

**<AY2021> List of Subjects for ISTC,  
Graduate School of Science and Engineering**

A I (Subjects of Specialized Fields)								
Department	Code	Class	Subject	Credit	Lecturer	Semester	Day/Period	Note *4
Information and Computer Science	31691001		Advanced Communications Engineering (E)	2	(not available this year)	—	—	
	31691002		Advanced Emergent Systems (E)	2	Katsunori Shimohara	Spring	Thu/2	
	31691008		Advanced Programming Language (E) *Lectures will be given via internet	2	Hirohide Haga	Spring	—	
	31691005		Advanced Nature-Inspired Computing (E)	2	Ivan Tanev	Fall	Thu/2	
	31691006		Advanced Information and Computer Sciences (E)	2	Andrew Davies	Fall	Fri/3	
	31691007		Internship (E)	2	Ivan Tanev	All	Intensive	
	31691009		Advanced Distributed Systems (E)	2	Takahiro Koita	Spring	Fri/1	*Prior Registration
	31691010		Advanced Natural Language Processing (E) *Only for the students in the department of Information and Computer Science	2	(not available this year)	—	—	
	31691011		Advanced Optimization Technologies (E)	2	(not available this year)	—	—	
	31691012		Advanced Knowledge Discovery in Databases (E)	2	Miho Ohsaki	Fall	Fri/4	
	31691013		Information and Communication Technology (E)	2	(not available this year)	—	—	
	31691014		Advanced Digital Signal Processing (E)	2	Tsuneo Kato	Spring	Thu/2	
	31691081	*1	Research and Experiments I (E) 【For students enrolled in spring】	2	*2	Spring	Intensive	1st year
	31691082	*1	Research and Experiments II (E) 【For students enrolled in spring】	2	*2	Fall	Intensive	1st year
	31691083	*1	Research and Experiments III (E) 【For students enrolled in spring】	2	*2	Spring	Intensive	2nd year
	31691084	*1	Research and Experiments IV (E) 【For students enrolled in spring】	2	*2	Fall	Intensive	2nd year
	31691091	*1	Research and Experiments I (E) 【For students enrolled in fall】	2	*2	Fall	Intensive	1st year
	31691092	*1	Research and Experiments II (E) 【For students enrolled in fall】	2	*2	Spring	Intensive	1st year
	31691093	*1	Research and Experiments III (E) 【For students enrolled in fall】	2	*2	Fall	Intensive	2nd year
	31691094	*1	Research and Experiments IV (E) 【For students enrolled in fall】	2	*2	Spring	Intensive	2nd year
31691090		Master's Thesis(E)	—	—	All	Intensive	*3	
Electrical and Electronic Engineering	31692001		Advanced Infrastructure Engineering (E)	2	Naoto Nagaoka	Fall	Tue/2	
	31692002		Advanced Opto-Electronic Waveguide (E) 【For students enrolled in 2019 and before】	2	Hiroyuki Toda	Fall	Thu/2	
	31692012		Advanced Optical Communication Engineering (E) 【For students enrolled in 2020】	2	Hiroyuki Toda	Fall	Thu/2	
	31692008		Electrical Power Systems Engineering (E) *This subject is compulsory for the students who enrolled in the department of Electrical and Electronic Engineering.	2	BEVRANI HASSAN	Spring	Wed/4	1st year
	31692009		Advanced Applications of Electronics (E) *This subject is compulsory for the students who enrolled in the department of Electrical and Electronic Engineering.	2	Koichi Kondo *Lecturer may be changed.	Fall	TBD	1st year
