Engineering
Engineering

Department of
Chemical Engineering

Our department offers a broad range of educational and research activities that meet the recent technological challenges. Current challenges are emerging in the complex forms that demand intricate blending of traditional chemical engineering and materials science as well as careful consideration of the environmental and economical requirements. In such a challenging era, our department is strategically positioned to create new knowledge and educate leaders for the society by investigating diverse research projects including polymer engineering, reaction engineering, emulsion materials, advanced process control, novel materials processing, biochemical engineering, water treatment, catalysis & air pollution control, next generation energy materials, and bioinspired & biomimetic materials.

AREAS OF SPECIALIZATION

→ MS in Chemical Engineering,
    Ph.D in Chemical Engineering.

The goal is to educate high-quality experts and mid-level managers with excellent capabilities in the area of Chemical Engineering under the educational motto of Soongsil University, "Truth and Service".

→ MS in Beauty Science and Technology,
    Ph.D in Beauty Science and Technology.

The goal of the Department of Beauty Engineering is to educate high-quality experts and mid-level managers with excellent capabilities in the area of Beauty Engineering under the educational motto of Soongsil University, "Truth and Service".

PROGRAM OF STUDY

Teaching is accomplished by a variety of lectures, seminars, and term projects. Assessment is done by written examination, assessed coursework, presentation, term projects, and a dissertation. The final grade is awarded by evaluating various modules. To become Master candidates or Ph.D candidates, he/her should pass the Qualifying examination.

CONTACT INFORMATION

Department of Chemical Engineering
TEL : 82-2-820-0610
FAX : 82-2-812-5378
E-mail : chemical@ssu.ac.kr
Website : http://chemeng.ssu.ac.kr

COURSES

Common Courses

21603495	Special Topics in Chemical Engineering
21603496	Advanced Reaction Engineering
21603497	Advanced Chemical Engineering Thermodynamics
21603498	Advanced Industrial Inorganic Chemistry
21603499	Advanced Industrial Organic Chemistry
21603500	Advanced Chemical Engineering Mathmatics
21603501	Advanced Environmental Engineering
21603503	Advanced Instrumental Analysis
21603565	Advanced Fine Particle Technology
21603511	Advanced Heat Transfer
21603512	Mass Transfer
21603513	Advanced Plant Design
21603518	Advanced Process Control
21603530	Advanced Biochemical Engineering
21603505	Nano Engineering
21603506	Renewable Energy Conversion Engineering
21603507	Display Engineering
50258890	Advanced Engineering Statistics
50375513	Biomimetic Principles and Design

Department of Chemical Engineering

Chemical Engineering

21603504	Catalyst Engineering
21603508	Advanced Process Design
21603510	Powder Engineering
21603515	Rheology
21603524	Advanced Transfort Phenomena
21603519	Fluifization Engineering
21603520	Advanced Equipment Design
21603521	Advanced Separation Process
21603522	Advanced Process System Engineering
21603523	Process Optimizion
21603526	Advanced Petrochemical Engineering
21603528	Special Topics in Acid and Alkali Industries
21603525	Advanced Polymer Synthesis
21603531	Polymer Process Engineering
21603532	Advanced Engineering Inorganic Materials Engineering
21603534	Process Engineering
21603535	Engineering Organic Materials Engineering
21603536	Topics on Polymer Reaction
21603537	Structure and Properties of Polymer
21603539	Advanced Applied Interface Chemistry
21603540	Polymer Blend and Composite
21603541	Polymer Processing
21603542	Advanced Polymeric Engineering
21603543	Topics on Fine Chemicals
21603544	Waste Water Treatment Engineering
21603545	Water Control
21603547	Air Pollution Engineering
21603549	Environmental Sampling & Analysis
21603550	Law and Regulations on Environment
21603551	Environmental Impact Assessment Engineering
21603552	Water Chemistry
21603554	Pollution Abatement From Underground Water and Soil
21603555	Advanced Bioprocess Engineering
21603556	Microbiological Engineering
21603557	Enzymatic Engineering
21603558	Bioseparation Processes
21603560	Reactor Analysis and Design

21603561	Drinking water treatment
21603562	Functional Polymer
21603563	Electronic Polymer
21603564	Semiconductor Environmental Engineering
21603566	Energy Devices
50127681	Energy Engineering
50229147	Industry Seminar, Practical Training, and Internship I
50230989	Introduction to Greenhouse Gases and Climate Change
50249301	Secondary Battery Engineering
50258892	Introduction to Electrochemical Engineering
50258894	Materials Science for Advanced Energy Applications
50258896	Fuel Cells: Fundamnentals to Design
50258899	Advanced Energy Devices
50258901	Industry Seminar, Practical Training, and Internship II
50276653	Advanced Physical Chemistry for Materials
50291582	Biomolecular Engineering
50300557	Semiconductor Electrochemistry
50348402	Advanced Nanomaterials Engineering
50348404	Advanced Chemical Engineering computation

Beauty science and Technology

21603571	Special Course of Beauty Engineering
21603572	Advanced Cosmetology
21603573	Science of Novel Natural Materials
21603574	Advanced Functional Cosmetology
21603575	Advanced Color Cosmetology
21603576	Prevention of Aging and Natural Anti-oxidative Agents
21603577	Advanced Dermatology
21603578	Beauty Theraphy and Nutrition
21603579	Advanced Beauty Theraphy
21603580	Clinical Study
21603581	Alternative Medicine
21603567	Body Contour
21603568	Skin Aging
21603569	Human Anotomy
21603570	Immunology
21603582	Seminar
50258903	Beauty Neuroscience

Department of Chemical Engineering

50258905	Study of Obesity
50258907	Medical skin care
50258910	Muscle Physiology
50258912	Skin Analysis
50258914	Trichology & Scalp Care
50258916	Hair coloring clinical research
50258919	Hair Styile modeling
50258922	Trichology Analysis and Practice
50258925	Total coordination
50258928	Cosmetology Color studies
50258930	Theory of Nail & Make-up
50258933	Beauty Stoichiometry
50258935	Special Make-up

DEPARTMENTAL REQUIREMENTS

Master Course

1st Semester	: 3 courses in a specialized field
2nd Semester	: 3 courses in a specialized field
3rd Semester	: 2 courses in a specialized filed, Qualifying Exam
4th Semester	: Dissertation

MEMBERS OF FACULTY

Name	Position	Degree	Major	E-mail
Lee, Sang-Won	Professor	Ph.D. (SNU)	Polymer Engineering	lswon@ssu.ac.kr
Kim, Byung-Jick	Professor	Ph.D. (Auburn Univ.)	Process Systems Engineering	bjkim@ssu.ac.kr
Huh, Wan-Soo	Professor	Ph.D. (Univ. of Connecticut)	Polymer Material	wshuh@ssu.ac.kr
Ryu, Hee-Wook	Professor	Ph.D. (KAIST)	Biochemical Engineering	hwryu@ssu.ac.kr
Hong, Seong-Ho	Professor	Ph.D. (Univ. of Cincinnati)	Environmental Engineering	shong@ssu.ac.kr
Kwon, Heock-Hoi	Professor	Ph.D. (Univ. of Michigan)	Catalysis and Air Pollution Prevention	hkwon@ssu.ac.kr
Park, Kyung-Won	Professor	Ph.D. (GIST)	Materials Science and Material	kwpark@ssu.ac.kr,
Kim, Il-won	Associate Professor	Ph.D. (Univ. of Michigan)	Crystallization	iwkim@ssu.ac.kr
Kim, Yun-Gon	Assistant Professor	Ph.D. (Seoul Nat. Univ.)	Biochemica Engineering	ygkim@ssu.ac.kr
Kang, Moon-Sung	Assistant Professor	Ph.D. (Univ. of Minnesora)	Naomaterials	mskang@ssu.ac.kr
Jeong, Jae-Hyun	Assistant Professor	Ph.D. (KAIST)	Nano-Bioengineering	nfejjh@ssu.ac.kr
Lim, Taeho	Assistant Professor	Ph.D. (SNU)	Metal interconnection	taeholim@ssu.ac.kr
Nam, Young-Woo	Emeritus Professor	Ph.D. (SNU)	Reaction Engineering	ywnam@ssu.ac.kr
Zhoh, Choon-Koo	Emeritus Professor	Ph.D. (Soongsil Univ.)	Rheology	ckzhoh@ssu.ac.kr

Department of Organic Materials and Fiber Engineering

Organic Materials plays a key role in many industrial areas and interests in Fiber Engineering have been thrived recently. Our department has a vision to raise qualified scientists and engineers in such areas with fundamental understanding, knowledges about advanced practical applications, and global leadership through education and innovative research.

AREAS OF SPECIALIZATION

- MS in Organic Materials and Fiber Engineering
- Ph.D in Organic Materials and Fiber Engineering
-Organic Materials
-Fiber Engineering

PROGRAM OF STUDY

Program is available in a variety of lectures and seminars. Assessment is done by written examination, evaluated courseworks, presentation, and dissertation.

CONTACT INFORMATION

Department of Organic Materials and Fiber Engineering
TEL : 82-2-820-0620
FAX : 82-2-817-8346
E-mail : materials@ssu.ac.kr
Website : http://materials.ssu.ac.kr/

COURSES

21603613	Advanced Textile Physics
21603617	Physical Chemistry off Polymers
21603662	Advanced Mechanics of Materials
21603663	Applied Statistics for Textile
21603621	Transportation Phenomena
21603622	Fiber Formation
21603664	Process Control
21603624	Fashion Retailing Management
21603626	Fashion Marketing Channel
21603660	Natural Organic Materials
21603628	Advanced Instrumental Analysis I
21603629	Physical Properties of Polymers
21603665	Structure and Properties of Fibers
21603631	Polymer Physics
21603632	Carbon Nanocomposites
21603634	Atomic and Molecular Structure of Materials
21603666	Fibrous Assembly Engineering
21603667	Nonwoven Technology
21603668	Analysis of Variation
21603669	Polymer Composite
21603646	Yarn Structure Mechanics
21605407	Advanced Textile Measurement
21603670	Special Topics in Fiber Engineering
21603650	Advanced Fashion Marketing
21603651	Research Methods in Textile Fashion
21603652	Special Topic of the Fashion industry
21603653	Supply Chain Management in Fashion Business
21603671	Apparel Management Planning
21603655	Visual Merchandising
21603656	Consumer Behavior of Fashion
21603657	Ergonomic Product Design
21603658	Reliability Engineering
21603681	Physical Chemistry of Dyeing Phenomena
21603683	Chemical Analysis of Organic Materials
21603672	Modification of Organic Materials
21603673	High Performance Organic Materials

21603674	Functional Organic Materials
21603675	Polymer Synthesis
21603708	Experimental Methods off Organic Materials
21603693	Theory of Dyeing
21603694	Chemistry of Organic Colorants
21603676	Color Science and Engineering
21603677	Functional Finishing of Textiles
50059341	Interfacial Phenomena of Textiles
21603698	Textile Engineering and Environment
21603661	Special Topics in Organic Materials
21603701	Recent Trends in Research and Development of Textiles
21603702	Advanced Organic Chemistry for Polymers
21603633	Organic Materials For Electronic Application
21603703	Surface Functionalization of Materials
21603704	Advanced Organic Chemistry
21603705	Rheology of Polymeric Fluids
21603706	Advanced Polymers Processing
21603707	Crystallization of Polymers
21603708	Experimental Methods of Organic Materials
21603710	Conductive Polymers
50084103	Organic Semiconductor Properties and Devices I
50084104	Organic Semiconductor Properties and Devices II
50264373	Supramolecular chemistry
50299175	Organic Materials for Second Battery
50299176	Soft Nanomaterials and Devices
50299177	Industry Seminar, Practical Training, and Internship III
50315544	Evaluation of Textile Products
50316028	ICT Embedded Electronic Textiles
50322063	Advanced Nano−Biomaterials
50326951	Engineering Plastic

DEPARTMENTAL REQUIREMENTS

1st Semester	: three courses
2nd Semester	: three courses
3rd Semester	: two courses and qualifying examination
4th Semester	: M.S. Thesis or Ph.D. Dissertation

MEMBERS OF FACULTY

Name	Position	Degree	Major	E-mail
Young Ho Kim	Professor	Ph.D. (Seoul National University)	Functional Organic Materials, Textile Finishing	ssyhkim@ssu.ac.kr
Hyun-Joo Shim	Professor	Ph.D. (North Carolina State University)	Nonwoven Processing, High Performance Nonwoven Filter	hjshim@ssu.ac.kr
Cheol-Jae Hong	Professor	Ph.D. (North Carolina State University)	Health and Safety, Fabric Design	cjhong@ssu.ac.kr
Hyung-Min Choi	Professor	Ph.D. (University of Maryland at College Park.)	Modification and Analyses of Organic Materials, Natural Fibrous Materials,	hchoi@ssu.ac.kr
Sang-Moo Shin	Professor	Ph.D. (University of Texas at Austin)	Fashion Marketing, Apparel Production Management	smshin@ssu.ac.kr
Youngjin Jeong	Professor	Ph.D. (Seoul National University)	Polymer Nano Composites	yjeong@ssu.ac.kr
Joo-Yong Kim	Professor	Ph.D. (North Carolina State University)	Nanoelectronics materials	jykim@ssu.ac.kr
Young-Je Kwark	Professor	Ph.D. (University of Massachusetts Amherst)	Polymer Synthesis, Nanohybrid Materials	ykwark@ssu.ac.kr
Seung Hyun Cho	Associate Professor	Ph.D. (University of Florida)	Polymeric Materials, Polymer Synthesis, Liquid Crystalline Thermoset	scho@ssu.ac.kr
Jae Woo Chung	Assistant Professor	Ph.D. (Seoul National University)	Supramolecular Chemistry, Organic Materials Structure-Property Relationship	jwchung@ssu.ac.kr
Park Jin Hui	Assistant Professor	Ph.D. (Ewha Womans Univ.)	Fashion Technology & Ergonomics	jinny31@ssu.ac.kr
Oh Hui Geong	Assistant Professor	Ph.D. (Bunka Gakuen Univ.)	Environmental Clothing studies, Clothing Construction	ohk@ssu.ac.kr
Kwang Bae Lee	Emeritus Professor	Ph.D. (Kyung Hee University)	Textile Physics, Textile Materials	--
Hyeon-Tae Cho	Emeritus Professor	Ph.D. (Seoul National University)	Synthetic Fibrous Materials, Color Science & Engineering, Dyeing Chemistry	choht@ssu.ac.kr

Department of Electronic Engineering

- The competitive national reputation;
- Extensive research programs from which most students are financially supported.
- Excellent and various academic fields.
- MS and Ph.D courses which are exciting and academically challenging.

