

Course Requirement Guide Book

(October 2013)

International Master's Degree Program



TOYOHASHI
UNIVERSITY OF TECHNOLOGY

1-1 Hibarigaoka Tenpaku-cho Toyohashi-shi Aichi 441-8580, JAPAN
Tel : +81-0532-44-6506 Fax : +81-0532-44-6509

I Requirements for completion

1. Requirements for completion

To complete the master's course, a student must participate in the course for two or more years, and must acquire the minimum credits required as follows. A student must carry out a research under a proper guidance by faculty members. Also a student must submit a master's thesis, and must pass the review and final examination.

Note that students showing excellent achievements may finish in a shorter study period.

Classification	Required credits for completion	Remarks
General subjects	6	
Specialized subjects		
Mechanical Engineering	24	6 credits in total can be substituted with combination of following options, with permission from your supervisor. 1. Master's specialized subjects from other department 2. Master's specialized subjects held in Japanese (You cannot choose a subject in Japanese if you already took the same subject held in English and vice versa)
Electrical and Electronic Information Engineering	24	
Computer Science and Engineering	24	
Environmental and Life Science	24	
Architecture and Civil Engineering	24	
Grand total	30	

2. Application for degree

Only a student who has acquired the credits required for completion, or who is expected to acquire the required credits can apply for the master's degree. Degree application and submission procedures of thesis for master's degree shall be posted on a bulletin board before the submission period.

II Class registration, examination, attendance period

1. Class registration method

Classes shall be registered according to the program schedule of your respective major.

(1) Making your study plan

To make your study plan, you should read this Guide Book thoroughly, and follow the instructions and advices given during the orientation and from your supervisor.

Course Schedule is provided at the beginning of each academic year.
Schedule for intensive classes will be posted on a bulletin board when the details are fixed.

(2) Class Registration

The student must register the classes by Dream Campus

<https://www.ead.tut.ac.jp/portal/>

through TUT website or by "Application for Subjects" during the designated period.

*Classes cannot be registered nor withdrawn after the designated registration period.

Those classes without registration will not be accredited in any case.

NOTES

1) To take specialized subjects given in other department, or given in Japanese, the student must obtain approval from his/her supervisor and the subject instructor with "Application for Registration of Subjects in Other Department," before registering.

2) If the student does not attend the class nor take the examinations, credits will not be given even if the registration is made.

3) A student cannot re-register the subject once credits are given.

4) Subjects held at the same time schedule cannot be registered. Note that this does not apply for subjects being taken again for examinations only, or intensive subjects.

(3) Confirming and amending the registration

To confirm your class registration or to amend, please access Dream Campus, and follow the manuals for how to use.

(4) Repeating classes

Basically, a student who has failed in a subject with regular examinations or some other reasons can take the same subject again in the next academic year. To repeat a subject, he/she must make registration again.

(5) Repeating classes by examination

When a subject instructor approves your credits by passing the examination without re-attending the classes, the student can register the subject with a sheet of "Application for Registration for Repeating Subjects (by Examination)".

*Only the subjects failed with "D" grade are eligible for this.

2. Examination

Examination includes regular examinations and makeup examinations.

(1) Regular examination

Regular examination shall be held during the set period at the end of each term, as a principle.

All students are to check the examination schedule on the academic calendar through Dream Campus or bulletin board at A-building. Note that examination may be held at any time when found necessary by the subject instructor.

(2) Make-up examination

1) Make-up examination shall be held only when the student could not take the regular examination due to the following reasons. The student must gain the approval of the subject instructor with "Request for makeup examination".

- a) Illness (doctor's medical certificate must be submitted)
- b) Accidents or disaster (certificate must be submitted), and other special reasons (a letter explaining the reason must be submitted)

2) "Request for makeup examination" must be submitted to the Academic Affairs Division within one week from the final date of regular examination.

3) If a student fails to take the makeup examination, further examination will not be held.

(3) Approval of credits and evaluation

Credits are approved from the subject instructor.

1) Your grades are calculated according to the following basis.

Grade	Scores	Approval
A	Over 80	Units certified
B	65-79	Units certified
C	55-64	Units certified
D	Under 55	Units NOT certified

2) Results will be available on Dream Campus after the certain days of the examination.

3. Maximum years of attendance, etc.

(1) Maximum years of attendance

It is not allowed for a student to be in the master's course at the university exceeding four years.

(2) Leave of absence

If a student cannot attend classes for two or more months uninterruptedly due to illness or other special reasons, he/she may submit "Request for leave of absence" to Academic Affairs Division after getting the approval from his/her supervisor, member of academic affairs committee, and their department head. Upon approval from the President, the student can take a leave of absence (maximum two years in total).

The period of this absent will not be counted as the above "(1). Maximum years of attendance."

To return to school after the approved period ends, the student must submit "Notification of return to school."

To return to school before the approved period ends due to the elimination of the reason, the student must submit "Request to return to school" and obtain approval.

(3) Withdrawal

If a student wants to withdraw from the university, he/she must submit "Request for withdrawal" to Academic Affairs Division after getting the approval from his/her supervisor, member of academic affairs committee, and their department head. Upon approval from the President, the student can withdraw from the university.

Note that the tuition fee has to be paid in full amount even if you withdraw in the middle of term.

(4) Elimination from University

A student will be eliminated from the university for following reasons.

- 1) When a student exceed the period mentioned in above "(1) Maximum years of attendance"
- 2) When a student cannot return to school after the period mentioned in above "(2) Leave of absence."
- 3) When a student dies, or is disappeared.
- 4) Those who have been approved for half exemption or postponement of admission fee payment and did not pay for the admission fee by the designated date.
- 5) Those who failed to pay for the tuition and did not pay for even after the warning.

4. Others

(1) Information about canceled or makeup classes

All students are requested to double-check your class schedule and other information with following tools:

Location		information
Lecture hall at 1 st floor, A-bldg.	Central Bulletin Board (panel board)	Class schedule change
	Electronic Bulletin Board (LCD)	Canceled or makeup classes, rescheduled notices
	Glass-covered Bulletin Board	Others
TUT website	http://annai00.gakumu.tut.ac.jp/adlight/adlightwww/conduct_list_a.asp	Canceled or makeup classes
TUT website for mobile phones	http://osirabe.net/tut/ *Mobile tagging by camera phones	Canceled or makeup classes

(2) Classes/exams in case A STORM WARNING is announced.

In case a Storm Warning (*Bo-fu Keiho*) is announced for Toyohashi city, TUT will conduct classes or examinations as follows:

- 1) To prevent any accident, all classes will be canceled during the Storm Warning.
 - 2) If the Storm Warning is cleared before 7:00 am, all classes are on schedule.
 - 3) If the Storm Warning is cleared between 7:00 am and 11:00 am, all classes start from 3rd period (*Classes of 1st and 2nd period will be canceled).
 - 4) If the Storm Warning is still announced after 11:00 am, all classes will be canceled.
- *All cancelled classes and examinations will be rescheduled.

(3) Information about RESCHEDULED CLASSES/EXAMS

Classes/exams canceled by natural disasters will be rescheduled on "YOBIBI"(an optional extra day). YOBIBI may also be used for makeup classes. Students may check the YOBIBI schedules two weeks before the dates on bulletin board at lecture hall, A-Bldg.