	31692010		Advanced Electrical and Electronic Engineering I (E) *Only for the students in the department of Electrical and Electronic Engineering who have completed Code 31692008 or 31692009.	2	BEVRANI HASSAN	Spring	Wed/5	2nd year
	31692011		Advanced Electrical and Electronic Engineering II (E) *Only for the students in the department of Electrical and Electronic Engineering who have completed Code 31692008 or 31692009.	2	Koichi Kondo *Lecturer may be changed.	Fall	TBD	2nd year
	31692007		Internship (E)	2	Koichi Kondo	All	Intensive	
	31692081	*1	Research and Experiments I (E) 【For students enrolled in spring】	2	*2	Spring	Intensive	1st year
	31692082	*1	Research and Experiments II (E) 【For students enrolled in spring】	2	*2	Fall	Intensive	1st year
	31692083	*1	Research and Experiments III (E) 【For students enrolled in spring】	2	*2	Spring	Intensive	2nd year
	31692084	*1	Research and Experiments IV (E) 【For students enrolled in spring】	2	*2	Fall	Intensive	2nd year
	31692091	*1	Research and Experiments I (E) 【For students enrolled in fall】	2	*2	Fall	Intensive	1st year
	31692092	*1	Research and Experiments II (E) 【For students enrolled in fall】	2	*2	Spring	Intensive	1st year
	31692093	*1	Research and Experiments III (E) 【For students enrolled in fall】	2	*2	Fall	Intensive	2nd year
31692094	*1	Research and Experiments IV (E) 【For students enrolled in fall】	2	*2	Spring	Intensive	2nd year	
31692090		Master's Thesis (E)	—	—	All	Intensive	*3	
Mechanical Engineering	31693001		Advanced Fluid Dynamics (E)	2	(not available this year)	—	—	
	31693002		Advanced Mechanics of Materials (E)	2	Kazuya Okubo	Fall	Wed/2	
	31693003		Advanced Spray Combustion Science (E)	2	Jiro Senda	Fall	Tue/1	
	31693004		Advanced Fluid Engineering (E)	2	Hiroshi Yamaguchi	Spring	Fri/5	
	31693005		Advanced Mechanical Materials (E)	2	Hiroyuki Miyamoto	Spring	Fri/3	
	31693006		Advanced Mechanical Engineering I (E)	2	(not available this year)	—	—	
	31693007		Advanced Mechanical Engineering II (E)	2	(not available this year)	—	—	
	31693008		Internship(E)	2	Kazuya Okubo	All	Intensive	
	31693081	*1	Research and Experiments I (E) 【For students enrolled in spring】	2	*2	Spring	Intensive	1st year
	31693082	*1	Research and Experiments II (E) 【For students enrolled in spring】	2	*2	Fall	Intensive	1st year
	31693083	*1	Research and Experiments III (E) 【For students enrolled in spring】	2	*2	Spring	Intensive	2nd year
	31693084	*1	Research and Experiments IV (E) 【For students enrolled in spring】	2	*2	Fall	Intensive	2nd year
	31693091	*1	Research and Experiments I (E) 【For students enrolled in fall】	2	*2	Fall	Intensive	1st year
	31693092	*1	Research and Experiments II (E) 【For students enrolled in fall】	2	*2	Spring	Intensive	1st year
	31693093	*1	Research and Experiments III (E) 【For students enrolled in fall】	2	*2	Fall	Intensive	2nd year
	31693094	*1	Research and Experiments IV (E) 【For students enrolled in fall】	2	*2	Spring	Intensive	2nd year
	31693090		Master's Thesis (E)	—	—	All	Intensive	*3