AREAS OF SPECIALIZATION

• MS in Electronic Engineering

• Ph.D in Electronic Engineering

In the Department of Electronic Engineering, we focus on training graduate students to become competent in their future workplace. Master candidates will learn up-to-date knowledge in their major fields. Ph.D candidates will perform leading researches which have an influence on modern information technology.

PROGRAM OF STUDY

Teaching is by a variety of lectures, seminars, and term projects. Assessment is by written examination, assessed coursework, presentation, term projects, and a dissertation. The final grade is awarded by evaluating various modules. To become Master candidates or Ph.D candidates, He/her should pass the Qualifying examination.

CONTACT INFORMATION

Department of Electronic Engineering
TEL : 82-2-820-0900
FAX : 82-2-821-7653
E-mail : inforcom@ssu.ac.kr
Website : http://infocom.ssu.ac.kr

COURSES

Communications and Signal Processing

21603755	Signal and Systems
21603757	Probability and Statistics
21603768	Linear System Theory
21603771	Information Theory
21603772	Communication System
21603774	Signal Exchange Systems
21603775	Special Topics in Communication Circuit Analysis
21603779	Source Coding and Decoding
21603780	Digital Signal Processing
21603781	Knowledge Information Processing Systems
21603782	System Modeling and Simulation
21603832	Analysis of Digital Systems
21603784	Speech Information Processing
21603785	Special Topics in Digital Signal Processing
21603786	Biomedical Electronics
21603788	Image Information Comprehension
21603789	Design and Application of Fuzzy and Neural Computer
21603794	Analog Communications
21603795	Digital Communications
21603796	Channel Coding Theory
21603797	Spread Spectrum Communication System
21603798	Audio Coding
21603801	mage Coding
21603803	Code Division Multiple Access Systems
21603804	Multimedia Communications
21603805	Speech Communications
21603806	Exchange Systems
21603807	Speech Synthesis Techniques
21603808	Electronic Exchange Systems
21603809	Realistic Telecommunications
21603810	Speech Compress Coding
21603811	Multimodal Communications
21603812	Sound Effect Systems
21603813	Automatic Translation Systems
21603814	Ultrasonic Communication Systems

21603815	Underwater Acoustic Signal Processing
21603816	Navigating Communications
21603817	Satellite Communication Theory
21603818	Probability, Statistics and Random Signal Analysis
21603819	Communication Theory
21603820	Signal Transmission Techniques in Mobile Communications
21603821	Mobile Communication System
21603822	Satellite Transponder
21603823	Estimation and Detection Theory
21603824	Time Series Analysis
21603825	Communication Signal Processing
21603826	Nonlinear Signal Processing
21603827	Stochastic Signal Processing
21603828	Array Signal Processing
21603829	Sub-band Coding & Signal Processing
21603830	New-Media Communications
21603834	Special Topics in Mobile Communication Systems
21603835	Special Topics in Underwater Acoustic Communication
21603836	Underwater Acoustic Communication and Signal Processing
21603837	Orthogonal Frequency Division Multiplexing Systems
21603838	Advanced Modulation and Demodulation Technology
21603939	Detection Estimation and Filtering
21603940	Adaptive Filter Theory
21603941	Optimization Theory
50235693	Radar Signal Processing
50270980	SAR signal Processing
50270997	SAR signal processing
50274934	Vehicle Communication Technologies
50325889	Smart Grids

Devices and Integrated Circuits

21603841	Analog Integrated Circuit Design
21603842	Digital Integrated Circuit Design
21603843	Advanced Integrated Circuit Design
21603844	VLSI Design
21603845	Special Topics in Physical Electronics
21603846	Integrated Circuit Fabrication Process
21603847	Special Topics in Semiconductor Devices

21603848	Special Topics in Integrated Circuits
21603850	Microwave Semiconductor Devices
21603851	Semiconductor Device Modeling
21603855	Special Topics in Magnetic Materials
21603858	Solid State Electronics
21603859	Device Electronics for Integrated Circuits
21603860	ASIC Design
21603861	Digital System Design
21603862	Semiconductor Devices 1
21603863	Semiconductor Devices 2
21603864	Optical Data Storage Engineering
21603865	Magnetic Materials
21603866	Magnetic Computer and Communication Devices
21603867	Magnetic Information Storage Engineering
21603868	Computer Data Storage Engineering
21603869	SoC Architecture
21603870	SoC Design Methodology
21603871	Design of Radio-Frequency Integrated Circuits
21603872	Design of Analog/Mixed Signal
21603873	Embedded System Design
21603874	IP Design and System Integration
21603875	Multimedia System Design
21603876	Full Custom Design
21603877	High Performance Memory Architecture Design
21603878	Communication System Design
21603879	Low Power System Design
21603833	Special Topics in Digital System Design
50235695	Flat Pannel Display Device and Technologies
50255562	Advanced Analog Integrated Circuits
50275564	MEMS Devices and Circuits
50270995	EMC design
50274938	Electronic system for next vehicle
50274939	Semiconductor design for Functional safety
50274940	High Reliable and security-supported OS
50274941	MCU design for Vehicle

Microwave and Lightwave

21503759	Electromagnetic Fields
21603880	Microwave Circuits
21603881	Radiation, Propagation and Scattering of Electromagnetic Waves
21603882	Analysis and Design of Antennas
21603883	Numerical Methods In Electromagnetics
21603884	Radar Systems
21603885	Computer Aided Design For Microwave Components
21603886	Special Topics in Microwave Technology
21603887	Special Topics in Antennas
21603888	Special Topics in CAD for Microwave and Millimeter-Wave Circuits
21603889	Special Topics in Electromagnetic Compatibility
21603890	Special Topics in Microwave Systems
21603891	Numerical Techniques for Microwave and Millimeter-Wave Passive Structures
21603892	Nonlinear Microwave circuits
21603893	Optical Electronics
21603895	Nonlinear Optics
21603896	Quantum Electronics
21603897	Optical Communication Systems
21603898	Fiber-Optic Networks
21603767	Techniques Against Electromagnetic Intereference
21603899	Optics
21603900	Special Topics in Electromagnetic Waves
21603901	Propagation Theory
21603902	Special Topics in Wireless Communications
21603903	Satellite Communication Systems
21603904	Numerical Techniques for Microwave
21603905	Semiconductor Laser Diodes
21603906	Nonlinear Fiber Optics
21603907	Fiber-Optic Sensors
21603908	Integrated Optics
21603909	Photonic Switching
21603910	Photonics
21603911	Special Topics in Optical Electronics
21603912	Special Topics in Optical Communication Systems
50255558	Fundamentals of Metamaterials
50255560	Wireless Power Transfer Engineering

Computer, Automation and Networks

21603787	Pattern Recognition
21603790	Data Communications
21603831	Queuing Theory and Application
21603793	Traffic Structures
21603799	Special Topics in Multimedia Technology
21603800	Multimedia System Design
21603840	Distributed Computing Systems
21603913	Introduction to Software
21603914	Operating Systems
21603916	Parallel Processing
21603917	Advanced Computer Architecture
21603918	Artificial Intelligence
21603919	Artificial Intelligence System Design
21603920	Expert Systems
21603921	Computer Networks
21603981	CAD/CAM
21603922	Robotics and Automatic Systems
21603923	Adaptive Control
21603924	Modern Control System Design and Application
21603925	Nonlinear Control Systems
21603926	Electronic Instrumentation and Design
21603927	Linear Feedback Control Systems
21603928	Optimal Control
21603929	Stochastic Control
21603930	Intelligence Control
21603931	Robot Sensor Design and Application
21603932	Computer Vision
21603933	Special Topics in Computer Vision
21603934	Special Topics in Pattern Recognition
21603935	Graph Theory and Application
21603936	Geometrical Modelling
21603937	Real-Time System Design and Analysis
21603938	Digital Control Systems
21603942	Special Topics in Real-Time Systems
21603943	Image Processing
21603944	Special Topics in Image Processing
21603945	Computer Graphics

Department of Electronic Engineering

21603946	Distributed Control Systems
21603769	Computer Architecture
21603947	Multimedia Information Retrieval
21603948	Special Topics in Multimedia Information Retrieval
21603949	Teleconferencing Systems
21603950	Special Topics In Information Communications
21603951	High Speed Communication Networks
21603952	Computer Network Design and Analysis
21603953	Network Programming
21603954	System Software Programming
21603955	Introduction to Compilers
21603956	Introduction to Database Systems
21603957	Information Retrieval
21603958	Multimedia User Interface
21603959	Medical Image Processing
21603960	Special Topics in Medical Image Processing
21603961	Protocol Engineering
21603962	Internetworking
21603963	Wireless Data Communications
21603964	Wireless Networks
21603965	Network Application Techniques
21603966	Network Security
21603967	Special Topics in Networks
21603968	Special Topics in Networks Analysis
21603969	Internet Networking Technology
21603970	Special Topics in Internet
21603971	Internet Computing Systems
21603972	Special Topics on Optical Network
21603973	Introduction to Information Security
21603974	Cryptography
21603975	Special Internet Security Technologies
21603976	Security for Wired and Wireless Internet
21603977	Mobile Computing System
21603978	Design and Implementation of Embedded Systems
21603979	Mobile Robot
21603980	Special Topics on Mobile Robot
21603839	Special Issues on Information Security
21603982	Standards on Information Security
21603983	Service and Policy on Information Security

21603984 Next Generation Mobile Communication Networks
21603985 Ubiquitous Networks
21603986 Next Generation Network Technology
21603987 Special Topics in Mobile/Wireless Networks
21603988 Special Topics in Multimodal Information Transformation Technology I
21603989 Special Topics in Multimodal Information Transformation Technology Ⅱ
21603990 Special Topics in Multimodal Information Transformation TechnologyⅢ
21603991 Internship
21603992 Life and Leisure Robot
50235697 IT Convergence Applications
50235698 IT Convergence Systems
50255566 Computational Photography
50255569 Introduction to 3D Computer Vision
50255571 Computational Computer Vision
50255573 Special Topics in HCI
50255575 Vision-based HCI
50255577 Mobile Programing
50255579 Understading and Practice of System and Network Hacking
50255581 Understanding Security ethics and Policy
50255583 Service Security
50255585 System Security
50255587 Mobile Security
50255589 Cloud Computing System Security
50255591 Security Architecture
50255593 Information Security Management System
50255595 Software Security Theory
50255597 Understanding and Implementations of Cryptography function
50255600 Privacy Security
50255602 Working-level Security Case Study
50270998 Special Topics in Embedded Software
50274936 Special Topics in Real-time Operating Systems
50274937 Special Topics in Real-time Software
50274942 Vehicular Network Technologies
50366476 Machine Learning and Artificial Intelligence
50366478 Deep Learning Network Design and Application
50366480 Malware Analysis
50366482 IoT Security
50376502 Introduction to Open Source
50376504 Open Source Design Basic

50376506	Infrastructure System Design
50376508	Technology and Marketing
50376510	Understanding and Practice of Network
50376512	Understanding and Practice of Cloud Computing
50376515	Understanding and Practice of Opoen Source
50376517	Understanding and Implementation of VNF Design
50376519	SDN/SFV Technology

DEPARTMENTAL REQUIREMENTS

Specialized Fields
- Communications and Signal Processing
- Devices and Integrated Circuits
- Microwaves and Lightwave
- Computer, Automation, and Networks

Master Course

1st Semester : 3 courses in a specialized field

2st Semester : 3 courses in a specialized field

3rd Semester : 2 courses in a specialized field, Qualifying Exam

4th Semester : At least 1 presentation in domestic or international conference, Dissertation

MEMBERS OF FACULTY

Name	Position	Degree	Major	E-mail
Bae, Myung-Jin	Professor	Ph.D. (Seoul National University)	Speech Communication Engineering; Mobile and Handheld Communication; Sound Engineering	mjbae@ssu.ac.kr
Kim, Boo-Gyoun	Professor	Ph.D. (Univ. of Southern California)	Electromagnetic (EM) wave application and Antenna	bgkim@e.ssu.ac.kr
Chung, Kyusik	Professor	Ph.D. (Univ. of Southern California)	Network Computing and Security	kchung@ssu.ac.kr
Chung, Sun-Tae	Professor	Ph.D. (Univ. of Michigan)	Embedded and Real-Time System	cst@ssu.ac.kr
Hahn, Hernsoo	Professor	Ph.D. (Univ. of Southern California)	Sensor Fusion ;Robot Vision	hahn@.ssu.ac.kr
Song, Inchae	Professor	Ph.D. (Univ. of California, Los Angeles)	Semiconductor Devices and Integrated Circuits	isong@ssu.ac.kr

Department of Electronic Engineering

Name	Position	Degree	Major	E-mail
Seo, Chulhun	Professor	Ph.D. (Seoul National University)	Wireless Communication and Energy Transfer	chulhun@.ssu.ac.kr
Kim, Young-Han	Professor	Ph.D. (KAIST)	Computer Network	younghak@ssu.ac.kr
Shin, Yoan	Professor	Ph.D. (Univ. of Texas at Austin)	Wireless Communications Systems and Communication Signal Processing	yashin@ssu.ac.kr
Lee, Chanho	Professor	Ph.D. (Univ. of California, Los Angeles)	Digital System Design	chlee@ssu.ac.kr
Lee, Won-Cheol	Professor	Ph.D. (Polytechnic Univ.)	Mobile Communication Systems; Digital Signal Processing	wlee@ssu.ac.kr
Im, Sungbin	Professor	Ph.D. (University of Texas at Austin)	Digital Communication Systems and Higher-Order Signal Processing	sbi@ssu.ac.kr
Lee, Jaejin	Professor	Ph.D. (Georgia Institute of Technology)	Telecommunication, Signal Processing for Storage Systems	zlee@ssu.ac.kr
Cha, Hyungtai	Professor	Ph.D. (Univ. of Pittsburgh)	Video; Audio Signal Processing	hcha@ssu.ac.kr
Kim, Dongsung	Professor	Ph.D. (Univ. of Southern California)	Medical Imaging and Computer Vision	dongsung@ssu.ac.kr
Kim, Jonghoon	Professor	Ph.D. (Northwestern Univ.)	Optic and Wireless Communication Systems	chkim@ssu.ac.kr
Jung, Souhwan	Professor	Ph.D. (Univ. of Washington)	Network Security	souhwanj@ssu.ac.kr
Hong, Min-Cheol	Professor	Ph.D. (Northwestern Univ.)	Video/ Image Processing and Visual Communication	mhong@ssu.ac.kr
Moon, Yong	Professor	Ph.D. (Seoul National University)	Integrated Circuits Design	moony@.ssu.ac.kr
Yoo, Myungsik	Professor	Ph.D. (State Univ. of New York at Buffalo)	Computer Network	myoo@ssu.ac.kr
Lee, Seongsoo	Professor	Ph.D. (Seoul National University)	Soc Design	sslee@ssu.ac.kr
Han, Youngjoon	Professor	Ph.D. (Soongsil Univ.)	Robot Vision	young@ssu.ac.kr