*YOBIBI will be used for rescheduling classes/exams cancelled by the storm warning etc., as a priority.

You must double check the information from TUT especially on unusual cases.

(4) University's e-mail account

TUT strongly recommend all students to set up the e-mail forwarding service in order to receive important information of class-scheduling, grading and other communications from the university.

(5) Absence from classes

When you have to be absent from classes due to illness, bereavement or other reasons, you need to inform reasons to your subject instructor by yourself.

The way how your absence will be dealt with is depends on subject instructor.

Reasons of Absence	Certificate you should submit	Procedure
Illness/Injury	Medical certificate or medical expense receipts	Students inform directly to lecturers
Bereavement leave	Letter or notice of funeral	Students inform directly to lecturers
Infection diseases*	Medical certificate or Medical expense receipts	Students inform Student Affairs Division (0532-44-6553), TUT office staff will report to lecturers.

*TUT may admonish suspension in order to prevent spread infection. Suspension order will be posted on bulletin board at A-building.

III Curriculum

1. Classes and credits

(1) Classes

Your classes are divided into General subjects and Specialized subjects. Numbers of credits are set for each subject.

(For the subjects to be offered, see the following pages.
See the web syllabus for detail of each subject.)

(2) Compulsory subjects and elective subjects

- 1) Compulsory subjects are the subjects that must be completed as the requirement of the major.
- 2) Elective subjects can be selected and taken from those subjects being offered for the designated numbers of credits.

(3) Calculating credits

Teaching types of classes are lecture, exercise, experiment, practical or hands-on training, and they are offered individually or in combination among them. The class time for one credit is calculated under the following standards.

*Typical class in university is counted as 2 hours.

- 1) For lectures, one credit requires 15 hours of classes.
- 2) For exercises, one credit requires 30 hours of classes.
- 3) For experiments, practical or hands-on training, one credit requires 45 hours of classes.

(4) School term

School term is determined according to the academic year calendar, and consists of two terms; Spring term (from April 1 until September 30) and Fall term (from October 1 until March 31)

General subjects

2013.10

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week			Instructor	note
				1st grade		2nd grade		
				Fall	Spring			
				2013.10 - 2014. 3	2014. 4 - 2014. 9	2014.10 - 2015. 9		
Elective	Management Science	4003001	2		1	(1)	Y. Miyata T. Fujiwara	
	Industrial Policies	4003002	2	1		(1)	H. Shibusawa	
	Culture and Communication I	4003003	2			1	M. Tamura	
	Culture and Communication II	4003004	2	1			Y. Sasao	
	Japanese Life Today	4003005	2		1	(1)	Undecided	
	Intercultural Communication	4003006	2		1	(1)	Y. Muramatsu	

◆ Those subjects whose numbers marked with "()" will be held every year.

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week				Instructor	note	
				1st grade						2nd grade
				Fall 1	Fall 2	Spring 1	Spring 2			
				2013.10 - 2014. 3		2014. 4 - 2014. 9				2014.10 - 2015. 9
Compulsory	Seminar on Mechanical Engineering I	4161001	4	4				Supervisor		
	Seminar on Mechanical Engineering II	4161002	2					2	Supervisor	
	Thesis Research on Mechanical Engineering	4161003	6	9				Supervisor		
Elective	Vibration Engineering	4163031	1			1			S. Kawamura	
	Deformation Processing Technology	4163002	1					0.5	K. Mori	
	Applied Mechanics of Materials	4163003	1					0.5	T. Adachi	
	Micromachining Engineering	4163004	1		1				T. Shibata	
	Joining and Surfacing of Materials	4163007	1			1			M. Fukumoto	
	Science and Technology of Thin Films	4163008	1					0.5	M. Izaki	
	Time-frequency Analysis and Wavelet Transform	4163012	1		1				Z. Zhang	
	Modeling and Analysis of Dynamical Control Systems	4163013	1				1		K. Terashima	
	High-Speed Mechanics and Optical Measurement	4163030	1					0.5	S. Suzuki	
	Applied Thermal Engineering	4163016	1					0.5	K. Kitamura	
	Advanced Applied Fluid Engineering	4163017	1	1					H. Yanada	
	Applied Combustion Engineering	4163019	1	1					S. Noda	
	Advanced Aeroacoustics	4163029	1					0.5	A. Iida	
	Advanced Mechanical Systems Design I	4163021	2		1			(1)	Supervisor	
	Advanced Mechanical Systems Design II	4163022	2			1		(1)	Supervisor	
	Advanced Materials and Manufacturing Process I	4163023	2		1			(1)	Supervisor	
	Advanced Materials and Manufacturing Process II	4163024	2			1		(1)	Supervisor	
	Advanced System, Control and Robotics I	4163025	2		1			(1)	Supervisor	
Advanced System, Control and Robotics II	4163026	2			1		(1)	Supervisor		
Advanced Energy and Environmental Engineering I	4163027	2		1			(1)	Supervisor		
Advanced Energy and Environmental Engineering II	4163028	2			1		(1)	Supervisor		

◆ Those subjects whose numbers marked with "()" will be held every year.

◆ "0.5" signifies that this subject will be held in any one of a quarter term (Spring 1, Spring 2, Fall 1 or Fall 2).

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week			Instructor	note
				1st grade		2nd grade		
				Fall	Spring			
				2013.10 - 2014.3	2014.4 - 2014.9	2014.10 - 2015.9		
Compulsory	Seminar on Electrical and Electronic Information Engineering	4261004	6	6			Supervisor	
	Thesis Research on Electrical and Electronic Information Engineering	4261002	6	9			Supervisor	
Elective	Material Science for Electronics	4263001	2	1		(1)	M. Inoue T. Hattori H. Muto T. Ishiyama	
	Physics for Electronics	4263002	2		1	(1)	M. Fukuda A. Matsuda Y. Nakamura H. Takagi	
	Electrical Energy Systems	4263003	2	1		(1)	M. Nagao H. Takikawa Y. Sakurai N. Hozumi	
	Electrical Technology and Materials	4263004	2		1	(1)	Y. Suda R. Inada Yo. Murakami	
	Semiconductor Physics	4263005	2		1	(1)	A. Wakahara A. Sandhu H. Okada T. Kawano	
	LSI Process	4263006	2	1		(1)	M. Ishida K. Sawada Yu. Murakami H. Sekiuchi	
	Information and Communication Technology	4263007	2		1	(1)	T. Ohira H. Uehara	
	Advanced Electronic Information System	4263008	2	1		(1)	S. Ichikawa	
	Methodology of R & D 1	4263010	2	1		(1)	Supervisor	
	Methodology of R & D 2	4263011	2		1	(1)	Supervisor	

◆ Those subjects whose numbers marked with "()" will be held every year.