A I (Subjects of Specialized Fields)								
Department	Code	Class	Subject	Credit	Lecturer	Semester	Day/Period	Note *4
Applied Chemistry	31694001		Advanced Organic Chemistry (E)	2	Tomoyuki Koga Masahito Kodera Hiroaki Kitagishi	Spring	Tue/2	
	31694002		Advanced Inorganic Chemistry (E)	2	Minoru Inaba Masaki Kato Takatsugu Endo	Spring	Tue/1	
	31694003		Advanced Physical Chemistry (E)	2	Akihisa Shioi	Fall	Fri/2	
	31694004		Advanced Analytical Chemistry (E)	2	Kazuhiko Tsukagoshi	Fall	Tue/2	
	31694005		Advanced Transport Phenomena (E)	2	Katsumi Tsuchiya	Fall	Thu/3	
	31694006		Internship (E)	2	Tadashi Mizutani	All	Intensive	
	31694081	*1	Research and Experiments I (E) 【For students enrolled in spring】	2	*2	Spring	Intensive	1st year
	31694082	*1	Research and Experiments II (E) 【For students enrolled in spring】	2	*2	Fall	Intensive	1st year
	31694083	*1	Research and Experiments III (E) 【For students enrolled in spring】	2	*2	Spring	Intensive	2nd year
	31694084	*1	Research and Experiments IV (E) 【For students enrolled in spring】	2	*2	Fall	Intensive	2nd year
	31694091	*1	Research and Experiments I (E) 【For students enrolled in fall】	2	*2	Fall	Intensive	1st year
	31694092	*1	Research and Experiments II (E) 【For students enrolled in fall】	2	*2	Spring	Intensive	1st year
	31694093	*1	Research and Experiments III (E) 【For students enrolled in fall】	2	*2	Fall	Intensive	2nd year
	31694094	*1	Research and Experiments IV (E) 【For students enrolled in fall】	2	*2	Spring	Intensive	2nd year
31694090		Master's Thesis (E)	—	—	All	Intensive	*3	
Science of Environment and Mathematical Modeling	31695001		Advanced Analysis (E)	2	Yoshitsugu Takei	Fall	Tue/1	
	31695002		Advanced Numerical Analysis (E)	2	Seiro Omata	Fall	Tue/2	
	31695003		Advanced Difference / Differential Equations (E)	2	Seiji Saito	Fall	Wed/3	
	31695004		Advanced Natural Environment Studies (E)	2	Hiroyuki Tsutsumi	Spring	Tue/5	
	31695005		Advanced Earth and Planetary Environment Science (E)	2	Akira Hayashida	Fall	Mon/3	
	31695006		Advanced Ecology (E)	2	Motohiro Hasegawa	Spring	Mon/3	
	31695007		Advanced Environmental Systems Engineering (E)	2	(not available this year)	—	—	
	31695009		Advanced Human and Environmental Studies (E)	2	Satoshi Akao	Spring	Wed/3	
	31695010		Advanced Statistical Finance (E) 【For students enrolled in 2019 and 2020】	2	Hiroshi Tsuda	Spring	Wed/2	
	31695011		Advanced Biodiversity Science (E) 【For students enrolled in 2019 and 2020】	2	Takashi Osono	Fall	Thu/4	
	31695012		Advanced Atmospheric Environment Studies (E) 【For students enrolled in 2019 and 2020】	2	Shozo Yamane	Spring	Thu/1	
	31695008		Internship(E)	2	Yoshitsugu Takei	All	Intensive	
	31695081	*1	Research and Experiments I (E) 【For students enrolled in spring】	2	*2	Spring	Intensive	1st year
	31695082	*1	Research and Experiments II (E) 【For students enrolled in spring】	2	*2	Fall	Intensive	1st year
	31695083	*1	Research and Experiments III (E) 【For students enrolled in spring】	2	*2	Spring	Intensive	2nd year
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	31695091	*1	Research and Experiments I (E) 【For students enrolled in fall】	2	*2	Fall	Intensive	1st year
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	31695093	*1	Research and Experiments III (E) 【For students enrolled in fall】	2	*2	Fall	Intensive	2nd year
	31695094	*1	Research and Experiments IV (E) 【For students enrolled in fall】	2	*2	Spring	Intensive	2nd year
31695090		Master's Thesis (E)	—	—	All	Intensive	*3	
A II (Common Core Subjects)								
Department	Code	Class	Subject	Credit	Lecturer	Semester	Day/Period	Note *4
ALL	31696501		Computation Structure (E) *Lectures will be given via internet	2	Hirohide Haga	Fall	—	
	31696502		Electric Circuit Theory (E)	2	Hiroyuki Toda Yoshihiro Baba Kaoru Inoue Daisuke Koyama	Fall	Wed/2	
	31696503		Nonlinear Physics (E)	2	Masanori Takaoka	Spring	Mon/4	
	31696504		Materials Chemistry (E)	2	Akiko Nomura	Spring	Mon/2	
	31696505		Applied Mathematical Analysis (E)	2	Naoshi Nishimura	Fall	Tue/3	
	31696506	001	Biology (E)	2	Masaya Ikegawa	Fall	Fri/4	
	31696507		Neuroscience (E)	2	Kota Kobayashi	Spring	Fri/2	
B (Common General Subjects)								
Department	Code	Class	Subject	Credit	Lecturer	Semester	Day/Period	Note *4
ALL	31696601		Ethics for Scientists and Engineers (E)	2	Philip Tromovitch	Spring	Thu/4	
	31696602		Technology and Business Project Management (E)	2	Makoto Sarata	Spring	Tue/3·4	
	31696603	001	Science and Engineering Writing 1 (E)	2	Philip Tromovitch	Spring	Wed/3	
		002	Science and Engineering Writing 1 (E)	2	Philip Tromovitch	Fall	Wed/3	
	31696608	001	Science and Engineering Writing 2 (E)	2	Philip Tromovitch	Spring	Thu/3	
		002	Science and Engineering Writing 2 (E)	2	Philip Tromovitch	Fall	Thu/4	
	31696605		Presentation Skills for Scientists and Engineers (E)	1	Philip Tromovitch	Fall	Thu/3	
	31696606		R & D Planning for Scientists and Engineers (E)	2	Camille-Faith Pascua Romero	Fall	Thu/2	
	31696607		Japanese Corporate Culture (E)	2	Makoto Sarata	Fall	Tue/3·4	

\*1 Please choose the class code from the list on the next page, p.13.

\*2 It will be lectured by your supervisor.

\*3 【Master's Thesis】 should be registered in final Spring semester.

\*4 1st year=the first and second semester, 2nd year=the third and fourth semester