Name	Position	Degree	Major	E-mail
Chung, Yun-Won	Professor	Ph.D. (KAIST)	Wireless Networks; Mobile Networks	ywchung@ssu.ac.kr
Shin, Hyun-Chool	Associate Professor	Ph.D. (POSTECH)	Neural Engineering and Neural Signal Processing	shinhc@ssu.ac.kr
Shin, Oh-Soon	Associate Professor	Ph.D. (Seoul National University)	Wireless Communication Systems and Signal Processing for Communications	osshin@ssu.ac.kr
Park, Changkun	Associate Professor	Ph.D. (KAIST)	RF Integrated Circuits and Systems	pck77@ssu.ac.kr
Kim, Kanghee	Associate Professor	Ph.D. (Seoul National University)	Real-Time Embedded Systems	khkim@ssu.ac.kr
Lee, Hojin	Associate Professor	Ph.D. (University of Michigan)	Low Power Thin-film Transistors and Circuits for AMOLED and MEMS Displays	hojinl@ssu.ac.kr
Noh, Dong-Kun	Associate Professor	Ph.D. (Seoul National University)	Distributed Embedded Systems	dnoh@ssu.ac.kr
Park, Minho	Assistant Professor	Ph.D. (Seoul National University)	Network and Security	mhp@ssu.ac.kr
Yoo, Geonwook	Assistant Professor	Ph.D (Univ. of Michigan, Ann Arbor)	Solid-state devices	gwyoo@ssu.ac.kr
Hong, Sun K.	Assistant Professor	Ph.D. (Virginia Tech)	Applied Electromagnetics, Signal Processing	shong215@ssu.ac.kr
Lee, Kwang-Hyung	Emeritus Professor	Ph.D. (Chungang Univ.)	Computing and Signal Processing	khlee81@ssu.ac.kr
Jo, Soonchul	Emeritus Professor	Ph.D. (Carnegie Mellon Univ.)	Information Storage and Magnetic Devices	jschul@ssu.ac.kr
Yang, Seung-In	Emeritus Professor	Ph.D. (KAIST)	Microwaves and Antennas	siyang@ssu.ac.kr
Shin, Jong-Dug	Emeritus Professor	Ph.D. (Texas A&M Univ.)	Fiber-Optic Communication Systems and Networks	jdshin@ssu.ac.kr

Department of Electrical Engineering

The Department of Electrical Engineering's academic curriculum maintains a pure electrical engineering department which is core to electrical engineering industries. The education of excellent engineering researchers in a wide variety of electrical engineering fields and of excellent human resources leads the rapidly changing domestic and international industries. The department has produced over 300 graduates since 1977, and there are currently 12 operational labs in the school.

The department was selected as the best graduate school of academic disciplines in 2000 by the Korea Council for University Education. The 'Song-Il-Geun Award' was established by the ABI in the United States to honor Dr. Song Il-Geun, one of our prominent graduates, for his work in the field of electrical engineering.

AREAS OF SPECIALIZATION

• Energy and Industrial Electronics
  This major consists of energy conversion and power condition related to electrical engineering.

• Electrical Materials and High Power
  This major consists of materials engineering, display engineering and high voltage engineering.

• Measurement Control and System
  This major consists of control power systems engineering and power system engineering.

PROGRAM OF STUDY

Our education takes progress by various ways such as lectures and seminars. Based on basic knowledge of undergraduate courses, teaching progresses by choosing textbooks about updated electrical engineering fields, searching dissertations, the newest lab research trends, and professional guest lecturers from industrial fields.

CONTACT INFORMATION

Department of Electrical engineering
TEL: 02 - 820 -0640
FAX: 02 - 817 - 7961
E-mail: electrical@ssu.ac.kr
Website: ee.ssu.ac.kr

COURSES

Common Courses

21604110	Numerical Analysis of Electromagnetic Field
21604116	Power Electronics
21604144	Theory of Material Properties
21604148	Topics in High Voltage Insulation
21604182	Linear Systems
21604187	Digital Signal Processing
21604201	Information Display Device Engineering
21604209	Power System Engineering
21604221	Advanced Engineering Mathematics
21604222	Engineering Management
50237704	Energy Storage System

Energy and Industrial Electronics

21604111	Electromagnetic Energy Conversion
21604112	Electric Machine Design I
21604113	Electric Machine Design II
21604114	Electric Machine for Special Purpose
21604117	Topics in Direct Energy Conversion
21604118	Microprocessor Applications
21604119	Computer Processor Control
21604120	Advanced Digital Electronic Circuits
21604121	Switch Automata Theory
21604122	Topics in Measurement Instruments
21604123	Sequential Machines
21604124	Instrumentation Control System
21604125	Robot Control
21604126	Intelligent Robot
21604128	Electromagnetic Nondestructive Testing
21604129	Finite Element Method for Electric Machine
21604130	Boundary Integral Equation Method for Electric Machine
21604131	Topics on Digital Automation System
21604132	Application of Microcontroller
21604133	Application of Mechatronics
21604134	Topics on Measurement & Signal Processing

21604135	Topics in Electromagnetic Sensor
21604136	Renewable Energy Conversion
21604137	Fuel Cell System Engineering
21604138	Electric Hybrid Vehicle Design
21604139	Advanced Power Electronic Systems
21604140	Design of the Motor Drive Systems
21604141	Superconducting engineering
21604142	Superconducting power application engineering
21604218	Switching Mode Power Supply Design
50074850	Introduction to Fuel Cells
50084021	Introduction to Fuel Cell Vehicle
50084022	Advanced Electric Machinery
50107160	Electric Energy Audit Engineering For GHG Mitigation
50229176	Superconducting fault current limiter
50231265	Industry-academy cooperation Seminar Ⅰ
50237706	Special Topics in the Fuel Cells
50240908	Energy Engineering
50249276	Energy Conversion Technology
50252267	Optimization Technology for High Efficiency Device
50258872	Special Topics on Energy Conversion
50260057	Energy Management Techniques
50291876	Design of the Charger
50298657	Advanced Renewable Energy Conversion Engineering

Electrical Materials and High Power

21604143	Electromagnetic Field Theory
21604145	Topics in Dielectrics
21604146	Topics in Electric Conductivity
21604147	Topics in Superconductivity
21604149	Insulation Coordination in High Voltage Power System
21604150	Application of High Voltage Engineering
21604151	Theory and Application of Electric Discharge
21604152	Topics in Propagation Wave
21604153	High Current Engineering
21604154	Diagnosis of Electrical Equipments
21604155	High Voltage Direct-Current Transmission
21604156	Laser Engineering
21604157	Laser Application

21604158	Liquid Crystal Display Device Engineering
21604159	Electrical and Electronic Materials Engineering
21604160	Molecular Electronic Device Engineering
21604161	Flat Panel Display Device Materials
21604162	Opto-electronic Materials and Devices
21604163	Physics of Liquid Crystals
21604164	Thin-Film-Transistor Liquid Crystal Device
21604165	Ferroelectric Liquid Crystal
21604166	Advanced Lighting Engineering
21604167	Electrostatic Engineering
21604168	Advanced Theory of High Voltage Engineering
21604169	Lightning Discharge Theory
21604170	High Voltage Pulsed Power Engineering
21604171	Plasma Engineering
21604172	Microwave Engineering
21604173	Special Topics in Solid Physics
21604174	Display System Engineering
50125383	Solid-state lighting
50229181	Lighting System
50237703	Special Topics on the LED Lighting
50252263	Display Lighting Optics
50258801	High Efficiency Lighting Equipment Engineering

Measurement Control and System

21604175	Power System Analysis
21604176	Operation and Control of Systems
21604177	Power Systems Planning
21604178	Power Protection Systems
21604179	Hierarchical Control of Power Systems
21604180	Design and Operation of Power Systems Apparatus
21604181	Network Analysis and Synthesis
21604183	Adaptive Control
21604184	Optimal Control Theory
21604185	Digital Control Theory
21604186	Topics in Stochastic Control
21604187	Digital Signal Processing
21604189	Design and Application of Adaptive Filters
21604190	Intelligent Control and its Application

Department of Electrical Engineering

21604191	Design of Control Systems
21604192	Numerical Analysis
21604193	Application of Artificial Intelligent to Power Systems
21604195	Simulation Engineering of Power Systems
21604196	Neural Network Theory
21604197	Topics in Digital Signal Processing
21604198	Pattern Recognition
21604200	Random Processes
21604206	Topics in Intelligent Systems
21604207	Reliability Analysis to Power Systems
21604208	Power Conversion and Energy Engineering
21604210	Distribution System Analysis and Control
21604211	Design and Application of Protection and Control System
21604212	Analysis and Estimation of Power Quality
21604213	Power System Economics
21604214	Transmission Price
21604215	Optimal Power Flow
21604216	Advanced Control Engineering
21604217	Electricity Trading
21604219	Nonlinear Systems
50086781	Applied Bioelectricity
50086782	Special Topics in Information Technology for Power System
50086783	Smart Grid
50125385	Electrical Plant Engineering & Design
50229179	Wind Power System
50237705	Control of Electric Machinery
50252271	Digital Protective Relay
50258803	Effect of Electromagnetic Field on the Human Body
50270861	High Efficiency Power circuits
50298658	Topics in Smart Grid Technology
50298659	Public Lighting System
50325929	Control of Smart Grid System
50348077	Advanced switching circuit analysis and design

MEMBERS OF FACULTY

Name	Position	Degree	Major	E-mail
Jeon, Hee-jong	Professor	Ph.D.(Chungang Univ.)	Power Electronics	hjjeon@ssu.ac.kr
Kim, Jae-Chul	Professor	Ph.D.(Seoul National Univ.)	Electric Power System	jckim@ssu.ac.kr
Lee, Hyang-Beom	Professor	Ph.D.(Seoul National Univ.)	Electric Machines Electromagnetic Numerical Analysis, NDT	hyang@ssu.ac.kr
Kang, Daeseung	Professor	Ph.D.(Case Western Reserve Univ.)	Liquid Crystal; Display	dkang@ssu.ac.kr
Ryeom, Jeong-Duk	Professor	Ph.D.(Seoul National Univ.)	Electrical Discharge; Display System	cosmos01@ssu.ac.kr
Jo, Nam-Hoon	Professor	Ph.D.(Seoul National Univ.)	Control System	nhjo@ssu.ac.kr
Song, Kyung-Bin	Professor	Ph.D.(Texas A&M Univ.)	Electric Power Economics; Power System Operation & Control	kbsong@ssu.ac.kr
Roh, Young-Su	Professor	Ph.D.(Univ. of California, Davis)	Plasma Physics	yroh@ssu.ac.kr
Choi, Woo-Jin	Professor	Ph.D.(Texas A&M Univ.)	Power Electronics	cwj777@ssu.ac.kr
Lim, Sung-Hun	Professor	Ph.D.(Chonbuk Nat'l Univ.)	Superconducting Power Application & Power System Protection	superlsh73@ssu.ac.kr
Byun, Jin-Kyu	Associate Professor	Ph.D.(Seoul National Univ.)	Bioelectricity; Optimal Design Theory	jkbyun@ssu.ac.kr
Park, Joung-Hu	Associate Professor	Ph.D.(Seoul National Univ.)	Renewable Energy System, Power Electronics	wait4u@ssu.ac.kr
Kim, Gibak	Associate Professor	Ph.D.(Seoul National Univ.)	Signal Processing	imkgb27@ssu.ac.kr
Yoon, Sung-Guk	Assistant Professor	Ph.D.(Seoul National Univ.)	Smart Grid	sgyoon@ssu.ac.kr
Bae, Won-gyu	Assistant Professor	Ph.D.(Seoul National Univ.)	MEMS	wgbae@ssu.ac.kr

Department of Electrical Engineering

Name	Position	Degree	Major	E-mail
Ashraf Abdel hafeez Ahmed Mahmoud	Assistant Professor	Ph.D.(Durham Univ.)	Electrical Engineering	ahmed@ssu.ac.kr
Kim, Kyung-Yol	Emeritus Professor	Ph.D.(Myungji Univ.)	Electrical Circuit	
Lee, Bo-Ho	Emeritus Professor	Ph.D.(Inha Univ.)	Electrical Material	
Kwak, Hee-Ro	Emeritus Professor	Ph.D.(Chungang Univ.)	High Voltage Engineering	
Chung, Chan-Soo	Emeritus Professor	Ph.D.(Seoul National Univ.)	Control Engineering	chung@ssu.ac.kr

Department of
Mechanical Engineering

Since 1969, with Soongsil university's founding idea and spirit of 'Truth and Service', the department of mechanical engineering has educated and nurtured students to make them creative in advancing the cause of the mechanical engineering and contributing to improvement of social and industrial welfare. So far, about 4,000 alumna with bachelor, master and doctoral degrees were graduated and are working actively in research, industry, education and governments. Currently the department is equipped with the latest research facilities and educational tools to train undergraduate students, who will become capable and professional mechanical engineers in the future. And the department also offers to the students an excellent and in-depth education in order for them to apply their knowledge and techniques learned during their education to not only industrial fields such as plants, electronics, semiconductors, automotive, electrical power, heavy industrial equipment, shipbuilding industries, etc. but also academic and research fields such as universities, research institutes, etc.