Computer Science and Engineering

2013.10

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week			Instructor	note	
				1st grade		2nd grade			
				Fall 1	Fall 2				Spring 1
				2013.10	2014. 3	2014. 4			2014. 9
Compulsory	Seminar on Computer Science and Engineering I	4361001	4	4			Supervisor		
	Seminar on Computer Science and Engineering II	4361002	2				2	Supervisor	
	Thesis Research on Computer Science and Engineering	4361003	6	9			Supervisor		
Elective	System Design Project	4363002	2			3	(3)	Supervisor	
	Speech and Language Processing, Advanced	4363022	2			1	(1)	T. Akiba K. Yamamoto	
	Networking, Advanced 1	4363024	1	1				K. Umemura	
	Advanced Robotics and Informatics 1	4363026	1	1			(0.5)	J. Miura	
	Advanced Robotics and Informatics 2	4363027	1		1			M. Okada	
	Web Data Engineering 1	4363028	1			1	(0.5)	M. Aono	
	Web Data Engineering 2	4363029	1				0.5	S. Kuriyama	
	Computers and Education	4363008	2			1		K. Kawai	
	Image Processing, Advanced	4363010	2		1		(1)	Y. Kanazawa Y. Sugaya	
	Algorithm Engineering, Advanced	4363014	2				1	S. Masuyama T. Fujito	
	Computer Systems, Advanced	4363015	2		1			R. Kobayashi	
	Quantum Biology and Materials Science	4363016	2			1	(1)	H. Sekino N. Kurita H. Goto	
	Complex Systems and Intelligent Informatics 1	4363030	1	1			(0.5)	K. Murakoshi	
	Complex Systems and Intelligent Informatics 2	4363031	1		1		(0.5)	Y. Ishida	
	Advanced Chemoinformatics	4363021	2				1	Y. Takahashi H. Kato	
	Bio-physical Information Systems 1	4363032	1			1		N. Fukumura	
Bio-physical Information Systems 2	4363033	1				1	J. Horikawa		
Advanced Topics in Brain and Cognitive Sciences	4363020	2				1	S. Nakauchi M. Kitazaki		

◆ Those subjects whose numbers marked with "()" will be held every year.

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week			Instructor	note	
				1st grade		2nd grade			
				Fall 1	Fall 2				Spring 1
				2013.10 -2014.3	2014.4 -2014.9	2014.10 -2015.9			
Compulsory	Seminar on Environmental and Life Science I	4461001	3	3			Supervisor		
	Seminar on Environmental and Life Science II	4461002	3				3	Supervisor	
	Thesis Research on Environmental and Life Science	4461003	6	9			Supervisor		
Elective	Advanced Separation Chemistry I	4463001	1	1			(0.5)	Y. Saito	
	Advanced Separation Chemistry II	4463002	1		1		(0.5)	Y. Hirata	
	Special Topics in Inorganic Chemistry	4463027	1		1			N. Kakuta	
	X-ray Spectroscopy for Catalytic Engineering	4463028	1			1		T. Mizushima	
	Applied Physical Chemistry I	4463005	1			1	(0.5)	A. Matsumoto	
	Applied Physical Chemistry II	4463006	1			1		A. Matsumoto	No class will be held on and after 2016
	Advanced Polymer Chemistry	4463007	1	1				S. Itsuno	
	Advanced Polymer Engineering	4463008	1		1			E. Yoshida	
	Advanced Composite Science	4463009	1	1			(0.5)	T. Takeichi	
	Special Topics in Applied Organic Chemistry	4463010	1			1		S. Iwasa	
	Developmental Neuroscience	4463011	1			1	(0.5)	S. Yoshida	
	Advanced Molecular Life Science	4463012	1	1				Y. Kikuchi T. Tanaka	
	Advanced Applied Biochemistry and Biotechnology	4463013	1		1		(0.5)	A. Hiraishi T. Eki	
	Advanced Electrical and Electronic Technology for Ecological Engineering	4463014	1			1	(0.5)	S. Tanaka Y. Hatsukade A. Mizuno K. Takashima	
	Advanced Eco-Materials Engineering	4463016	1			1	(0.5)	H. Tsuji	
	Advanced Reaction Engineering	4463018	1			1		T. Oguchi	
	Advanced Sustainable Coordinator	4463019	1			1	(0.5)	N. Goto	
	Advanced Supercritical Fluid Engineering	4463020	1			1	(0.5)	H. Daimon	
	※ Advanced Life Science and Biotechnology I	4463021	2		1		(1)	Supervisor	
	※ Advanced Life Science and Biotechnology II	4463022	2			1	(1)	Supervisor	
※ Advanced Environmental Technology I	4463023	2		1		(1)	Supervisor		
※ Advanced Environmental Technology II	4463024	2			1	(1)	Supervisor		
※ Advanced Environmental and Ecological Systems I	4463025	2		1		(1)	Supervisor		
※ Advanced Environmental and Ecological Systems II	4463026	2			1	(1)	Supervisor		

※ Please ask your supervisor about class schedule of this subject

◆ Those subjects whose numbers marked with "()" will be held every year

◆ "0.5" signifies that this subject will be held in any one of a quarter term (Spring 1, Spring 2, Fall 1 or Fall 2)

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week			Instructor	note
				1st grade		2nd grade		
				Fall	Spring			
				2013.10 - 2014. 3	2014. 4 - 2014. 9	2014.10 - 2015. 9		
Compulsory	Seminar on Architecture and Civil Engineering I	4561001	3	3			Supervisor	
	Seminar on Architecture and Civil Engineering II	4561002	3			3	Supervisor	
	Thesis Research on Architecture and Civil Engineering	4561003	6	9			Supervisor	
Elective	Elasticity and Stability	4563001	2	1			T. Saito	
	Finite Element Method for Continua and Bar Structures	4563002	2			1	S. Nakazawa	
	Seismic Evaluation of Existing Buildings	4563003	2	1			T. Matsui	
	Seismic Design of Structures	4563029	2	1			T. Saito	
	Geologic Hazard and Mitigation Planning	4563004	2		1		M. Kawamura	
	Geotechnical Analysis	4563005	2			1	K. Miura	
	Building Science: Indoor Air Quality and Ventilation	4563006	2		1		H. Matsumoto	
	Building and Urban Thermal Environment	4563026	2			1	Y. Masuda	
	Coastal Hydraulics	4563009	2	1			S. Kato	
	Water Environment Engineering 1	4563031	2		1		K. Yokota	
	Water Environment Engineering 2	4563032	2			1	T. Inoue	
	Computer Applications in Urban Planning	4563011	2			1	A. Ohgai	
	Human Settlement: Its History and Theory	4563012	2		1		H. Izumida	
	Advanced Study on Housing System and Housing Policy	4563013	2			1	S. Matsushima	
	Advanced District Planning	4563014	2		1		J. Asano	
	Advanced Architectural Planning	4563028	2			1	Y. Kakino	
	Advanced Transportation and Traffic Engineering	4563015	2	1			Y. Hirobata	
	Modeling Regional Environment	4563016	2			1	Y. Miyata	
	Management of Technology	4563017	2			1	T. Fujiwara	
	Advanced Computational Economics	4563018	2		1		H. Shibusawa	
※ Advanced Structural System Planning and Design I	4563019	2	1		(1)	Supervisor		
※ Advanced Structural System Planning and Design II	4563020	2		1	(1)	Supervisor		
※ Advanced Environmental System Planning and Design I	4563021	2	1		(1)	Supervisor		
※ Advanced Environmental System Planning and Design II	4563022	2		1	(1)	Supervisor		
※ Advanced Regional System Planning and Design I	4563023	2	1		(1)	Supervisor		
※ Advanced Regional System Planning and Design II	4563024	2		1	(1)	Supervisor		

※ Please ask your supervisor about class schedule of this subject

◆ Those subjects whose numbers marked with "()" will be held every year.

