
전공선택 Specialization in Creation	<b>Computer Graphics</b>	In the course, students will learn the fundamental concepts and techniques of computer graphics. Topics include geometries, transform, camera, light, texture, shader programming, and animation. At the end of the semester, students will develop a creative interactive 3D computer graphics applications (interactive art, visualization, games, etc.). Processing, WebGL, and GLSL will be used for programming.
	<b>Web Studio</b>	In this course students learn how to construct a web site from the ground up, including site planning, concept design, HTML5, Javascript, CSS, optimization, and publishing. The course will focus on back-end programming of web and the students will learn how to handle web frameworks during the course. Graphic development tools are used to turn ideas into fully functional web sites. Students will also learn how to evaluate site usability. Prerequisite: ANT2010 or ANT2017 at least one programming course.
	<b>Live Performance Studio</b>	In this course, students will build up the ability to plan and produce creative live performance of “digilog” form blending existing analog arts and digital technology. Students will be encouraged to seek out new form of performance using new digital technologies. Production is developed and performed as a group project. The course will end with public performance shows.

	<b>Media Arts Studio</b>	This course focuses on using new digital media as a means of creating artwork. The course is designed to allow students to use new digital media as a means of creating alternative ways of communicating. Students will study contemporary artists and their unique approaches to communication using new media in a fine art capacity. They will plan and execute individual media art projects using various new media tools such as MAX, vvvv, etc.
	<b>Game Studio</b>	Game studio I is an introductory game development course. Students will gain experience with popular game engines working in teams on a series of game development project cycles. Students work alongside an instructor to implement a game from concept to delivery on a device (mobile, PC, etc.). Prerequisite: ANT2010 or at least one programming course.
	<b>3D Animation Studio</b>	3D Animation studio I is part I of two-semester long 3D animation studio course introducing students to 3D animation as a means of creative expression and experimentation. It covers principles of motion, staging and editing action, rigging, morphing, camera, lighting, inverse kinematics, etc. Prerequisite: ANT3012 3D modeling studio or equivalents.
	<b>Storytelling Workshop</b>	A Creative Visual Story is an artistic activity unlike any other. It requires embracing and turning to advantage two core contradictions that pull you in opposite directions. Unlike art forms such as poetry or painting that can be created by an individual working in isolation, visual stories, especially, films are at once personal modes of expression and acts of community building- a complex interlacing of inspired leadership and social engineering. Therefore, throughout this course, students will explore individual working and collaborative art performances as well. To tell a compelling and memorable visual story, a director or a visual artist must have clarity of vision but at the same time must be able to communicate that vision to a team of talented professionals, all of whom are visionaries in their areas of specialization.
	<b>VFX Studio</b>	This course provides fundamental principles and techniques for visual effects with hands-on experiences. Topics that students will learn include location consideration, green screen filming, HDRI lighting capture, matchmoving, rotoscoping, compositing,

		color correction, etc. In a final project, students will be required to design and produce a short film demonstrating all the visual effects skill.
	<b>Physical Computing Studio</b>	In this course, students will learn how to design and build interactive systems using software and hardware that can sense and respond to the physical world. C++, OpenFrameworks and Arduino are used as main tools with various sensors, actuators and computers. Students will work on a variety of physical computing projects that need multidisciplinary skills in hardware, software, fabrication and design. Prerequisites: ANT20XX (Fundamentals of Programming and Problem Solving)
	<b>Mobile Studio</b>	In this course, students will learn the principles and techniques for mobile application design and development. Topics will include user interface design & prototyping; input methods; data handling; network techniques; GPS and motion sensing, etc. Course work will include project conception, design, implementation, and pilot testing of mobile software applications. Prerequisites: ANT2010 or at least one programming course.
	<b>Immersive Media Studio</b>	This course provides students with principles and techniques for immersive media design and development. Students will be introduced to history of immersive media, theory on immersion, technologies and designs for immersion. Storytelling in immersive media will be emphasized and students will learn by doing a series of immersive media projects. Prerequisites: ANT3009 or equivalents
	<b>Internship</b>	This internship course is designed to provide students with professional experience in creative industries. Students are expected to work for at least 4 weeks as a full-time in a company or institution.
	<b>Visual Perception &amp; Artificial Vision</b>	This course introduces fundamental principles of visual perception and computer vision. Topics include image formation, eye/camera imaging geometry, feature detection and matching, stereo and motion estimation and tracking, object recognition and deep learning with neural networks. We will develop the intuitions and mathematics in class, and then learn about the difference between theory and practice in projects. Prerequisites: ANT20XX (Fundamentals of Programming and



		Problem Solving)
	<b>Data Structure</b>	<p>In this course, students will learn basic principles and methods of organizing data. Data structures are crucial elements in all problem-solving and AI programs. All softwares are hiding data structures within them. The purpose of the course is more than technical. By enabling the students to understand the hidden structures in softwares, this course makes the students no longer feel mysterious about how softwares work and not feel threatened by any new software. The students will write simple programs to construct and manipulate data structures in order understand what each kind of data structure is about. Grasping data structures will make students learn existing programs fast and well. Prerequisite: Prerequisite: Fundamentals of Programming and Problem Solving, Introduction to Creative Computing.</p>