GRADUATE STUDY

Graduate School in the Department of Mechanical Engineering has a fine reputation for quality teaching and outstanding research since 1976. It is equipped with recently refurbished laboratories and specialized facilities for training graduate students to become competent and professional engineers and to lead in the development of advanced engineering technologies. The graduate students are taught by 12 professors who conduct in-depth research as well as teach practical mechanical engineering skills through various experiments and practice. There are funding opportunities for graduate students as general scholarships, TA's, and RA's, that benefit from research grants by industry and government as they work with their supervisor in the mechanical research field. Also, a newly wide range university-managed accommodation optionshare offered under related regulations. Graduates from the department of mechanical engineering, like our over 350 previous graduates, will find employment opportunities covering a wide range of industrial fields, including plants, electronics, semiconductors, automotive, electrical power, heavy equipment, etc., as well as university faculty, research positions in government laboratories, and independent businesses.

Department of Mechanical Engineering

EDUCATIONAL GOALS

Based on the university's founding ideal of 「Truth and Service」 the Department of Mechanical Engineering primarily aims to play a leading role in the advancement of mechanical engineering and ultimately to contribute to the promotion of social welfare. To this end, the graduate program provides both a Master's program and a Doctoral program. Both degree programs educate field engineers who are capable of handling practical problems by applying fundamental theories and state-of-the-art technologies in mechanical engineering, and train high-quality human resources who are ready to participate in teaching, research, and management in multidisciplinary areas.

AREAS OF SPECIALIZATION

- Thermofluids and Energy : Air-conditioning and acoustics, Energy systems, Fluid flow, Automotive environment
- Materials, Design and Production : Solid mechanics, CAD/CAM, Advanced materials, Mechanical engineering design, Precision engineering
- Dynamics and Control : Automatic control, Vibration, Mechatronics

PROGRAM OF STUDY

The department offers graduate programs leading to the degree of Master of Science (MS) and Doctor of Philosophy (Ph.D), with speciality in mechanical engineering. A variety of lectures and seminars are currently offered by the department for both MS and Ph.D programs. Graduate programs offer preparation for a professional career, with possibilities in teaching and research, development, and management. The MS program is typically 2 years in duration, and involves both coursework and completion of a dissertation based on original research. Master's students must pass a competency exam to enter the research stage. During the first year, students should choose an advisor for research upon entering the program. The Ph.D. program has another admission process. Successful completion of the Ph.D requires coursework substantially beyond that taken at the master's level, passing of a qualifying exam typically taken after 2-3 years of study, and the completion and successful defense of a thesis based on high-quality and original research.

CONTACT INFORMATION

Department of Mechanical Engineering
TEL : 82-2-820-0650
FAX : 82-2-820-0668
E-mail : me@ssu.ac.kr
Website : http://me.ssu.ac.kr

COURSES

Common Courses

21604472	Numerical Analysis
21604476	Acoustics
21604479	Signal Processing
21604480	Special Project in Mechanical Engineering
21604481	Advanced Engineering Mathematics
21604482	Mechanical Engineering Analysis
21604483	Experiment Design
21604484	Continuum Mechanics

Thermofluids and Energy

21604488	Advanced Fluid Machinery
21604492	Computational Fluid Dynamics
21604493	Biofluid Mechanics
21604499	Combustion Engineering
21604500	Advanced Internal Conbustion Engines
21604501	Advanced Heat Transfer
21604502	Convection Heat Transfer
21604505	Statistical Thermodynamics
21604506	Aeroacoustics
21604511	Advanced Fluid Mechanics
21604512	Gas Dynamics
21604513	Energy Conversion Engineering
21604514	Numerical Heat Transfer

21604515	Thermal Radiation
21604516	Advanced Air-Conditioning
21604517	Design of Thermal Systems
21604518	Environmental Thermal Engineering
21604519	Turbulence
21604520	Non-Newtonian Fluid Mechanics
21604521	Applied Hydraulic Engineering
21604522	Instability Theory
21604523	Advanced Automotive Engineering
21604524	Alternative Energy Engines
21604525	Advanced Thermodynamics
21604526	Phase Change Heat Transfer
21604527	Advanced Refrigeration Engineering
50086787	Advanced Automotive Environment Engineering
50277776	Fluid System Designed robotics
50277777	Hemodynamic
50315726	Fluid Engineering Seminar
50315730	Fluid Power
50352001	Engineering Numerical Simulation

Materials, Design and Production

21604531	Advanced Solid Mechanics
21604532	Strength of Materials
21604535	Finite Element Method
21604540	Cutting Process
21604552	Advanced Mechanical Meterials
21604573	Theory of Plasticity
21604574	Fracuture Mechanics
21604575	Surface Modeling
21604576	Advanced Machine Design
21604577	Stress Analysis
21604578	Theory of Plates and Shells
21604579	Boundary Element Method
21604580	Materials Behaviors
21604581	Composite Materials
21604582	Solid Modeling
21604583	Optimum Design
21604584	Design for Manufacturing and Assembly

21604585	Mechanical System Design
21604586	Rapid Prototyping
21604587	Computer Aided Manufacturing
21604588	Precision Machining
21604589	Non-traditional Machining Process
21604590	Theory of Elasticity
21604591	Reliability Engineering
21604592	Metal Forming
21604564	Advanced Welding Metallurgy
21604594	Machine Vision
50276350	Micro Machining
50315733	Nanomaterials - Synthesis, Processing, and Applications
50315735	Computer Simulation in Machining and Manufacturing

Dynamics and Control

21604473	Automatic Control
21604560	Design of Automatic System
21604566	Adaptive Control
21604569	Elastic Wave Theory
21604570	Nonlinear Control
21604572	Mechatronics
21604595	Advanced Dynamics
21604596	Advanced Vibration Engineering
21604597	System Modeling
21604598	Vibration Analysis of Continuous Systems
21604599	Nonlinear Vibration
21604600	Noise Engineering
21604601	Digital Control
21604602	Multi-Input Multi-Output Control
21604603	Robust Control
21604604	Sensors & Actuators
21604605	Intelligent Control System
21604606	Advanced Control Theory
21604607	Human Body Dynamics
21604608	Human Vibrations
21604609	Precision Mechtronic System
21604610	Electromagnetic Actuator Control
50084077	Rotordynamics
50276350	Micro machining
50276349	Advanced robotics
50315739	Vibration control of Motion systems

Department of
Industrial & Information Systems Engineering

MEMBERS OF FACULTY

Name	Position	Degree	Major	E-mail
Lee, Gun-Bok	Professor	Ph.D.(Univ. of California, Berkeley)	Automatic Control	gblee@ssu.ac.kr
Yi, Won	Professor	Ph.D.(Nihon Univ)	Mechanics of Materials	yiwon@ssu.ac.kr
Suh, Sang-Ho	Professor	Dr. Ing.(Universitat Stuttgart)	Thermal and Fluid Engineering	suhsh@ssu.ac.kr
Ahn, Jeong-Ho	Professor	Ph.D.(Univ. of Minnesota)	CAD/CAM	jhahn@ssu.ac.kr
Chung, Nam-Yong	Professor	Ph.D.(Univ. of Tokyo)	Strength of Materials & Machine Design	nychung@ssu.ac.kr
Yoo, Ho-Seon	Professor	Ph.D.(SNU)	Energy Systems and Mechanical Facilities	hsyoo@ssu.ac.kr
Kim, Jin-Oh	Professor	Ph.D.(Univ. of Pennsylvania)	Vibration and Wave	jokim@ssu.ac.kr
Ahn, Hyeong-Joon	Associate Professor	Ph.D.(SNU)	Mechatronics	ahj123@ssu.ac.kr
Lee, Jin-Wook	Associate Professor	Ph.D.(SNU)	Automotive Engineering	immanuel@ssu.ac.kr
Kim, Bo Hyun	Associate Professor	Ph.D.(SNU)	Manufacturing Process & Micro machining	bhkim@ssu.ac.kr
Lee, Donghun	Assistant Professor	Ph.D.(SNU)	Robotics, Robust Design	dhlee04@ssu.ac.kr
Park, Sung-Hoon	Assistant Professor	Ph.D.(Univ. of California San Diego)	Nano-composite Multi-functinmal surface material	leopark@ssu.ac.kr
Park, Taehyun	Assistant Professor	Ph.D.(SNU)	New and Renewable Energy	taehyunpark@ssu.ac.kr
Lim, Young-Ho	Emeritus Professor	Ph.D.(Sungkyunkwan Univ.)	Cutting and Manufacturing	
Ryu, Bong-Hwan	Emeritus Professor	Ph.D.(Kyunghee Univ.)	Machine Design	bonghryu@hanmail.net
Kim, Mun-Heon	Emeritus Professor	Ph.D.(Sungkyunkwan Univ.)	Internal Combustion Engine	asanmhkim@hanmail.net

| Kwon, Young-Pil | Emeritus Professor | Ph.D.(KAIST) | Thermo-Fulid Mechanics | ypkwon@ssu.ac.kr |

AREAS OF SPECIALIZATION

Industrial Systems Engineering

This field provides a foundation in modern techniques of industrial systems engineering for graduates with degrees in industrial engineering, computer science or engineering, or management. Operations Research, Manufacturing Systems Engineering, and Quality and Management Engineering are included in this field.

Information Systems Engineering

An Information system (IS) is a group of five components, hardware, software, data, procedure, and people that interact to produce management information. This field is concerned with the development and use of ISs. Management Information Systems, e-Business Systems, Software Engineering, and Network Systems are included in this field.

Human-Computer Interaction

HCI aims at improving the interaction between users(human) and computers(machines that contain computing elements) by increasing the usability of user interfaces, including software and hardware. HCI is an interdisciplinary study that utilizes theories and methodologies from human studies(e.g., psychology and sociology), computer science, and other fields.

PROGRAM OF STUDY

Teaching is performed by a variety of lectures and seminars. Assessment methods include written examination, assessed coursework, presentation, and a dissertation. Various tools and research resources are utilized for effective teaching.

Each major offers a variety of courses which are all elective subjects.

Department of Industrial & Information Systems Engineering

CONTACT INFORMATION

Department of Industrial & Information Systems Engineering
TEL : 82-2-820-0690
FAX : 82-2-825-1094
E-mail : insteng@ssu.ac.kr
Website : iise.ssu.ac.kr

COURSES

O.R.(Operations Research)

21605671	Advanced Linear Programming
21604672	Nonlinear Programming
21604673	Dynamic Programming
21604674	Integer Programming
21604675	Network Theory
21604676	Queueing Theory
21604677	Multiobject Programming
21604678	Game Theory
21604679	Seminar in Operations Research
21604680	Advanced Optimization
50276406	Applied stochastic process
50315006	Dynamic Systems

Manufacturing Systems Engineering

21604748	Production Planning and Control
21604749	Inventory Theory
21604750	Logistics Management System
21604751	Scheduling Theory
21604752	Seminar in Production Management
21604753	Manufacturing Systems Simulation
21604754	Computer Based Production System
21604755	Modelling and Design of Flexible Manufacturing Systems
21604758	Advanced Topics in Concurrent Engineering

21604759	Manufacturing Facility Analysis & Design
21604760	Analytical Models in I.E
21604761	Automated Manufacturing Information Systems
21604762	Algorithm
21604763	Performance Analysis of Manufacturing Systems
21604764	Customer-Driven Manufacturing
21604765	Advanced Intelligence in Design and Manufacturing
21604766	Advanced Topics in Automated Manufacturing Systems
21604767	Engineering/ Business Process Mapping
21604768	Discrete Event Dynamic Systems
21604769	Environmental Conscious Manufacturing Systems
21604770	Advanced Topics in Systems Engineering
21604771	Advanced Topic in Factory Automation
21604772	Automated Storage/ Retrieval System
21604773	Graph Theory and Application
21604774	Advanced Modelling and Analysis on Supply Chain Network
21604775	Intelligent Manufacturing System
21604776	Production Information System
21604777	Manufacturing System Modelling and Analysis
21604778	Quick Response Manufacturing System
21604779	Manufacturing Process Design and Control
21604780	Industrial Telerobotics
50318378	Logistics Process Management
50348386	Advanced Issues in Product Development Management
50348388	Logistics Service Strategy

Quality and Management Engineering

21604659	Cost Estimation for Engineering
21604660	Advanced Engineering Economy
21604661	Economic & Multi-attribute Analysis of Industrial Project
21604662	Research & Development Management
21604663	Topic in Management Engineering
21604666	Quality Management
21604668	Non-Parametic Statistics Analysis
21604681	Stochastic Processes
21604682	Advanced Experimental Design
21604683	Quality Engineering
21604684	Software Reliability Analysis

21604685	Decision Analysis
21604686	Advanced Regression Analysis
21604694	Statistical Simulation
21604695	Reliability Engineering
21604756	Applied Time Series Analysis
21604757	Statistical Analysis of Life Data
50237777	Understanding Foreign and Domestic Evironmental Regulations
50237778	Green Production Technology Internship I
50250125	Academic-Industrial CO-OP Seminar II
50258958	Green Production Technology Internship II

HCI(Human-Computer Interaction)

21604781	Human-Computer Interaction
21604782	Usability Engineering
21604783	Cognitive Engineering
21604784	Advanced Topics in HCI
21604785	HCI Research Methodology

Management Information Systems

21604687	Advanced Management Information Systems
21604701	Advanced Information Technology
21604702	IT Consulting and Professional Services
21604669	Advanced Systems Analysis & Design
21604733	Knowledge Management Systems
21604734	Business Innovation Seminar
21604735	Information Systems Architecture
21604736	Data Warehouse and Applications
21604737	Web-based Information Modeling
21604738	Customer Relationship Management
21604741	Knowledge Information System
21604742	Management Information Technology Model
21604743	Information Industry Management
21604744	On-Line Analytical Processing Solutions I
21604745	On-Line Analytical Processing Solutions II
21604746	On-Line Analytical Processing-Multidimensional Expressions

E-Business

21604705	E-Commerce Management
21604706	E-Commerce Technology
21604707	Internet Information Systems
21604708	Data Mining
21604747	Accounting Information System
21604709	Internet Marketing Fundamentals
21604710	Web-based Information Architectures
21604712	Advanced Topics in e-Business
21604739	Human Aspects in e-Business systems
21604740	Business Process Management

Network System

21604720	Computer Networks
21604713	Network Programming
21604714	Network Security
50084075	Convex Optimization
21604719	Advanced Algorithm
21604717	Selected Topics in the Telecommunication Network Design
21604802	Transportation System Analysis
21604721	Mathematical Methods for the Industrial and Information Systems Engineering
21604722	Metaheuristic Algorithms

Software Engineering

21604723	Computer Algorithm
21604724	Integrated Development of Software and Hardware
21604725	Advanced Topics of Management of Software Development
21604726	Modeling and Design of Object Oriented Software
21604727	Data Mining and Machine Learning
21604670	Knowledge Based System
21604729	Development of Knowledge Management System
21604730	Design of Software for AI
21604731	Development of Expert system and Software

Department of Industrial & Information Systems Engineering

DEPARTMENTAL REQUIREMENTS

All courses included in the curriculum are optional. Therefore, each student can take a variety of subjects during his or her coursework.