Twinning Program

Course Requirement Guide Book

(October 2013)

International Master's Degree Program



TOYOHASHI
UNIVERSITY OF TECHNOLOGY

1-1 Hibarigaoka Tenpaku-cho Toyohashi-shi Aichi 441-8580, JAPAN
Tel : +81-0532-44-6506 Fax : +81-0532-44-6509

I Requirements for completion

1. Requirements for completion

To complete the master's course, a student must participate in the course for one or more years, and must acquire the minimum credits required as follows. A student must carry out a research under a proper guidance by faculty members. Also a student must submit a master's thesis, and must pass the review and final examination.

Classification	Required credits for completion	Remarks
General subjects	6	
Specialized subjects		
Mechanical Engineering	24	
Electrical and Electronic Information Engineering	24	
Computer Science and Engineering	24	
Environmental and Life Science	24	
Architecture and Civil Engineering	24	
Grand total	30	

For students in the Twinning Program, up to 10 credits that the students had acquired at his/her home university before coming to TUT can be transferred to TUT Master's Program only if TUT admits after being examined. Those 10 credits shall be determined by TUT's criterion.

2. Application for degree

Only a student who has acquired the credits required for completion, or who is expected to acquire the required credits can apply for the master's degree. Degree application and submission procedures of thesis for master's degree shall be posted on a bulletin board before the submission period.

II Class registration, examination, attendance period

1. Class registration method

Classes shall be registered according to the program schedule of your respective major.

(1) Making your study plan

To make your study plan, you should read this Guide Book thoroughly, and follow the instructions and advices given during the orientations and from your supervisor.

Course Schedule is provided at the beginning of each academic year.
Schedule for intensive classes will be posted on a bulletin board when the details are fixed.

(2) Class registration

The student must register the classes by Dream Campus

<https://www.ead.tut.ac.jp/portal/>

through TUT website or by "Application for Subjects" during the designated period.

*Classes cannot be registered nor withdrawn after the designated registration period.

Those classes without registration will not be accredited in any case.

NOTES

1) If the student does not attend the class nor take the examinations, credits will not be given even if the registration is made.

2) A student cannot re-register the subject once credits are given.

3) Subjects that held at the same time schedule cannot be registered. Note that this does not apply for subjects being taken again for examinations only, or intensive subjects.

(3) Confirming and amending the registration

To confirm your class registration or to amend, please access Dream Campus, and Follow the manuals for how to use.

(4) Repeating classes

Basically, a student who has failed in a subject with regular examinations, or some other reasons can take the same subject again in the next academic year.

To repeat a subject, he/she must make registration again

(5) Repeating classes by examination.

When a subject instructor approves of your credits by passing the examination without re-attending the class, students can register the subject with a sheet of "Application for Registration for Repeating Subjects (by Examination)".

*Only the subjects failed with "D" grade are eligible for this.

2. Examination

Examination includes regular examinations and makeup examinations.

(1) Regular examination

Regular examinations shall be held during the set period at the end of each term, as a principle.

All students are to check the exam schedule on the academic calendar through Dream Campus or bulletin board at A-building. Note that examination may be held at any time when found necessary by the subject instructor.

(2) Make-up examination

1) Make-up examination shall be held only when the student could not take the regular examination due to the following reasons. The student must gain the approval of the subject instructor with "Request for makeup examination".

- a) Illness (doctor's medical certificate must be submitted)
- b) Accidents or disaster (certificate must be submitted), and other special reasons (a letter explaining the reason must be submitted).

2) "Request for makeup examination" must be submitted to the Academic Affairs Division within one week from the final date of regular examination.

3) If a student fails to take the makeup examination, further examination will not be held.

(3) Approval of credits and evaluation

Credits are approved from the subject instructor.

1) Your grades are calculated according to the following basis.

Grade	Scores	Approval
A	Over 80	Units certified
B	65-79	Units certified
C	55-64	Units certified
D	Under 55	Units NOT certified

2) Results will be available on Dream Campus after the certain days of the examination.

3. Maximum years of attendance, etc.

(1) Maximum years of attendance

It is not allowed for a student to be in the master's twinning program at the university exceeding two years.

(2) Leave of absence

If a student cannot attend classes for two or more months uninterruptedly due to illness or other special reasons, he/she may submit "Request for leave of absence" to Academic Affairs Division after getting the approval from his/her supervisor, member of academic affairs committee, and their department head. Upon approval from the President, the

student can take a leave of absence (maximum two years in total).

The period of this absent will not be counted as the above "(1) Maximum years of attendance".

To return to school after the approved period ends, the student must submit a sheet of "Notification of return to school".

To return to school before the approved period ends due to the elimination of the reason, the student must submit "Request to return to school" and obtain approval.

(3) Withdrawal

If a student wants to withdraw from the university, he/she must submit "Request for withdrawal" to Academic Affairs Division after getting the approval from his/her supervisor, member of academic affairs committee, and their department head. Upon approval from the President, the student can withdraw from the university.

Note that the tuition fee has to be paid in full amount even if you withdraw in the middle of term.

(4) Elimination from University

A student will be eliminated from the university for following reasons.

- 1) When a student exceed the period mentioned in above "(1). Maximum years of attendance"
- 2) When a student cannot return to school after the period mentioned in above "(2) Leave of absence."
- 3) When a student dies, or is disappeared.
- 4) Those who have been approved for half exemption or postponement of admission fee payment and did not pay for the admission fee by the designated date.
- 5) Those who failed to pay for the tuition and did not pay for even after the warning.

4. Others

(1) Information about canceled or makeup classes

All students are requested to double-check about your class schedule and other information with following tools:

Location		information
Lecture hall at 1 st floor, A-bldg.	Central Bulletin Board (panel board)	Class schedule change
	Electronic Bulletin Board (LCD)	Canceled or makeup classes, rescheduled notices
	Glass-covered Bulletin Board	Others
TUT website	http://annai00.gakumu.tut.ac.jp/adlight/adlightwww/conduct_list_a.asp	Canceled or makeup classes
TUT website for mobile phones	http://osirabe.net/tut/ *Mobile tagging by camera phones	Canceled or makeup classes

(2) Classes/exams in case A STORM WARNING is announced

In case a Storm Warning (*Bo-Fu Keisha*) is announced for Toyohashi city, TUT will conduct classes or examinations as follows:

- 1) In order to prevent any accident, all classes will be canceled during the Storm Warning.
 - 2) If the Storm Warning is cleared before 7:00 am, all classes are on schedule.
 - 3) If the Storm Warning is cleared between 7:00 am and 11:00 am, all classes starts from 3rd period (*classes of 1st and 2nd period will be canceled)
 - 4) If the Storm Warning is still announced after 11:00 am, all classes will be canceled
- *All cancelled classes and examinations will be rescheduled.

(3) Information about RESCHEDULED CLASSES/EXAMS

Classes/exams canceled by natural disasters will be rescheduled on "YOBIBI" (an optional extra day). YOBIBI may also be used for makeup classes. Students may check the YOBIBI schedules two weeks before the dates on bulletin board at lecture hall, A-Bldg.

*YOBIBI will be for rescheduling classes/exams cancelled by the storm warning etc., as a priority.

You must double check the information from TUT especially on unusual cases.

(4) University's e-mail account

TUT strongly recommend all students to set up the e-mail forwarding service in order to receive important information of class-scheduling, grading and other communications from the university.