MEMBERS OF FACULTY

Name	Position	Degree	Major	E-mail
Chung, Byung Hee	Professor	Ph.D. (Seoul National Univ.)	Production Management	bhchung@ssu.ac.kr
Lim, Tae Jin	Professor	Ph.D. (Cornell Univ.)	Applied Statistics	tjlim@ssu.ac.kr
Cho, Moonsoo	Professor	Ph.D. (Univ. of Iowa)	Concurrent Engineering	jmsu@ssu.ac.kr
Lee, Gun Ho	Professor	Ph.D. (Univ. of Iowa)	Software Engineering	ghlee@ssu.ac.kr
Park, Tae Hyung	Professor	Ph.D. (Virginia Tech.)	Network Systems	tpark@ssu.ac.kr
Kim, Dongsoo	Professor	Ph.D. (Seoul National Univ.)	e-Business	dskim@ssu.ac.kr
Hyun, Byungen	Professor	Ph.D. (Kobe Univ.1988)	Logistics & Distribution, IT Logistics	behyun@ssu.ac.kr
Yoon, Suk-Hun	Associate Professor	Ph.D. (Pennsylvania State Univ.)	O.R.	yoon@ssu.ac.kr
Hwang, Wonil	Associate Professor	Ph.D. (Purdue Univ.)	Human-Computer Interaction	wonil@ssu.ac.kr
Son, Jae Dong	Associate Professor	Ph.D. (Univ. of Tsukuba)	Social Systems Engineering	son88@ssu.ac.kr
Park, Taezoon	Associate Professor	Ph.D (Purdue Univ)	Cognitive Ergonomics Safety Engineering	tzpark@ssu.ac.kr
Kang, Changmuk	Assistant Professor	Ph.D. (Seoul National Univ.)	Design Engineering	changmuk.kang@ssu.ac.kr
Kwak, Minjung	Assistant Professor	Ph.D.(Univ of Illinois)	Sustainable Design	mkwak@ssu.ac.kr
Choi, In Soo	Emeritus Professor	Ph.D. (Seoul National Univ.)	MIS	ischoi@ssu.ac.kr

Department of
Architecture and Architectural Engineering

The graduate program in the Department of Architecture nurture diverse and competent professionals in the field of architecture, well versed in both theoretical and practical knowledge, who can match the challenging paradigms of globalization and specialization in today's knowledge- and information-based world. In order to meet the society's current needs, the program encourages creative inquiries into contemporary problems of architectural design and engineering, while maintaining a balance between professional training and research.

03

Engineering

AREAS OF SPECIALIZATION

• Architectural Design & Programming
• Urban Design & Planning
• Architectural History & Design Theory
• Structural Engineering
• Building Materials
• Construction Management/Technology
• Building Environment & Green Building Materials

The graduate program in the Department of Architecture is designed to train students as competent professionals in the field of architecture. The Department provides students with opportunities to study the ordered relationship of people and the environment, as well as to cultivate their practical abilities as architects and engineers. Through advanced training in architectural practice and engineering theories, students will be guided to complete their dissertations for Master's or Doctoral degrees.

PROGRAM OF STUDY

In-depth knowledge and practical abilities in specialized fields are taught through lectures and seminars. Achievements of students are assessed through coursework, research presentation, written examination, and a dissertation.

Department of Architecture and Architectural Engineering

CONTACT INFORMATION

Department of Architecture
TEL : 82-2-820-0700
FAX : 82-2-816-3354
E-mail : architec@ssu.ac.kr
Web site : soar.ssu.ac.kr

COURSES

Common Courses

21604828	Advanced Architecture Design Ⅰ
21604829	Themes in History of Korean/Far Eastern Architecture
21604830	Themes in History of Western Architecture
21604831	Architectural Problem Solving Methodology
21604832	Structural Planning
21604833	Building Materials Ⅰ
21604834	Building Systems Design
21604835	Energy-Conscious Design

Architectural / Urban Design, Planning, Theory / History

21604837	Advanced Architectural Design Ⅱ
21604838	Advanced Architectural Design Ⅲ
21604839	Design & Planning of Educational Facilities Ⅰ
21604840	Seminar in Architecture Ⅰ
21604841	Seminar in Architecture Ⅱ
21604842	Design Methodology
21604843	Main Currents of Modern Movement in Architecture
21604844	Design & Planning of Educational Facilities Ⅱ
21604845	Planning & Design of Housing for Disabled & Celibate People
21604846	Advanced Theories of Residential Planning
21604847	Efficient Use of Space in Multi-Family Housing
21604848	Information in Architecture
21604849	Design of Building Elevations

21604859	Readings in Architecture Theories Ⅰ
21604851	Contemporary Theory and Criticism of Architecture
21604852	Contemporary Architecture in Non-Western World
21604853	Critical Monuments of Modern Architecture
21604854	Advanced Theories of Interior Architectural Planning
21604860	Theories of Urban & Regional Planning
21604861	History and Theories of Urban From Case Studies in Urban Design
21604862	Case Studies in Urban Design
21604863	Theory of Urban Development & Renewal
21604864	Transportation Planning
21604865	New Town Planning
21604866	Future of Metropolis
21604867	Computer Programming Techniques for Architectural Problems
21604868	Computer Graphics Ⅰ
21604869	Computer Graphics Ⅱ
21604870	Architectural Design Modelling System
21604871	Data Structure for Architectural Design
21604877	Database & Its Application to CAAD
21604878	Studies in Townscape Design
21604879	Studies in Campus Planning
21604880	Architecture and Politics
21604881	Housing Typology and Urban Form
21604882	Reading in Architectural Theories Ⅱ
21604883	Professional practice in Architecture

Structural Engineering / Building Materials & Construction Management / Building Environment

21604885	Advanced Mechanics/Materials
21604886	Theory of Buckling
21604887	Theory of Elasticity
21604888	Energy Method of Structural Analysis
21604889	Theory of Plasticity
21604890	Matrix Structural Analysis
21604891	Finite Element Method
21604892	Non-Linear Problems in Structural Analysis
21604893	Computer Method in Structural Engineering
21604894	Structural Dynamics
21604896	Seismic Design of Buildings

21604897	Advanced Steel Structure
21604898	Advanced Design of Steel Structure
21604899	Hybrid Structures
21604900	Advanced Design of Reinforced Concrete
21604901	Advanced Reinforced Concrete Structure
21604902	Design of Pre-Stressed Concrete Structure
21604903	Seminar Ⅰ in Architectural Structures
21604904	Seminar Ⅱ in Architectural Structures
21604905	Experimental Stress Analysis
21604906	Building Materials Ⅱ
21604907	Experimental Studies for Building Materials
21604908	Evaluation of Material Performance
21604909	Advanced Construction Technology
21604910	Pre-Fabricated Building Construction
21604911	Advanced Construction Management
21604912	Building Economics
21604913	Construction Management Technology
21604914	Construction Quality Management
21604915	Construction Project Management
21604916	Facilities Management
21604917	Construction Management Research Seminar
21604918	Construction Business Administration
21604919	Computer Application for Construction
21604920	Construction Cost Management
21604921	Construction Performance and Productivity Improvement
50084079	Theory of architectural Environment
50084080	Advanced Studies on Building Thermal Environment
50084081	Advanced Studies on Indoor Air Quality
50084082	Advanced Studies on Building Environmental Control System
50084083	Advanced Studies on Green Building Materials
50084084	Sustainable Building Environmental Control System Seminar
50084085	Advanced Studies on Ecological Architecture
50084096	Building Energy Performance Analysis
50235561	Technology in Architecture
50235562	Construction Management
50235563	Construction Cost Estimation &Control
50235564	Construction Contracting and Legal Aspects
50235565	Criticism of Architectural Engineering
50235566	Construction Risk Management

50235567	Construction Material Management and Procurement
50235569	Theory of Preconstruction
50235571	Construction Project Financing
50235572	Building Maintenance
50235573	Construction Safety Management
50235574	Construction Decision Making
50235575	Construction Law & Policy
50235576	Construction Information Management
50235577	Construction Development Project
50235578	Seminar in Building Energy Simulation Ⅰ
50235579	Seminar in Building Energy Simulation Ⅱ
50235580	Seminar in Green Building Ⅰ
50235581	Seminar in Green Building Ⅱ
50235582	Seminar in Green Building Materials Ⅰ
50235583	Seminar in Green Building Materials Ⅱ
50235584	Studies in Environmental Modeling & Simulation
50235585	Advanced Building Environmental Technology
50235586	Advanced Studies on Passive House
50235587	Advanced Studies on Renewable Energy in Building
50235588	Advanced Studies on Conservation Energy in Building
50247884	Plant Construction
50315709	Building Design and Practice

DEPARTMENTAL REQUIREMENTS

Students seeking Master's degree in all specialized fields are required to complete at least 24 credits from the Department's courses and submit an acceptable dissertation. Ph.D. degrees are awarded upon satisfactory completion of an approved program of at least 36 credits from the Department's courses and a dissertation research, writing, and defense.

Department of Architecture and Architectural Engineering

MEMBERS OF FACULTY

Name	Position	Degree	Major	E-mail
Yoon, Choon Sup	Professor	Ph.D. (Univ. of Edinburgh)	Architectural Design	csyoon@ssu.ac.kr
Choi, Yoon Ki	Professor	Ph.D. (Seoul National Univ.)	Construction Management	ykchoi@ssu.ac.kr
Kim, Hong Gi	Professor	Dipl.-Ing (Architekt Univ. of Dortmund)	Architectural Design	hgkim@ssu.ac.kr
Lee, Sang Jin	Associate Professor	MA. (Univ. of Michigan)	Architectural Design	sjl54@ssu.ac.kr
Kim, Su Min	Associate Professor	Ph.D. (Seoul National Univ.)	Building Environment, Green Building Materials	skim@ssu.ac.kr
Choi, Won Joon	Associate Professor	Ph.D. (Seoul National Univ.)	Architectural Theory & History	choi.wonjoon@ssu.ac.kr
Choi, Kyoung Kyu	Associate Professor	Ph.D. (Seoul National Univ.)	Structural Engineering; Earthquake Engineering; RC Structures	kkchoi@ssu.ac.kr
Kim, Jung In	Associate Professor	Ph.D. (UC Berkeley)	Architectural Design & Urban Theory	jungin@ssu.ac.kr
Yoo, Hae Yeon	Assistant Professor	Ph.D. (Seoul National Univ.)	Architectural Design	zenism@ssu.ac.kr
Kim, Su Mi	Assistant Professor	Ph.D. (Seoul National Univ.)	Architectural Design	soomikim@ssu.ac.kr
Lee, Sun Gu	Emeritus Professor	Dr.-Ing.(Technische Univ. Berlin); Dipl.-Ing. Architekt M.A.(Freie Univ. Berlin)		
Choi, Oan Chul	Emeritus Professor	Ph.D. (Univ. of Kansas)	Structural Engineering; RC Structural / Composite Structural	occhoi@ssu.ac.kr
Kim, Jong Rak	Emeritus Professor	Dr.Eng. (Tokyo Institute of Technology)	Structural Engineering; Street Structure; Wind Load and Structural Response	jrkim@ssu.ac.kr

Department of Information and Telecommunication Engineering

- The competitive national reputation;
- Extensive research programs from which most students are financially supported.
- Excellent and various academic fields.
- MS and Ph.D courses which are exciting and academically challenging.

AREAS OF SPECIALIZATION

• MS in Information & Telecommunication Engineering

• Ph.D in Information & Telecommnucation Engineering

The goal of the Department of Information and Telecommunication is to educate high-quality experts and mid-level managers with excellent capabilities in the area of information and telecommunication under the educational motto of Soongsil University, "Truth and Service".

PROGRAM OF STUDY

Teaching is by a variety of lectures, seminars, and term projects. Assessment is by written examination, assessed coursework, presentation, term projects, and a dissertation. The final grade is awarded by evaluating various modules. To become Master candidates or Ph.D candidates, He/her should pass the Qualifying examination.

CONTACT INFORMATION

Department of Information and Telecommunication Engineering
TEL : 82-2-820-0900
FAX : 82-2-821-7653
E-mail : inforcom@ssu.ac.kr
Website : http://infocom.ssu.ac.kr

COURSES

Communications and Signal Processing

21604965	Multimedia Communications
21604970	Speech Communications
21604976	Speech Information Processing
21604972	Digital Signal Processing
21604974	New-Media Communications
21604975	Speech Synthesis Techniques
21604977	Speech Compression Coding
21604981	Satellite Communication Theory
21604984	Probability, Statistics and Random Signal Analysis
21604985	Communication Theory
21604986	Signal Transmission Techniques in Mobile Communications
21604987	Mobile Communication Systems
21604997	Signals and Systems
21604998	Probability and Statistics
21604999	Linear System Theory
21605000	Analog Communications
21605001	Digital Communications
21605002	Source Coding and Decoding
21605003	Audio Coding
21605004	Special Topics in Communication Circuit Analysis
21605005	Spread Spectrum Communication Systems
21605006	Code Division Multiple Access systems
21605007	Knowledge Information Processing Systems
21605008	System Modeling and Simulation
21605009	Analysis of Digital Systems
21605010	Biomedical Electronics
21605011	Image Information Comprehension
21605012	Optimization Theory
21605013	Detection, Estimation and Filtering
21605014	Estimation and Detection Theory
21605015	Time Series Analysis
21605016	Communication Signal Processing
21605017	Nonlinear Signal Processing
21605018	Stochastic Signal Processing
21605019	Array Signal Processing

21605020	Sub-band Coding & Signal Processing
21605021	Design and Application of Fuzzy and Neural Computer
21605022	Exchange Systems
21605023	Electronic Exchange Systems
21605024	Realistic Telecommunications
21605025	Multimodal Communications
21605026	Special Topics in Digital Signal Processing
21605027	Sound Effect Systems
21605028	Image Coding
21605029	Adaptive Filter Theory
21605030	Automatic Translation Systems
21605031	Ultrasonic Communication Systems
21605032	Underwater Acoustic Signal Processing
21605033	Navigating Communications
21605034	Information Theory
21605035	Channel Coding Theory
21605036	Communication Systems
21605037	Satellite Transponder
21605038	Signal Exchange Systems
21605039	Special Topics in Mobile Communication Systems
21605040	Special Topics in Underwater Acoustic Communication
21605043	Underwater Acoustic Communication and Signal Processing
21605080	Orthogonal Frequency Division Multiplexing Systems
21605042	Advanced Modulation and Demodulation Technology
50235925	Radar Signal Processing
50270980	Signal processingfor storage systems
50274951	SAR signal processing
50274952	Vehicle Communication Technologies
50325891	Smart Grids

Devices and Integrated Circuits

21605047	Analog Integrated Circuit Design
21605048	Digital Integrated Circuit Design
21605049	Advanced Integrated Circuit Design
21605050	Special Topics in Integrated Circuits
21605051	VLSI Design
21605052	ASIC Design
21605053	Digital System Design

21605054	Solid State Electronics
21605055	Special Topics in Physical Electronics
21605056	Semiconductor Devices 1
21605057	Semiconductor Devices 2
21605058	Device Electronics for Integrated Circuits
21605059	Semiconductor Device Modeling
21605060	Microwave Semiconductor Devices
21605061	Special Topics in Semiconductor Devices
21605062	Integrated Circuit Fabrication Process
21605063	Magnetic Materials
21605064	Special Topics in Magnetic Materials
21605065	Magnetic Computer and Communication Devices
21605066	Magnetic Information Storage Engineering
21605067	Optical Data Storage Engineering
21605068	Computer Data Storage Engineering
21605069	SoC Architecture
21605070	SoC Design Methodology
21605071	Design of Radio-Frequency Integrated Circuits
21605072	Design of Analog/Mixed Signal
21605046	Embedded system design
21605073	Embedded Software Programming
21605074	IP Design and System Integration
21605075	Multimedia System Design
21605076	Full Custom Design
21605077	High Performance Memory Architecture Design
21605078	Communication System Design
21605079	Low Power System Design
21605081	Special Topics in Digital System Design
50235952	Device Physics for Various Display Technologies
50255488	Advanced Analog Integrated Circuits
50255490	MEMS Devices and Circuits
50274953	EMC design
50274954	Electronic system for next vehicle
50274955	Semiconductor design for Functional safety
50274956	High Reliable and security-supported OS
50274957	MCU design for Vehicle

Microwave and Lightwave

21604979	Special Topics in Antennas
21605106	Microwave Circuits
21605045	Electromagnetic Fields
21604983	Numerical Techniques for Microwave
21604992	Semiconductor Laser Diodes
21604993	Optical Communication Systems
21604994	Fiber-Optic Networks
21604995	Quantum Electronics
21605082	Radiation, Propagation and Scattering of Electromagnetic Waves
21605083	Numerical Methods in Electromagnetics
21605084	Computer Aided Design for Microwave Components
21605085	Special Topics in Microwave Technology
21605086	Special Topics in CAD for Microwave and Millimeter-Wave Circuit
21605087	Special Topics in Microwave Systems
21605088	Numerical Techniques for Microwave and Millimeter-Wave Passive Structures
21605089	Nonlinear Microwave Circuits
21605090	Techniques against Electromagnetic Interference
21605091	Optical Electronics
21605092	Nonlinear Optics
21605093	Optics
21605094	Special Topics in Electromagnetic Waves
21605095	Radar Systems
21605096	Propagation Theory
21605097	Analysis and Design of Antennas
21605098	Special Topics in Wireless Communications
21605099	Satellite Communication Systems
21605100	Special Topics in Electromagnetic Compatibility
21605101	Nonlinear Fiber Optics
21605102	Fiber-Optic Sensors
21605103	Integrated Optics
21605104	Photonic Switching
21605105	Photonics
21605108	Special Topics in Optical Electronics
21605107	Special Topics in Optical Communication Systems
50255476	Fundamentals of Metamaterials
50255486	Wireless Power Transfer Engineering

Department of Information and Telecommunication Engineering

Computer, Automation and Networks

21605044	Computer Vision
21604988	Special Topics In Information Communications
21604996	High Speed Communication Networks
21604990	Data Communicatons
21605109	Introduction to Software
21605110	Operating Systems
21605111	Introduction to Compilers
21605112	Introduction to Databases Systems
21605113	Computer Architecture
21605114	Advanced Computer Architecture
21605115	Parallel Processing
21605116	Pattern Recognition
21605117	Artificial Intelligence System Design
21605118	Information Retrieval
21605119	Multimedia Information Retrieval
21605120	Special Topics in Multimedia Information Retrieval
21605121	Multimedia User Interface
21605122	Special Topics in Multimedia Technology
21605123	Multimedia System Design
21605124	Computer Graphics
21605125	Graph Theory and Application
21605126	Geometrical Modelling
21605127	Special Topics in Computer Vision
21605128	Special Topics in Image Processing
21605129	Medical Image Processing
21605130	Special Topics in Medical Image Processing
21605131	Robot Sensor Design and Application
21605132	Robotics and Automation Systems
21605133	CAD/CAM
21605134	Electronic Instrumentation and Design
21605135	Linear Feedback Control Systems
21605136	Nonlinear Control Systems
21605137	Modern Control System Design and Application
21605138	Adaptive Control
21605139	Optimal Control
21605140	Stochastic Control
21605141	Intelligence Control

21605142	Digital Control Systems
21605143	Distributed Control Systems
21605144	Real-Time System Design and Analysis
21605145	Special Topics in Real-Time Systems
21605146	Queuing Theory and Application
21605147	Traffic Structures
21605148	Protocol Engineering
21605149	Internetworking
21605150	Wireless Data Communications
21605151	Wireless Networks
21605152	Network Application Techniques
21605153	Network Security
21605154	Special Topics in Networks
21605155	Special Topics in Network Analysis
21605156	Internet Networking Technology
21605157	Special Topics in Internet
21605158	Arificial Intelligence
21605159	Expert Systems
21605160	Image Processing
21605161	Teleconferencing Systems
21605162	Special Topics in Pattern Recognition
21605163	Distributed Computing Systems
21605164	Computer Network Design and Analysis
21605165	Network Programming
21605166	Computer Networks
21605188	System Software Programming
21605168	Internet Computing Systems
21605176	Special Topics on Optical Networks
21605170	Introduction to Information Security
21605171	Cryptography
21605172	Special Internet Security Technologies
21605173	Security in Wired and Wireless Internet
21605174	Mobile Computing Systems
21605175	Design and Implementation of Embedded Systems
21605167	Mobile Robot
21605169	Special Topics on Mobile Robot
21605177	Special Issues on Information Security
21605178	Standards on Information Security
21605179	Service and Policy on Information Security

21605041	Next Generation Mobile Communication Networks
21605180	Ubiquitous Networks
21605181	Next Generation Network Technology
21605182	Special Topics in Mobile/Wireless Networks
21605183	Special Topics in Multimodal Information Transformation Technology I
21605184	Special Topics in Multimodal Information Transformation Technology Ⅱ
21605185	Special Topics in Multimodal Information Transformation Technology Ⅲ
21605186	Internship
21605187	Life and Leisure Robot
50124697	Patent and Information Analysis
50235953	IT Convergence Applications
50235954	IT Convergence Systems
50255492	Computational Photography
50255494	Introduction to 3D Computer Vision
50255496	Computational Computer Vision
50255500	Special Topics in HCI
50255504	Vision-based HCI
50255510	Mobile Programing
50255515	Understading and Practice of System and Network Hacking
50255520	Understanding Security ethics and Policy
50255526	Service Security
50255530	System Security
50255532	Mobile Security
50255534	Cloud Computing System Security
50255536	Security Architecture
50255538	Information Security Management System
50255540	Software Security Theory
50255542	Understanding and Implementations of Cryptography function
50255544	Privacy Security
50255546	Working-level Security Case Study
50274958	Special Topics in Embedded Software
50274959	Special Topics in Real-time Operating Systems
50274960	Special Topics in Real-time Software
50274961	Vehicular Network Technologies
50366484	Machine Learning and Artificial Intelligence
50366486	Deep Learning Network Design and Application
50366489	Malware Analysis
50366491	IoT Security
50373660	Introduction to Open Source

50374694	Open Source Design Basic
50374697	Infrastructure System Design
50374699	Technology and Marketing
50374702	Understanding and Practice of Network
50374704	Understanding and Practice of Cloud Computing
50374706	Understanding and Practice of Opoen Source
50374708	Understanding and Implementation of VNF Design
50374714	SDN/SFV Technology

DEPARTMENTAL REQUIREMENTS

Specialized Fields :
• Communications and Signal Processing
• Devices and Integrated Circuits
• Microwaves and Lightwave
• Computer, Automation, and Networks

Master Course
• 1st Semester : 3 courses in a specialized field
• 2st Semester : 3 courses in a specialized field
• 3rd Semester : 2 courses in a specialized field, Qualifying Exam
• 4th Semester : At least 1 presentation in domestic or international conference, Dissertation

Department of Information and Telecommunication Engineering

MEMBERS OF FACULTY

Name	Position	Degree	Major	E−mail
Bae, Myung-Jin	Professor	Ph.D. (Seoul National University)	Speech Communication Engineering; Mobile and Handheld Communication; Sound Engineering	mjbae@ssu.ac.kr
Kim, Boo-Gyoun	Professor	Ph.D. (Univ. of Southern California)	Electromagnetic (EM) wave application and Antenna	bgkim@e.ssu.ac.kr
Chung, Kyusik	Professor	Ph.D. (Univ. of Southern California)	Network Computing and Security	kchung@ssu.ac.kr
Chung, Sun-Tae	Professor	Ph.D. (Univ. of Michigan)	Embedded and Real-Time System	cst@ssu.ac.kr
Hahn, Hernsoo	Professor	Ph.D. (Univ. of Southern California)	Sensor Fusion ;Robot Vision	hahn@.ssu.ac.kr
Song, Inchae	Professor	Ph.D. (Univ. of California, Los Angeles)	Semiconductor Devices and Integrated Circuits	isong@ssu.ac.kr
Seo, Chulhun	Professor	Ph.D. (Seoul National University)	Wireless Communication and Energy Transfer	chulhun@.ssu.ac.kr
Kim, Young-Han	Professor	Ph.D. (KAIST)	Computer Network	younghak@ssu.ac.kr
Shin, Yoan	Professor	Ph.D. (Univ. of Texas at Austin)	Wireless Communications Systems and Communication Signal Processing	yashin@ssu.ac.kr
Lee, Chanho	Professor	Ph.D. (Univ. of California, Los Angeles)	Digital System Design	chlee@ssu.ac.kr
Lee, Won-Cheol	Professor	Ph.D. (Polytechnic Univ.)	Mobile Communication Systems; Digital Signal Processing	wlee@ssu.ac.kr
Im, Sungbin	Professor	Ph.D. (University of Texas at Austin)	Digital Communication Systems and Higher-Order Signal Processing	sbi@ssu.ac.kr
Lee, Jaejin	Professor	Ph.D. (Georgia Institute of Technology)	Telecommunication, Signal Processing for Storage Systems	zlee@ssu.ac.kr

Name	Position	Degree	Major	E—mail
Cha, Hyungtai	Professor	Ph.D. (Univ. of Pittsburgh)	Video; Audio Signal Processing	hcha@ssu.ac.kr
Kim, Dongsung	Professor	Ph.D. (Univ. of Southern California)	Medical Imaging and Computer Vision	dongsung@ssu.ac.kr
Kim, Jonghoon	Professor	Ph.D. (Northwestern Univ.)	Optic and Wireless Communication Systems	chkim@ssu.ac.kr
Jung, Souhwan	Professor	Ph.D. (Univ. of Washington)	Network Security	souhwanj@ssu.ac.kr
Hong, Min-Cheol	Professor	Ph.D. (Northwestern Univ.)	Video/ Image Processing and Visual Communication	mhong@ssu.ac.kr
Moon, Yong	Professor	Ph.D. (Seoul National University)	Integrated Circuits Design	moony@.ssu.ac.kr
Yoo, Myungsik	Professor	Ph.D. (State Univ. of New York at Buffalo)	Computer Network	myoo@ssu.ac.kr
Lee, Seongsoo	Professor	Ph.D. (Seoul National University)	Soc Design	sslee@ssu.ac.kr
Han, Youngjoon	Professor	Ph.D. (Soongsil Univ.)	Robot Vision	young@ssu.ac.kr
Chung, Yun—Won	Professor	Ph.D. (KAIST)	Wireless Networks; Mobile Networks	ywchung@ssu.ac.kr
Shin, Hyun—Chool	Associate Professor	Ph.D. (POSTECH)	Neural Engineering and Neural Signal Processing	shinhc@ssu.ac.kr
Shin, Oh—Soon	Associate Professor	Ph.D. (Seoul National University)	Wireless Communication Systems and Signal Processing for Communications	osshin@ssu.ac.kr
Park, Changkun	Associate Professor	Ph.D. (KAIST)	RF Integrated Circuits and Systems	pck77@ssu.ac.kr
Kim, Kanghee	Associate Professor	Ph.D. (Seoul National University)	Real—Time Embedded Systems	khkim@ssu.ac.kr
Lee, Hojin	Associate Professor	Ph.D. (University of Michigan)	Low Power Thin—film Transistors and Circuits for AMOLED and MEMS Displays	hojinl@ssu.ac.kr
Noh, Dong-Kun	Associate Professor	Ph.D. (Seoul National University)	Distributed Embedded Systems	dnoh@ssu.ac.kr
Park, Minho	Assistant Professor	Ph.D. (Seoul National University)	Network and Security	mhp@ssu.ac.kr

Department of Information and Telecommunication Engineering

Name	Position	Degree	Major	E-mail
Yoo, Geonwook	Assistant Professor	Ph.D (Univ. of Michigan, Ann Arbor)	Solid-state devices	gwyoo@ssu.ac.kr
Hong, Sun K.	Assistant Professor	Ph.D. (Virginia Tech)	Applied Electromagnetics, Signal Processing	shong215@ssu.ac.kr
Lee, Kwang-Hyung	Emeritus Professor	Ph.D. (Chungang Univ.)	Computing and Signal Processing	khlee81@ssu.ac.kr
Jo, Soonchul	Emeritus Professor	Ph.D. (Carnegie Mellon Univ.)	Information Storage and Magnetic Devices	jschul@ssu.ac.kr
Yang, Seung-In	Emeritus Professor	Ph.D. (KAIST)	Microwaves and Antennas	siyang@ssu.ac.kr
Shin, Jong-Dug	Emeritus Professor	Ph.D. (Texas A&M Univ.)	Fiber-Optic Communication Systems and Networks	jdshin@ssu.ac.kr

Department of Interior Design

The Department of Interior Design aims at training experts who can predict and propose future life through creative concepts for interior design based on various educational experiences. By connecting in-depth scientific theories to practical designs and plans, the Department runs systematical researches on interior, plastics, and environments as well as education. For this, we carry out various researches including interior design and planning, interior plastics, space theory and history, interior environment, re-modeling, space environmental design, space media design, space brand plan and marketing in parallel.