(5) Absence from classes

When you have to be absent from classes due to illness, bereavement or other reasons, you need to inform reasons to your subject instructor by yourself.

The way how your absence will be dealt with is depends on subject instructor.

Reasons of Absence	Certificate you should submit	Procedure
Illness/Injury	Medical certificate or Medical expense receipts	Students inform directly to lecturers
Bereavement leave	Letter or notice of funeral-	Students inform directly to lecturers
Infection diseases*	Medical certificate or Medical expense receipts	Students inform Student Affairs Division (0532-44-6553), TUT office staff will report to lecturers.

*TUT may admonish suspension in order to prevent spread infection. Suspension order will be posted on bulletin board at A-building.

III Curriculum

1. Classes and credits

(1) Classes

Your classes are divided into General subjects and Specialized subjects. Numbers of credits are set for each subject.

For the subjects to be offered, see the following pages.

See the web syllabus for details of each subject.

(2) Compulsory subjects and elective subjects

1) Compulsory subjects are the subjects that must be completed as the requirement of the major.

2) Elective subjects can be selected and taken from those subjects being offered for the designated numbers of credits.

(3) Calculating credits

Teaching types of classes are lecture, exercise, experiment, practical or hands-on training, and they are offered individually or in combination among them. The class time for one credit is calculated under the following standards.

*Typical class in university is counted as 2 hours.

1) For lectures, one credit requires 15 hours of classes.

2) For exercises, one credit requires 30 hours of classes.

3) For experiments, practical or hands-on training, one credit requires 45 hours of classes.

(4) School term

School term is determined according to the academic year calendar, and consists of two terms; Spring term (from April 1 until September 30) and Fall term (from October 1 until March 31)

General subjects(Twinning Program)

2013.10

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week		Instructor	note
				1st grade			
				Fall	Spring		
				2013.10 - 2014. 3	2014. 4 - 2014. 9		
Elective	Management Science	4003001	2		1	Y. Miyata T. Fujiwara	
	Industrial Policies	4003002	2	1		H. Shibusawa	
	Culture and Communication I	4003003	2			M. Tamura	
	Culture and Communication II	4003004	2	1		Y. Sasao	
	Japanese Life Today	4003005	2		1	Undecided	
	Intercultural Communication	4003006	2			1	Y. Muramatsu

Mechanical Engineering (Twinning Program)

2013.10

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week				Instructor	note
				1st grade					
				Fall 1	Fall 2	Spring 1	Spring 2		
				2013.10	-	2014.4	-		
Compulsory	Seminar on Mechanical Engineering	4161004	6	6				Supervisor	
	Thesis Research on Mechanical Engineering	4161003	6	9				Supervisor	
Elective	Vibration Engineering	4163031	1			1		S. Kawamura	
	Deformation Processing Technology	4163002	1					K. Mori	
	Applied Mechanics of Materials	4163003	1					T. Adachi	
	Micromachining Engineering	4163004	1		1			T. Shibata	
	Joining and Surfacing of Materials	4163007	1			1		M. Fukumoto	
	Science and Technology of Thin Films	4163008	1					M. Izaki	
	Time-frequency Analysis and Wavelet Transform	4163012	1		1			Z. Zhang	
	Modeling and Analysis of Dynamical Control Systems	4163013	1				1	K. Terashima	
	High-Speed Mechanics and Optical Measurement	4163030	1					S. Suzuki	
	Applied Thermal Engineering	4163016	1					K. Kitamura	
	Advanced Applied Fluid Engineering	4163017	1	1				H. Yanada	
	Applied Combustion Engineering	4163019	1	1				S. Noda	
	Advanced Aeroacoustics	4163029	1					A. Iida	
	Advanced Mechanical Systems Design I	4163021	2		1			Supervisor	
	Advanced Mechanical Systems Design II	4163022	2				1	Supervisor	
	Advanced Materials and Manufacturing Process I	4163023	2		1			Supervisor	
	Advanced Materials and Manufacturing Process II	4163024	2				1	Supervisor	
	Advanced System, Control and Robotics I	4163025	2		1			Supervisor	
Advanced System, Control and Robotics II	4163026	2				1	Supervisor		
Advanced Energy and Environmental Engineering I	4163027	2		1			Supervisor		
Advanced Energy and Environmental Engineering II	4163028	2				1	Supervisor		

Electrical and Electronic Information Engineering (Twinning Program)

2013.10

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week		Instructor	note
				Fall	Spring		
				2013.10 - 2014. 3	2014. 4 - 2014. 9		
Compulsory	Seminar on Electrical and Electronic Information Engineering	4261004	6	6		Supervisor	
	Thesis Research on Electrical and Electronic Information Engineering	4261002	6	9		Supervisor	
Elective	Material Science for Electronics	4263001	2	1		M. Inoue T. Hattori H. Muto T. Ishiyama	
	Physics for Electronics	4263002	2		1	M. Fukuda A. Matsuda Y. Nakamura H. Takagi	
	Electrical Energy Systems	4263003	2	1		M. Nagao H. Takikawa Y. Sakurai N. Hozumi	
	Electrical Technology and Materials	4263004	2		1	Y. Suda R. Inada Yo. Murakami	
	Semiconductor Physics	4263005	2		1	A. Wakahara A. Sandhu H. Okada T. Kawano	
	LSI Process	4263006	2	1		M. Ishida K. Sawada Yu. Murakami H. Sekiguchi	
	Information and Communication Technology	4263007	2		1	T. Ohira H. Uehara	
	Advanced Electronic Information System	4263008	2	1		S. Ichikawa	
	Methodology of R & D 1	4263010	2	1		Supervisor	
	Methodology of R & D 2	4263011	2		1	Supervisor	

Computer Science and Engineering(Twinning Program)

2013.10

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week				Instructor	note
				Fall 1	Fall 2	Spring 1	Spring 2		
				2013.10	2014. 4	2014. 3	2014. 9		
Compulsory	Seminar on Computer Science and Engineering	4361004	6	6				Supervisor	
	Thesis Research on Computer Science and Engineering	4361003	6	9				Supervisor	
Elective	Speech and Language Processing, Advanced	4363022	2			1		T. Akiba K. Yamamoto	
	Networking, Advanced 1	4363024	1	1				K. Umemura	
	Advanced Robotics and Informatics 1	4363026	1	1				J. Miura	
	Advanced Robotics and Informatics 2	4363027	1		1			M. Okada	
	Web Data Engineering 1	4363028	1			1		M. Aono	
	Web Data Engineering 2	4363029	1					S. Kuriyama	
	Computers and Education	4363008	2			1		K. Kawai	
	Image Processing, Advanced	4363010	2	1				Y. Kanazawa Y. Sugaya	
	Algorithm Engineering, Advanced	4363014	2					S. Masuyama T. Fujito	
	Computer Systems, Advanced	4363015	2	1				R. Kobayashi	
	Quantum Biology and Materials Science	4363016	2			1		H. Sekino N. Kurita	
	Complex Systems and Intelligent Informatics 1	4363030	1	1				K. Murakoshi	
	Complex Systems and Intelligent Informatics 2	4363031	1		1			Y. Ishida	
	Advanced Chemoinformatics	4363021	2					Y. Takahashi H. Kato	
	Bio-physical Information Systems 1	4363032	1			1		N. Fukumura	
	Bio-physical Information Systems 2	4363033	1				1	J. Horikawa	
Advanced Topics in Brain and Cognitive Sciences	4363020	2					S. Nakauchi M. Kitazaki		