AREAS OF SPECIALIZATION

Space & Environment Design Lab;

The Lab covers researches concerning every space environment which comes up frequently in daily life and non-daily life and in public spaces. It investigates new thinking methods which integrate components in space through combining other fields like economy, culture, literature, arts, music, and dance and performs experimental projects which can embody a plan and design based on systematic exploration of theories.

Through the course, spatial environment elements are observed in urban life and nature, and thus presented in well-recognized space designs. The designs also adopt marketing investigating methods by analyzing customer-focused psychology in order to supply the energy to sustain healthy life in long-remembered spaces.

Space Media Lab :

The Lab proposes the research on a space for a harmonic Life which brings human-beings, society and environments together by analyzing multilateral shapes in Life. Also, it advances practical research which plans and embodies a space in terms of integral points through multi-studies research and analysis such as central behavior space design space design adopting various medias, sentimental experimental spaces considering space marketing, and so on.

Interior design is a kind of junction between body and space, as well as between culture and space. Inner-and-outer space can be delineated by these two substances. In this context we try to study the meaning and method of interior design existentially and culturally. For this aim, our lab holds intensive theory seminars and field trips. Also, lab students are encourged to participate in many design competitions.

Department of Interior Design

PROGRAM OF STUDY

The Department of Interior Design offers effective design studies as follows:

Lectures and Seminars: We offer lectures and seminars in parallel in order to teach various design theories.

Studio:

Practice-focused courses are provided in studio classes. All students complete assigned design projects with one-on-one conversations and discussions between an instructor and the student. Studio courses are crucial as core subjects in the Department of Interior Design because they are the most effective way to combine design practices and related theories.

Fieldwork:

The Department of Interior Design offers chances for students to visit famous interior design shops in Seoul or elsewhere and lets students experience real designs. Through various fieldwork, students can learn theories with necessary on-the-spot senses. Moreover, we visit interior design places under construction to improve experimental knowledge.

Professional presentations:

Students are expected to present their academic works in conferences, after learning the necessary skills from the coursework of the Department. It is one of our traditional ways to train students for confirming their academic passions and confidence in themselves and to establish human networks between students and other colleagues in the field.

CONTACT INFORMATION

Department of Interior Design
TEL : 82-2-820-0700
FAX : 82-2-816-3354
E-mail : architec@ssu.ac.kr
Website : soar.ssu.ac.kr

COURSES

Common Courses

21605323	Advance Interior Architectural Design Ⅰ
21605324	Modern Art & Interior Studies
21605325	Advanced Architectural Design Ⅰ
21605326	Analysis in Design & Culture
21605337	Advanced Theories of Interior Architectural Planning
50084105	Interior Space Analysis
50084106	Contemporary Design Analysis
50084125	Statistics for Design
21605327	Spatial Behavior & Psychology Studies
21605328	Interior Architecture Field Trip
21605329	Special Project of Remodeling
21605330	Environment Friendly Planning Studies
21605331	Media Information & Space Design
21605332	Theory in Form & Space
21505333	Advanced Interior Architectural Design Ⅲ
21505334	Advanced Architectural Design Ⅱ
21605335	Seminar in Interior Design Ⅰ
21605336	Seminar in Interior Design Ⅱ
21605338	Advanced Interior Architectural Design Ⅱ
21605339	Environmental Color Planning
21605340	Interior Architectural Space and Language
21605341	Remodeling Design Methodology
21605342	Interior Design on Media
21605343	Research in Space & Brand Strategy
50084107	Modern Apartment housing Study
50084109	Study on Urban Community Facilities Planning
50084110	Case and Field Studies of Housing in Other Culture
50084111	Case Studies of Interior Housing
50084112	Case Studies in Workplace Design
50084113	Design Management
50084114	Design Thinking Studies
50084115	Advanced Study in Environmental Design
50084116	spatial design & marketing 1
50084117	spatial design & marketing 2
50084118	exhibition design planning

50084119	urban landscape design
50084120	landscape lighting design
50084121	Study on Interior Spatial Theory
50084122	Study on Korean Cultural Theory on Space
50084123	Research Method in Interior Design
50084106	Contemporary Design Analysis
50235619	Advanced Principles in Interior Design Studio I
50235631	Advanced Principles in Interior Design Studio II
50235621	Special Housing Design Studio
50235622	Special Interior Space Project Studio
50235623	Space Design Computing
50235624	Neuro design & Space
50235625	Planning of Space Coordination
50235626	Advanced Digital Color Application
50248387	Society and Space Design Ⅰ
50248389	Society and Space Design Ⅱ

DEPARTMENTAL REQUIREMENTS

Year	1st Semester				2nd Semester			
	Classification	Course Titles	Hours	Credits	Classification	Course Titles	Hours	Credits
1	Core modules	Advance Interior Architectural Design Ⅰ	3	3	Core modules	Advance Interior Architectural Design Ⅱ	3	3
		Advanced Theories of Interior Architectural Planning	3	3		Interior Space Analysis	3	3
		Modern Art & Interior Studies	3	3		Contemporary Design Analysis	3	3
		Statics for Design	3	3		advanced Architectural Design Ⅰ	3	3

Yea r	1st Semester				2nd Semester			
	Classification	Course Titles	Hour s	Credits	Classification	Course Titles	Hour s	Credits
1	Option modules	Remodeling Design Methodology	3	3	Option modules	Environmental Color Planning	3	3
		Interior Design on Media	3	3		Interior Architecture Field Trip	3	3
		Research in Space & Brand Strategy	3	3		Environment Friendly Planning Studies	3	3
		Design Management	3	3		Theory Form & Space	3	3
		Exhibition Design Planning	3	3	Option modules	Study on Urban Community Facilities Planning	3	3
		Study on Korean Cultural Theory on Space	3	3		Urban Landscape Design	3	3
						Research Methods in Interior Design	3	3
2	Core modules	Advanced Interior Architectural Design Ⅲ	3	3	Core modules	Seminar in Interior Design Ⅱ	3	3
		Seminar in Interior design Ⅰ	3	3		Interior Architectural Space and Language	3	3
	Option modules	Spatial Behavior & Psychology Studies	3	3	Option modules	Modern Apartment housing Study	3	3
		Special Project of Remodeling	3	3		Case Studies of Interior Housing	3	3
		Media	3	3		Case Studies in	3	3

Department of Interior Design

Yea r	1st Semester				2nd Semester			
	Classification	Course Titles	Hour s	Credits	Classification	Course Titles	Hour s	Credits
2	Option modules	information & Space Design			Option modules	Workplace Design		
		Advanced Architectural Design Ⅱ	3	3		Spatial Design & Marketing Ⅱ	3	3
		Case and Field Studies of Housing in Other Culture	3	3		Study on Interior Spatial Theory	3	3
		Design Thinking Studies	3	3				
		Advanced Study in Environmental Design	3	3				

MEMBERS OF FACULTY

Name	Position	Degree	Major	E-mail
Suh, Kuee Sook	Professor	Ph.D. (Kyoto Institute of Technology)	Interior Architecutrual Planning & Design Theory, Space & Environment Design	kss@ssu.ac.kr
Kim, Nam Hyo	Professor	Ph.D. (Yonsei Univ. M.S Pratt Institute)	Interior Architecture and Spatial psychology	pratt95@ssu.ac.kr
Lim, Kyung Ran	Professor	M.A. (Ewha Womans Univ.)	Interior Design Space Media Design Information architectural Design	joa@ssu.ac.kr
Suh, Jeong Yeon	Professor	MFA. (The School of the Art Institute of Chicago)	Interior Architectural Planning & Design	jysuh@ssu.ac.kr
Kim, Ju Yeon	Associate Professor	Ph.D. (Yonsei Univ.)	Interior Architecture and Human Sensibility Ergonomics	kjy@ssu.ac.kr

Department of Computing

The Department of Computing at Soongsil University was established in 1970 as the first undergraduate program in the computer science-related discipline in the nation. Since then, many excellent engineers have been educated and trained, and many valuable and active research works of high quality have been conducted in the department. In 1995, the department was reorganized into the College of Information Science, the first computer science-oriented college in the nation, by integrating four departments of the university.

Following the successful achievement of the undergraduate computer science program, the graduate program was established in 1999, which was renamed the Department of Computing at the time. Around the time, the major research tracks in the department were expanded into six different sub-fields. The main objective of the Department of Computing is to develop the ability to solve problems based on fundamental theories of computer science. To this end, the department requires students to participate in research projects and to publish papers in various conferences and journals. Through these activities, excellent engineers and scientists can be educated to lead the future of the information industry.

AREAS OF SPECIALIZATION

This program provides a comprehensive approach to advanced study in computer science. It also prepares professionally responsible individuals to be capable of holding a variety of scientific and technical positions in the area of computing applications. Such jobs are found in research and development departments; in federal, state and local government agencies; in computer software development companies; in computer security companies; in Internet, e-commerce and Web development companies; and in companies involved in development of hardware and software products for applications in aerospace, biological, chemical, medical, and genetic research.

The main objectives of the program are: 1) to give students the opportunity to study and attain knowledge in current computer science specialties; 2) to develop student ability to apply computer science problem solving methods and tools to realistic research and industry-related problems; 3) to equip students with the tools and knowledge necessary for contributing to the needs of a high technology society through preparation for continued learning; 4) to prepare students for advanced graduate work in computer science.

The Computer Science Department offers the following degrees and specializations:
MS and PhD degrees in Computer Science

Department of Computing

- Computer Architecture Track
- Computer Communications Track
- Software Engineering Track
- Artificial Intelligence Track
- Multimedia Track

PROGRAM OF STUDY

Teaching is by a variety of lectures and seminars on selected topics. Assessment is by written examination, assessed coursework, presentation, and a thesis.

CONTACT INFORMATION

Department of Computing
TEL : 02 − 820 − 0920
FAX : 822 − 3622

COURSES

Common Courses

21604240	Software Engineering
21604241	Computer Architectures
21604242	Programming Languages
21604244	Operating Systems
21604245	Numerical Analysis
21604246	Computer Algorithms
21604247	Artificial Intelligence
21604248	Computer Networks
21604250	Databases

21604254	Theory of Computation
21604255	Theory of Automata
21604307	Multimedia System
50228736	Creativity Development

Computer Architecture

21604266	Performance Evaluation of Computer Systems
21604267	Parallel Computer Architectures
21604268	Fault-Tolerant Design Methodology
21604269	VLSI CAD Simulation Methodology
21604293	Digital Systems Simulation
21604270	High Speed Computer Arithmetic
21604271	Systems Test
21604272	Topics in Computer Architectures Ⅰ
21604273	Topics in Very Large Scale Integration
21604274	Microcomputer Design
21604279	Very Large Scale Integration
21604283	Digital Systems Design
21604285	Supercomputer Architectures
21604290	Digital Signal Processing
21604294	Topics in Computer Architectures Ⅱ
21604308	Design For Testability
21604311	Network Architecture for Digital Broadcasting System

Computer Communication

21604275	Data Communication
21604281	Cryptology
21604284	Protocol Engineering
21604287	Topics in Computer Network
21604288	Performance Evaluation of Communication Networks
21604289	Broadband Wireless Network
21604291	Topics in Internet Communications
21604292	High Speed Communications
21604295	Coding Theory
21604296	Network Security
21604297	Local Area Networks
21604298	Internet Communications

21604299	Programming for Computer Communications
21604300	Mobile Communications
21604301	ATM Network
21604302	Network Algorithms
21604303	Topics in Network Security
21604304	Topics in Mobile Communications
21604305	Topics in High-speed Communications
21604306	Information System Security Engineering
21604309	Hacking and Anti-Virus Systems
21604310	Firewall and Intrusion Detection System
21604355	Mobile Computing Protocols
21604365	Information Assurance Engineering
21604369	Topics in Public Key Interchange(PKI) Authentications
21604370	Network Intrusion Protection System
21604371	IPv6 Communications
21604372	Mobile IP Communications
21604373	IPv6 Security Communications
21604374	Network Mobility Communications
21604375	Internet Multicast
21604376	Internet Contents Security
21604377	Topics in Contents Security
21604378	Broadband Routing
21604379	Routing in Wireless Networks
21604382	Topics in Wireless Routing
21604381	Multimedia Application Protocols
50062351	Topics in Electronic Commerce
50249280	Issues on Ubiquitous Services

Systems Software

21604251	Information Retrieval
21604252	Compiler Constructions
21604353	Database Design
21604256	Formal Languages
21604258	Topics in Programming Languages
21604259	Topics in Operating Systems
21604260	Topics in Database
21604261	Topics in Compiler Constructions
21604262	Topics in Parallel Processing

21604263	Operating Systems Design
21604264	Parallel Algorithms
21604265	Topics in Information Retrieval
21604278	Distributed Processing
21608280	Parallel Processing
21604282	Fault-Tolerant Computing
21604343	Implementation Techniques of Database Systems
21604344	Realtime Systems
21604345	Distributes Operating Systems
21604346	Embedded Systems
21604347	Topics in Distributed Processing
21604348	Design of OS for Ubiquitous
21604349	Topics in Middleware
21604350	Topics in Programming
21604351	Topics in Mobile Data Management
21604352	Topics in Mobile Programming
21604353	Design and Implementation of Embedded Operating
21604354	Topics in Modern Operating Systems
50084025	Geometric Algorithms I
50228737	Geometric Algorithms II
50237148	Computer Security
50237149	Mobile Security
50237150	Special Topics in Embedded OS