Environmental and Life Sciences (Twinning Program)

2013.10

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week				Instructor	note
				Fall 1	Fall 2	Spring 1	Spring 2		
				2013.10 - 2014. 3		2014. 4 - 2014. 9			
Compulsory	Seminar on Environmental and Life Science	4461004	6	6				Supervisor	
	Thesis Research on Environmental and Life Science	4461003	6	9				Supervisor	
Elective	Advanced Separation Chemistry I	4463001	1	1				Y. Saito	
	Advanced Separation Chemistry II	4463002	1		1			Y. Hirata	
	Special Topics in Inorganic Chemistry	4463027	1		1			N. Kakuta	
	X-ray Spectroscopy for Catalytic Engineering	4463028	1				1	T. Mizushima	
	Applied Physical Chemistry I	4463005	1			1		A. Matsumoto	
	Applied Physical Chemistry II	4463006	1				1	A. Matsumoto	No class will be held on and after 2016
	Advanced Polymer Chemistry	4463007	1	1				S. Itsuno	
	Advanced Polymer Engineering	4463008	1		1			E. Yoshida	
	Advanced Composite Science	4463009	1	1				T. Takeichi	
	Special Topics in Applied Organic Chemistry	4463010	1			1		S. Iwasa	
	Developmental Neuroscience	4463011	1				1	S. Yoshida	
	Advanced Molecular Life Science	4463012	1	1				Y. Kikuchi T. Tanaka	
	Advanced Applied Biochemistry and Biotechnology	4463013	1		1			A. Hiraishi T. Eki	
	Advanced Electrical and Electronic Technology for Ecological Engineering	4463014	1			1		S. Tanaka Y. Hatsukade A. Mizuno K. Takashima	
	Advanced Eco-Materials Engineering	4463016	1			1		H. Tsuji	
	Advanced Reaction Engineering	4463018	1			1		T. Oguchi	
	Advanced Sustainable Coordinator	4463019	1				1	N. Goto	
	Advanced Supercritical Fluid Engineering	4463020	1				1	H. Daimon	
	※ Advanced Life Science and Biotechnology I	4463021	2		1			Supervisor	
	※ Advanced Life Science and Biotechnology II	4463022	2				1	Supervisor	
※ Advanced Environmental Technology I	4463023	2		1			Supervisor		
※ Advanced Environmental Technology II	4463024	2				1	Supervisor		
※ Advanced Environmental and Ecological Systems I	4463025	2		1			Supervisor		
※ Advanced Environmental and Ecological Systems II	4463026	2				1	Supervisor		

※ Please ask your supervisor about class schedule of this subject

Architecture and Civil Engineering(Twinning Program)

2013.10

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week		Instructor	note
				Fall	Spring		
				2013.10 - 2014. 3	2014. 4 - 2015. 9		
Compulsory	Seminar on Architecture and Civil Engineering	4561004	6	6		Supervisor	
	Thesis Research on Architecture and Civil Engineering	4561003	6	9		Supervisor	
Elective	Elasticity and Stability	4563001	2	1		T. Saito	
	Finite Element Method for Continua and Bar Structures	4563002	2			S. Nakazawa	
	Seismic Evaluation of Existing Buildings	4563003	2	1		T. Matsui	
	Seismic Design of Structures	4563029	2	1		T. Saito	
	Geologic Hazard and Mitigation Planning	4563004	2		1	M. Kawamura	
	Geotechnical Analysis	4563005	2			K. Miura	
	Building Science: Indoor Air Quality and Ventilation	4563006	2		1	H. Matsumoto	
	Building and Urban Thermal Environment	4563026	2			Y. Masuda	
	Coastal Hydraulics	4563009	2	1		S. Kato	
	Water Environment Engineering I	4563031	2		1	K. Yokota	
	Water Environment Engineering II	4563032	2			T. Inoue	
	Computer Applications in Urban Planning	4563011	2			A. Ohgai	
	Human Settlement: Its History and Theory	4563012	2		1	H. Izumida	
	Advanced Study on Housing System and Housing Policy	4563013	2			S. Matsushima	
	Advanced District Planning	4563014	2		1	J. Asano	
	Advanced Architectural Planning	4563028	2			Y. Kakino	
	Advanced Transportation and Traffic Engineering	4563015	2	1		Y. Hirobata	
	Modeling Regional Environment	4563016	2			Y. Miyata	
	Management of Technology	4563017	2			T. Fujiwara	
	Advanced Computational Economics	4563018	2		1	H. Shibusawa	
	※ Advanced Structural System Planning and Design I	4563019	2	1		Supervisor	
	※ Advanced Structural System Planning and Design II	4563020	2		1	Supervisor	
※ Advanced Environmental System Planning and Design I	4563021	2	1		Supervisor		
※ Advanced Environmental System Planning and Design II	4563022	2		1	Supervisor		
※ Advanced Regional System Planning and Design I	4563023	2	1		Supervisor		
※ Advanced Regional System Planning and Design II	4563024	2		1	Supervisor		

※ Please ask your supervisor about class schedule of this subject

Course Requirement Guide Book

(October 2013)

International Doctoral Degree Program



TOYOHASHI
UNIVERSITY OF TECHNOLOGY

1-1 Hibarigaoka Tenpaku-cho Toyohashi-shi Aichi 441-8580, JAPAN

Tel : +81-0532-44-6506 Fax : +81-0532-44-6509

I Requirements for completion

1. Requirements for completion

To complete the doctoral course, a student must participate in the course for three or more years, and must acquire the minimum credits required as follows. A student must carry out a research under a proper guidance by faculty members. Also a student must submit a doctoral thesis, and must pass the review and final examination.

Note that students showing excellent achievements may finish in a shorter study period.

Classification	Required credits for completion	Remarks
Mechanical Engineering	12	4 credits in total can be substituted with combination of following options , with permission from your supervisor. 1. Specialized subjects from International Master's Degree Program (except Advanced subjects) 2. Subjects of other department from International Doctoral Degree Program 3. Subjects from doctoral program of student's own department held in Japanese (Note that you cannot chose a subject in Japanese if you already took the same subject held in English and vice versa)
Electrical and Electronic Information Engineering	12	
Computer Science and Engineering	12	
Environmental and Life Sciences	12	
Architecture and Civil Engineering	12	

2. Application for degree

Only a student who has acquired the credits required for completion, or who is expected to acquire the required credits can apply for the doctoral degree. Degree application and submission procedure of thesis for doctoral degree shall be posted on a bulletin board.

II Class registration, examination, attendance period

1. Class registration method

Classes shall be registered according to the education schedule of your respective major.

(1) Making your study plan

To make your study plan, read this Guide Book thoroughly, and follow the instructions and advices given during the orientation and from your supervisor.

Course Schedule is provided at the beginning of each academic year.
Schedule for intensive classes will be posted on a bulletin board when the details are fixed.

(2) Class registration

The student must register the classes by Dream Campus

<https://www.ead.tut.ac.jp/portal/>

through TUT website or by "Application for Subjects" during the designated period.

*Classes cannot be registered nor withdrawn after the designated registration period.