Software Engineering

21604318	Software Development Environment
21604319	Project Management
21604320	Software Design
21604324	Software Quality Assurance
21604325	Systems Analysis Methodology
21604330	Topics in Software Engineering
21604337	Object-Oriented Software Engineering
21604341	Topics in Software Design
21604342	Topics in System Analysis
21604356	Software Process
21604357	Software Requirements Engineering
21604358	Software Architecture
21604359	Software Reuse

21604360	Information Systems Audit
21604361	Management Information Systems
21604362	Topics in Software Process
21604363	Topics in Management Information Systems
21604364	Topics in Software Testing
21604366	Component Based Software Engineering
21604367	System Engineering
21604368	Information Technology Architecture
21604380	Topics in Knowledge Management

Artificial Intelligence

21604312	Image Processing
21604314	Computer Vision
21604315	Pattern Recognition
21604316	Logic Programming
21604317	Expert Systems
21604321	Natural Language Processing
21604322	Knowledge Base
21604328	Neural Networks
21604332	Machine Learning
21604334	Intelligence Tutoring Systems
21604339	Fuzzy Systems
21604419	Reasoning Systems
21604420	Planning Systems
21604421	Topics in Artificial Intelligence 1
21604423	Data Mining
21604424	Topics in Data Mining
21604425	Semantic Web
21604426	Agent Systems
21604443	Computer Vision System

Multimedia

21604313	Computer Graphics
21604335	Multimedia Database
21604338	Data Compression
21604427	Multimedia Design
21604428	Multimedia Programming
21604429	Multimedia Planning Scenario
21604430	Networked Multimedia
21604431	Multimedia Communication
21604432	HCI(Human Computer Interaction
21604433	Theory of Visual ART
21604434	Special Effects
21604435	Shape Modeling
21604436	Virtual Reality
21604437	Visualization
21604438	Curves and Surfaces
21604439	Motion Capture
21604440	Kinematics/Dynamics
21604441	Topics in Multimedia	
21604442	Augmented Reality
21604444	Character Animation

DEPARTMENTAL REQUIREMENTS

• Computer Architecture
• Computer Communication
• Systems Software
• Software Engineering
• Artificial Intelligence

MEMBERS OF FACULTY

Name	Position	Degree	Major	E-mail
Hoo-Bong Song	Emeritus Professor	Ph.D.(Chosun Univ.)	System Software	
Chul-Hee Lee	Emeritus Professor	Ph.D.(Chungang Univ.)	Data Communication	
Ki-won Chong	Emeritus Professor	Ph.D.(Univ.of Texas at Arlington)	Software Engineering, project management, electronic commerce	chong@ssu.ac.kr
Sung-Yul Rhew	Emeritus Professor	Ph.D.(Ajou Univ.)	Software Engineering, data structure, re-engineering and case tools, software quality assurance	syrhew@ssu.ac.kr
Chae-Woo Yoo	Emeritus Professor	Ph.D.(KAIST)	Programming Languages, compiler, human-computer interactio	cwyoo@ssu.ac.kr
Seung-Min Yang	Emeritus Professor	Ph.D.(Univ. of South Florida)	Realtime embedded systems, operating systems	smyang@ssu.ac.kr
Byung-Gi Kim	Professor	Ph.D.(KAIST)	Next generation network, wireless network security, QoS	bgkim@ssu.ac.kr
Young-Tack Park	Professor	Ph.D.(Univ. of Illinois at Urbana-Champaign)	Artificial Intelligence, semantic web, ubiquitous agent	park@ssu.ac.kr
Moon-seong Jun	Professor	Ph.D.(Univ. of Marryland at Baltimore County)	Information Security code algorithm, information communications	mjun@ssu.ac.kr
Sang-Ho Lee	Professor	Ph.D.(Northwestern Univ.)	Web databases and web search, database system benchmark and tuning	shlee333@ssu.ac.kr
Young-Song Mun	Professor	Ph.D.(Univ. of Texas at Arlington)	IPv6, mobile internet, Network Security	mun@ssu.ac.kr

Name	Position	Degree	Major	E-mail
Jae-young Choi	Professor	Ph.D.(Cornell Univ.)	Parallel and Distributed processing	choi@ssu.ac.kr
Su-Dong Kim	Professor	Ph.D.(Univ. of Iowa)	Software Engineering, service-oriented architecture	sdkim@ssu.ac.kr
Hoon Chang	Professor	Ph.D.(Univ. of Texas at Austin)	VLSI/SoC design and test, embedded systems, computer structure	hoon@ssu.ac.kr
Seok-Yoon Kim	Professor	Ph.D.(Univ. of Texas at Austin)	Automated design, timing evaluation, Signal/Power integrity	ksy@ssu.ac.kr
Soo-Won Lee	Professor	Ph.D.(Univ. of Southern California)	Artificial Intelligence mechanical learning, data mining	swlee@ssu.ac.kr
Yong-tae Shin	Professor	Ph.D.(Univ. of Iowa)	Computer Network, contents security	shin@ssu.ac.kr
Myung-Ho Kim	Professor	Ph.D.(POSTECH)	Mobile computing, open source software	kmh@ssu.ac.kr
Nam-Yong Lee	Professor	Ph.D.(Mississippi State Univ.)	System engineering, software engineering, electronic commerce system/business information system	nylee@ssu.ac.kr
Chang-Jin Suh	Professor	Ph.D.(Univ. of Massachusetts Amherst)	Sensor network, carrier ethernet, switching, routing theory,BGP	cjsuh@ssu.ac.kr
Gye-young Kim	Professor	Ph.D.(Soongsil Univ.)	Robot vision, pattern recognition, augmented reality	gykim11@ssu.ac.kr
Hyeon-Suk Na	Professor	Ph.D.(POSTECH)	Computational Geometry, development/ analysis of algorithms, information theory	hsnaa@ssu.ac.kr
Dong-Joo Park	Professor	Ph.D.(Seoul National Univ.)	Database, multimedia database, embedded software	djpark@ssu.ac.kr

Department of Computing

Name	Position	Degree	Major	E－mail
Ji－man Hong	Professor	Ph.D.(Seoul National Univ.)	operating systems, embedded software, real－time systems, fault tolerant system, sensor network	jiman@ssu.ac.kr
Sang－Jun Lee	Professor	Ph.D.(Seoul National Univ.)	Database, mobile data processing, P2P systems	sangjun@ssu.ac.kr
A－Ra Khil	Associate Professor	Ph.D.(KAIST)	Realtime operation System, embedded operating system	ara@ssu.ac.kr
Kyu－Baek Hwang	Associate Professor	Ph.D.(Seoul National Univ.)	Machine learning, natural language processing, bioinformatics	kbhwang@ssu.ac.kr
Jeong－Hyun Yi	Associate Professor	Ph.D.(Univ. of California, Irvine)	Network security, mobile security	jhyi@ssu.ac.kr
Jeong－jin Lee	Associate Professor	Ph.D.(Seoul National Univ.)	Computer graphics, medical imaging	leejeongjin@ssu.ac.kr

Department of Digital Media

The main goal of the Department of Digital Media is to incubate creative manpower for digital media industry and the fields of culture and art. The activity of the department centers around converging art with technology and abstracting digital media content from its traditional representations, thereby helping to create leading-edge areas such as digital media. The success of this agenda is currently leading into an increasing focus on how digital information overlaps the everyday physical world. The department takes the lead in collaboration between academia and industry and between art and technology, and provides a unique environment to explore research and applications, regardless of traditional divisions among disciplines. The department is a creative ecosystem, where the viable and interdependent flow of people, projects, ideas and applications is dedicated to the exploration and the expansion of people's ability to use digital media to connect to one another and influence the world around them.

The faculty group of the department consists of 15 professors and 15 Ph.D. staff members for research and teaching. Also, more than 100 graduate students working on Master and Ph.D. degrees conduct intensive researches with faculty members.

AREAS OF SPECIALIZATION

• Media Engineering
• Contents Engineering
• Media Arts

PROGRAM OF STUDY

Acquisition of core knowledge is achieved mainly through lectures and seminars, practical classes and demonstrations. More specialised and detailed knowledge is gained through preparation for coursework assignments, working on projects and theses, and through reflection and discussion in seminars. Assessment is principally through mid-term and end-of-semester written examinations and coursework assignments (mainly media projects, seminar &tutorial presentations) which assess deeper understanding and extended argument, as well as more specific knowledge and approaches. All graduate students must pass all required courses and qualify examinations and write and defend a master's thesis for M.E degree and Ph.D thesis for Ph.D. degree. Each thesis is evaluated by more than three faculty members, at least one of whom is not an instructor in the program.

Department of Digital Media

CONTACT INFORMATION

Department of Digital Media
TEL : 82-2-820-0910
FAX : 82-2-822-3622
E-mail : media@ssu.ac.kr
Website : http://media.ssu.ac.kr/

COURSES

Common Courses

21605208	Introduction to Digital Media
21605209	Digital Media Design
21605210	Digital Media Marketing and Management
21605211	Human and Computer Interaction
21605215	Introduction to Digital Media Technology Policy
50074226	The Research Method of Cultural Industries
50258849	Digital Media Paradigm
50291503	User Experience Design
50348863	IT Fusion Technology

Media Engineering

21605217	Digital Image Processing
21605219	Multimedia Data Mining
21605220	Distributed Multimedia
21605222	Internet Media
21605223	Pattern Recognition
21605224	Computer Vision
21605225	Computer Vision Seminar
21605226	Ubiquitous Computing
21605227	Advanced Computer Graphics
21605228	Topics in Computer Graphics
21605237	Concentrated Seminar for Multimedia
21605238	Artificial Intelligence
21605239	Concentrated Seminar for Artificial Intelligence

21605214	Algorithm
21605242	Advanced Pattern Recognition
21605244	Animation Algorithm Seminar
21605249	Real−time Rendering Seminar
21605243	Image−based Rendereing Seminar
21605252	Volume Rendering
21605253	Image Based Rendering
50086802	Data Mining
50258845	Interaction Design
50258851	Digital Sensibility Science
50291503	User Experience Design
50300627	Media Robotics
50315788	Special Topics on Software Development Method
50325796	Image based 3D modeling
50300627	Media Robotics
50315788	Special Topics on Software Development Method
50325796	Image based 3D modeling
50338470	Advanced 3D modeling based on Image
50338471	machine learning
50373822	Digital Media Industry
50373820	VR Contents Design

Contents Engineering

21605255	Digital Contents Engineering
21605263	Game Theory
21605264	Network Game
21605265	Game Engineering
21605266	Seminar for Game
21605269	Human Body Animation
21605250	Computer Graphics Special Effects
50300625	Internet of Things
50300628	3D modeling

Media Art

21605277	Media Art Seminar
21605278	Media Art Seminar
21605279	Digital Media Creation Theory
21605282	Interactive Story Telling Theory

21605281	Digital Media and Arts
21605280	Digital Media Advertisement
21605286	3D Spatial Design and Plastics
21605291	Contents Planning
21605292	Advanced Research on Media Art
21605295	Cognitive Science Seminar
21605296	Media Aesthetics and Theory Seminar
21605297	Media Aesthetics and Theory Seminar
50258847	New Media Study
50259356	New Media Art
50277055	Machine Learning
50300626	Film Analysis: Psychology and Social Reflective Media
50300801	Advanced New Media Art

DEPARTMENTAL REQUIREMENTS

Students can choose compulsory courses among common courses offered at the department.
students can select optional courses from among 4 course lists established according to the requirements of a particular major discipline, a special subject of study.
The followings are core classes of 4 Major course categories.

- Common : Introduction to Digital Media, Digital Media Design, Digital Media Marketing and Management, Human and Computer Interaction,

- Media Engineering : Digital Image Processing, Multimedia System, Pattern Recognition Computer Vision, Ubiquitous Computing, Advanced Computer Graphics, Realtime Rendering Augmented Reality, Artificial Intelligence, Algorithm

- Contents Engineering : Digital Contents Engineering, Computer Music, Game Theory, Mobile Contents Production, 3D Animation Production, Computer Graphics Special Effects, Documentary Theory and Practice

- Media Art : Media Art Seminar, Interactive Story Telling Theory, Principles of 2-D, Design & Plastics, 3D Spatial Design and Plastics, Media Aesthetics and Theory Seminar, Introduction to Film Art, Media Art Authoring Techniques

Graduate School of Soongsil University

MEMBERS OF FACULTY

Name	Position	Degree	Major	E-mail
Choi, Hyung-Il	Professor	Ph.D. (Univ. of Michigan)	Computer Vision	hic@ssu.ac.kr
Lim, Young-Hwan	Professor	Ph.D. (Northwestern Univ.)	Multimedia	yhlim@ssu.ac.kr
Song, Kwanho	Professor	Ph.D. (Kwangwoon Univ.)	Internet Media	khsong@ssu.ac.kr
Paik, Doowon	Professor	Ph.D. (Univ. of Minnesota)	Image Processing, Algorithm	apaik@ssu.ac.kr
Yoon, Joonsung	Professor	Ph.D. (New York Univ.)	Media Aesthetics, Media art	jsy@ssu.ac.kr
Kim, Kyujung	Professor	D.A. (New York Univ.)	Media art	kyu@ssu.ac.kr
Jung, Kee-Chul	Professor	Ph.D. (Kyungpook National Univ.)	HCI	kcjung@ssu.ac.kr
Oh, Kyoung-Su	Associate Professor	Ph.D. (Seoul National Univ.)	Computer graphics	oks@ssu.ac.kr
Kim, Dongho	Professor	Ph.D. (George Washington Univ.)	Computer Graphics	cg@su.ac.kr
Ko, Il-Ju	Professor	Ph.D. (Soongsil Univ.)	Emotion Recognition	andy@ssu.ac.kr
Sung, Jung-Hwan	Associate Professor	Ph.D. (Chungang Univ.)	Interation Design, Media Art, Contents Planning	artbysung@ssu.ac.kr
Lim, Chan	Professor	M.F.A, (San Francisco Art Institute)	Film	chanlim@ssu.ac.kr
Lee, Kang-Hee	Associate Professor	Ph.D. (KAIST)	Media Robotics	kanghee.lee@ssu.ac.kr
Park, Jae-Wan	Assistant Professor	DDes(Harvard)		jaewan.park@ssu.ac.kr
Park, Jin-Ho	Associate Professor	Ph.D. (KAIST)	Computer Graphics	c2alpha@ssu.ac.kr