Those classes without registration will not be accredited in any case.

NOTES

1) To take Specialized subjects from International Master's Degree Program (except Advanced topics subjects), subjects from your own department held in Japanese, or other department's subjects from International Doctoral Degree Program, he/she must obtain approval from his/her supervisor and the subject instructor with "Application for Registration of Subjects in Other Department"

2) If the student does not attend the class nor take the examinations, credits will not be given even if the registration is made.

3) A student cannot re-register the subject for which credits are given.

4) Subjects held at the same time schedule cannot be registered. Note that this does not apply for intensive subjects.

(3) Confirming and amending the registration

To confirm your class registration or to amend, please access Dream Campus, and follow the manuals for how to use.

(4) Repeating classes

Basically, a student who has failed in a subject with regular examinations, or some other reasons, can take the same subject again in the next academic year.

To repeat a subject, he/she must make registration again.

2. Examination

Examination includes regular examinations and makeup examinations.

(1) Regular examination

Regular examinations shall be held during the set period at the end of each term, as a principal.

All students are to check the exam schedule on the academic calendar through Dream Campus or bulletin board at A-building. Note that examination may be held at any time when found necessary by the subject instructor.

(2) Make-up examination

1) Make-up examination shall be held only when a student could not take the regular examination due to the following reasons. The student must gain the approval of the subject instructor with "Request for makeup examination".

- a) Illness (doctor's medical certificate must be submitted)
- b) Accidents or disaster (certificate must be submitted), and other special reasons (a letter explaining the reason must be submitted).

2) "Request for makeup examination" must be submitted to Academic Affairs Division within one week from the final date of regular examination.

3) If a student fails to take the makeup examination, further examination will not be held.

(3) Approval of credits and evaluation

Credits are approved from the subject instructor.

1) Your grades are calculated according to the following basis.

Grading	Scores	Approval
A	Over 80	Units certified
B	65-79	Units certified
C	55-64	Units certified
D	Under 55	Units NOT certified

2) Results will be available on Dream Campus after the certain days of the examination.

3. Maximum years of attendance, etc.

(1) Maximum years of attendance

It is not allowed for a student to be in the doctoral course at the university exceeding six years.

(2) Leave of absence

If a student cannot attend classes for two or more months uninterruptedly due to illness or other special reasons, he/she may submit "Request for leave of absence" to Academic Affairs Division after getting the approval from his/her supervisor, member of academic affair committee, and their department head. Upon approval from the President, the student can take a leave of absence (maximum two years in total).

The period of this absent will not be counted as the above "(1) Maximum years of attendance".

To return to school after the approved period ends, the student must submit "Notification of return to school".

To return to school before the approved period ends due to the elimination of the reason, the student must submit "Request to return to school" and obtain approval.

(3) Withdrawal

If a student wants to withdraw from the university, he/she must submit "Request for withdrawal" to Academic Affairs Division after getting the approval from his/her supervisor, member of academic affairs committee, and their department head. Upon approval from the President, the student can withdraw from the university.

Note that the tuition fee has to be paid in full amount even if you withdraw in the middle of term.

(4) Elimination from University


A student will be eliminated from the university for following reasons.

- 1) When a student exceed the period mentioned in above "(1). Maximum years of attendance"
- 2) When a student cannot return to school after the period mentioned in above "(2) Leave of absence."
- 3) When a student dies, or is disappeared.
- 4) Those have been approved for the half exemption or postponement of admission fee payment and who did not pay for the admission fee by the designated date.
- 5) Those who failed to pay for the tuition and did not pay for even after the warning.

4. Others

(1) Information about canceled or makeup classes

All students are requested to double-check about your classes with following tools bulletin boards:

	Location	information
Lecture hall at 1 st floor. A-bldg.	Central Bulletin Board (panel board)	Class schedule change
	Electronic Bulletin Board (LCD)	Canceled or makeup classes, rescheduled notices
	Glass-covered Bulletin Board	Others
TUT website	http://annai00.gakumu.tut.ac.jp/adlight/adlightwww/conduct_list_a.asp	Canceled or makeup classes
TUT website for mobile phones	http://osirabe.net/tut/ *Mobile tagging by camera phones 	Canceled or makeup classes

(2) Classes/exams in case A STORM WARNING is announced.

In case a storm warning is announced for Toyohashi city, TUT will conduct classes or examinations as follows:

- 1) To prevent any accident, all classes will be canceled during the Storm Warning
- 2) If the storm warning is cleared before 7:00 am, all classes are on schedule.
- 3) If the storm warning is cleared between 7:00 am and 11:00 am, all classes starts from 3rd period (*Classes of 1st and 2nd period will be canceled)
- 4) If the storm warning is still announced after 11:00 am, all classes will be canceled.

*All cancelled classes and examinations will be rescheduled.

(3) Information about RESCHEDULED CLASSES/EXAMS

Classes/exams canceled by natural disasters will be rescheduled on "YOBIBI"(an optional extra day). YOBIBI may also be used for makeup classes. Students may check the YOBIBI schedules two weeks before the dates on bulletin board at lecture hall, A-Bldg.

*YOBIBI will be used for rescheduling classes/exams cancelled by the storm warning etc., as a priority.

You must double check the information from TUT especially on unusual causes.

(4) University's e-mail account

TUT strongly recommend all students to set up the e-mail forwarding service in order to receive important information of class-scheduling, grading and other communications from the university.

(5) Absence from classes

When you have to be absent from classes due to illness, bereavement or other reasons, you need to inform reasons to your subject instructor by yourself.

The way how your absence will be dealt with is depends on the subject instructor.

Reasons of Absence	Certificate you should submit	Procedure
Illness/Injury	Medical certificate or Medical expense receipts	Students inform lecturers directly
Bereavement leave	Letter or notice of funeral	Students inform lecturers directly
Infection diseases*	Medical certificate or Medical expense receipts	Students inform Student Affairs Division (0532-44-6553), TUT office staff will report to lecturers.

*TUT may admonish suspension in order to prevent spread infection. Suspension order will be posted on bulletin board at A-building.

III Curriculum

1. Classes and credits

(1) Classes

Classes in Doctoral Program are only specialized subjects. Credits are set for each subject.

(For the subjects to be offered, see the following pages.
See the web syllabus for details of each subject.)

(2) Compulsory subjects and elective subjects

1) Compulsory subjects are the subjects that must be completed as your requirement for the major.

2) Elective subjects can be selected and taken from those subjects being offered for the designated numbers of credits.

(3) Calculating credits

Teaching types of classes are lecture, seminar, experiment, practical or hands-on training, and they are offered individually or in combination among them. The class time for one credit is calculated under the following standards.

*Typical class in university is counted as 2 hours.

1) For lectures, one credit requires 15 hours of classes.

2) For exercises, one credit requires 30 hours of classes

3) For experiments, practical or hands-on training, one credit requires 45 hours of classes.

(4) School term

School term is determined according to the academic year calendar, and consists of two terms; Spring term (from April 1 until September 30) and Fall term (from October 1 until March 31)

Mechanical Engineering

2013.10

Compulsory / Elective	Subject Name	Credits	Instructor	1st grade		2nd grade	3rd grade	Note
				Fall	Spring			
				2013.10 — 2014.3	2014.4 — 2014.9	2014.10 — 2015.9	2015.10 — 2016.9	
Compulsory	Advanced Seminar on Mechanical Engineering 1	4	Supervisor	4				
	Advanced Seminar on Mechanical Engineering 2	1	Supervisor			1		
	Seminar on Interdisciplinary Research	1				1		
Elective	Advanced Mechanical Systems	2	S. Kawamura T. Adachi Y. Takeichi		1			
	Advanced Production Processes	2	K. Mori T. Shibata Y. Abe T. Kawashima	1				
	Advanced Manufacturing Processes	2	M. Fukumoto T. Yasui M. Izaki S. Yokoyama		1			
	Advanced Materials Science	2	Y. Todaka M. Kobayashi	1				
	Engineering of Intelligent Robotics	2	K. Terashima S. Suzuki T. Miyoshi N. Uchiyama		1			
	Advanced Production and Instrumentation Systems	2	Z. Zhang R. Batres T. Miyake	1				
	Advanced Energy Engineering	2	K. Kitamura S. Noda T. Suzuki		1			
	Advanced Environmental Engineering	2	A. Iida N. Sekishita H. Yanada	1				

Electrical and Electronic Information Engineering

2013.10

Compulsory / Elective	Subject Name	Credits	Instructor	1st grade		2nd grade	3rd grade	Note
				Fall	Spring			
				2013.10 — 2014.3	2014.4 — 2014.9	2014.10 — 2015.9	2015.10 — 2016.9	
Compulsory	Seminar on Electrical and Electronic Information Engineering 2	4	Supervisor	4				
	Seminar on Electrical and Electronic Information Engineering 3	1	Supervisor			1		
	Seminar on Interdisciplinary Research	1				1		
Elective	Advanced Electronic Materials 1	2	M. Inoue T. Hattori H. Muto T. Ishiyama		1			
	Advanced Electronic Materials 2	2	M. Fukuda A. Matsuda Y. Nakamura H. Takagi	1				
	Advanced Electrical Systems 1	2	M. Nagao H. Takikawa Y. Sakurai N. Hozumi	1				
	Advanced Electrical Systems 2	2	Y. Suda R. Inada Yo. Murakami		1			
	Advanced Microelectronics 1	2	M. Ishida K. Sawada Yu. Murakami H. Sekiguchi		1			
	Advanced Microelectronics 2	2	A. Wakahara A. Sandhu H. Okada T. Kawano	1				
	Advanced Information and Communication Systems 1	2	T. Ohira H. Uehara		1			
	Advanced Information and Communication Systems 2	2	S. Ichikawa			1		
	Methodology of R & D	2	Supervisor	1				

Computer Science and Engineering

2013.10

Compulsory / Elective	Subject Name	Credits	Instructor	1st grade				2nd grade	3rd grade	Note
				Fall 1	Fall 2	Spring1	Spring2			
				2013.10 — 2014.3	2014.4 — 2014.9	2014.10 — 2015.9	2015.10 — 2016.9			
Compulsory	Seminar on Computer Science and Engineering 1	4	Supervisor	4						
	Seminar on Computer Science and Engineering 2	1	Supervisor				1			
	Seminar on Interdisciplinary Research	1					1			
Elective	Computer System Engineering	2	R. Kobayashi	1						
	Speech and Language Processing	2	T. Akiba K. Yamamoto			1				
	Robotics Intelligence 1	1	J. Miura	1						
	Robotics Intelligence 2	1	M. Okada		1					
	Web Data Engineering, Advanced 1	1	M. Aono			1				
	Web Data Engineering, Advanced 2	1	S. Kuriyama				0.5			
	Biological Information System Engineering 1	1	N. Fukumura			1				
	Biological Information System Engineering 2	1	J. Horikawa				1			
	Brain and Neural System Engineering	2	S. Nakauchi M. Kitazaki				1			
	Computer Network Engineering	2	K. Umemura	1						
	Pattern Information Processing	2	Y. Kanazawa Y. Sugaya	1						
	Molecular Simulation	2	H. Sekino H. Goto N. Kurita			1				
	Advanced Molecular Information Engineering	2	Y. Takahashi H. Kato				1			
	Advanced Complex Systems and Intelligent Informatics 1	1	K. Murakoshi	1						
	Advanced Complex Systems and Intelligent Informatics 2	1	Y. Ishida		1					
Theoretical Computer Science, Advanced	2	S. Masuyama T. Fujito				1				

◆ "0.5" signifies that this subject will be held in any one of a quarter term (Spring 1, Spring 2, Fall 1 or Fall 2).

Environmental and Life Sciences

2013.10

Compulsory / Elective	Subject Name	Credits	Instructor	1st grade		2nd grade	3rd grade	Note
				Fall	Spring			
				2013.10 — 2014.3	2014.4 — 2014.9	2014.10 — 2015.9	2015.10 — 2016.9	
Compulsory	Seminar on Environmental & Life Sciences 1	4	Supervisor	4				
	Seminar on Environmental & Life Sciences 2	1	Supervisor			1		
	Seminar on Interdisciplinary Research	1				1		
Elective	Advanced Environmental Technology 1	2	A. Mizuno S. Tanaka K. Takashima Y. Hatsukade		1			
	Advanced Environmental Technology 2	2	A. Matsumoto T. Oguchi T. Mizushima	1				
	Advanced Ecological Engineering	2	N. Kakuta H. Nakano N. Goto H. Daimon T. Tokairin		1			
	Advanced Biotechnology 1	2	T. Eki A. Hiraishi T. Tanaka		1			
	Advanced Biotechnology 2	2	E. Yoshida S. Yoshida	1				
	Advanced Molecular Function Chemistry 1	2	S. Itsuno H. Tsuji S. Iwasa		1			
	Advanced Molecular Function Chemistry 2	2	Y. Saito Y. Hirata	1				

Architecture and Civil Engineering

2013.10

Compulsory / Elective	Subject Name	Credits	Instructor	1st grade		2nd grade	3rd grade	Note
				Fall	Spring			
				2013.10 — 2014.3	2014.4 — 2014.9	2014.10 — 2015.9	2015.10 — 2016.9	
Compulsory	Seminar on Architecture and Civil Engineering 1	4	Supervisor	4				
	Seminar on Architecture and Civil Engineering 2	1	Supervisor			1		
	Seminar on Interdisciplinary Research	1				1		
Elective	Advanced Mechanics and Design of Spatial Structure Systems	2	T. Saito S. Nakazawa	1				
	Advanced Structural Design	2	T. Saito T. Matsui	1				
	Advanced Building Environmental Engineering and Building Services	2	H. Matsumoto Y. Masuda		1			
	Advanced Theory in Architectural Design	2	S. Matsushima Y. Kakino	1				
	Advanced History of Architecture	2	H. Izumida	1				
	Sustainable Urban Planning	2	A. Ohgai J. Asano	1				
	Advanced Geologic Hazard Mitigation Planning	2	M. Kawamura K. Miura	1				
	Advanced Water Environmental Engineering	2	T. Inoue S. Kato K. Yokota	1				
	Advanced Transportation Systems and Economics	2	Y. Hirobata Y. Miyata H. Shibusawa		1			
	Advanced Environmental Economics and Planning	2	Y. Miyata	1				
	Advanced Management of Technology	2	T. Fujiwara H. Shibusawa		1			
Advanced Western Culture	2	K. Aikyo M. Tamura		1				