

Course Requirement Guide Book

(December 2009)

Master's Program Given in English

TOYOHASHI UNIVERSITY OF TECHNOLOGY

I Requirements for graduation, etc.

1. Requirements for graduation

To complete the master's course, a student must participate in the graduate courses 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 and must submit a master thesis, and pass the review and final exams.

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

Class	No. of credits required for graduation	Remarks	
General courses			
Courses relevant to Social Planning Engineering	2		
Courses relevant to Social Culture Studies	4		
Total	6		
Specialized courses			
Mechanical Engineering major	24	6 credits	(1) When considered appropriate by the supervisor, the credits shown on the left can be substituted with "English Courses" in other majors. (2) When considered appropriate by the supervisor, courses held in Japanese can be taken.
Production Systems Engineering major	24	6 credits	
Materials Science major	24	6 credits	
Architecture & Civil major	24	6 credits	
Knowledge-Based Information Engineering major	24	6 credits	
Ecological Engineering major	24	6 credits	
Grand total	30		

"English Courses" indicate the classes prepared for the students enrolled in "English Special Course".

2. Application for degree

Only a student who has acquired the credits required for finishing, or who is expected to acquire the credits can apply for a master's degree. Submission of thesis for master's degree, etc., shall be posted at a bulletin board.

II Course registration methods, examination, limits of attendance period, etc.

1. Course registration method

The courses shall be registered according to the education schedule of the respective major.

(1) Study schedule

Read this manual thoroughly, and follow the instructions and advice given during orientation at the beginning of the academic year or that given by the supervisor, and set your class schedule in the course timetable. Provide some time-allowance to your schedule.

Note that some elective courses will not be held sometimes.

The course timetable will be provided at the beginning of each academic year. Schedule for special intensive courses will be posted up on a bulletin board as soon as the date and time, etc., are decided.

(2) Course registration

The student must register the courses by the sheet of "Course Registration List" before the designated date.

Accreditation to the courses not registered will not be made in any case.

- 1 To complete a course of other majors in the "English Course" or regular course given in Japanese, the student must obtain approval from the supervisor and course instructor with the "Other Major Course Approval Form", before registering the course.
- 2 If the student does not attend the course nor take the examinations, the credits will not be given even if the registration is made. This does not apply when the registration is canceled.
- 3 A student can not re-register the courses for which credits are given.
- 4 Courses held at the same class time cannot be registered. Note that this does not apply for courses being taken again by examinations, or intensive courses.

(3) Confirming and correcting course registration

Confirm your course registration with the "Course registration confirmation list" (distributed only once to each student at the beginning of the academic year).

If there is any mistake in the written list, correction procedures should be taken.

(4) Repeating courses

As a rule, a student who has failed in a course with the regular examination, etc., must repeat the course in the next academic year.

Students must make registration again if the course is a compulsory course for graduation even for the repeated course once they fail.

(5) Repeating courses by examinations, etc.

If a student wants to register, the student can submit and register the course with the "Request for repetition through examination, etc." only when the course instructor approves of crediting through examinations, etc.

2. Examination

Examination includes regular examination and makeup examination.

(1) Regular examination

As a principle, regular examination shall be held during the set period at the end of each term. Note that examination may be held at any time when found necessary by the course instructor.

The regular examination period and examination timetable, etc., will be posted up on a bulletin board.

(2) Make-up examination

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

- 1) When the student is sick (doctor's medical certificate must be submitted)
- 2) When considered appropriate due to accidents or disaster (certificate of proof must be submitted), and other reasons (a letter explaining the reason must be submitted).

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

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

(3) Approval of credits and evaluation

The course instructor shall approve the credits for the course through the means of exams, etc.

- 1) Tests are basically conducted at the end of each term. All students are to check the test schedules on the academic calendar on Dream Campus (TUT's website), bulletin board at A-bldg. or printed calendar at the office of Academic Affairs section. In addition, your instructor may schedule extra tests. All tests scheduling will be placed on the bulletin boards at lecture hall of A-bldg. 2 weeks before the day of start. Your units are graded according to test scores by instructors.

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) Grades approved for credits shall be notified from the Educational Affairs Division with the "Credit Acquisition List" after the end of each term. (For the date of issue, see the schedule related to registration.)

3. Maximum years of attendance

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

4. Leave of absence

If the student cannot attend classes for two or more months successively due to illness or other special reasons, the student may submit the specific "Request for leave of absence" to the Educational Affairs Division via the supervisor and department head. Upon approval from the President, the student may have a leave of absence (within two years in total).

The period that the student is absent will not be counted in the above "3. Maximum years of attendance".

To return to school after the end of the approved leave of absence period, the student must submit the "Application to return to school".


To return to school during the period of the leave of absence due to the elimination of the reason of leave, the student must submit the "Request to return to school" and obtain approval.

5. Withdrawal

If the students want to withdrawal from the university, the student may submit the specific "Request for withdrawal" to the Educational Affairs Division via the supervisor and department head. Upon approval from the President, the student may have withdrawal from the university.

6. Information about canceled or makeup classes.

All students may need to double-check about your classes at following bulletin boards:

Location		information
Lecture hall at 1 st floor. A-bldg.	Central Bulletin Board (panel board)	Class schedule change (all school term)
	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
	http://annai00.gakumu.tut.ac.jp/adlight/adlightweb/conduct_list_b.asp	Class schedule or classroom change
TUT website for mobile phones	http://osirabe.net/tut/ *Mobile tagging by camera phones 	Canceled or makeup classes

*TUT's policy for conducting classes/tests in case A STORM WARNING is announced.

In case a storm warning is announced in the South East Aichi Pref., TUT will conduct classes or examinations as follows:

- 1) In order to prevent any accident, All classes will be CANCELED (tests will be RESCHEDULED) during the storm warning.
- 2) The storm warning is CLEARED BEFORE AM7:00, all classes(tests) are on SCHEDULE.
- 3) The storm warning is CLEARED FROM AM7:00 TO AM11:00, all classes(tests) STARTS on 4TH HOUR(*1,2 and 3 hr. will be CANCELED)
- 4) The storm warning is still ANNOUNCED AFTER AM11:00, ALL classes will be CANCELED (tests will be RESCHEDULED).

***Information about RESCHEDULED CLASSES/TESTS**

TUT will reschedule classes/tests canceled by natural disasters on occasional dates. The dates may also be used for makeup classes, students may check the schedules TWO WEEKS BEFORE THE DATES at lecture hall at A-Bldg. However, rescheduled classes (tests) will COME FIRST on the occasional dates and scheduled makeup classes on the dates will be canceled. Double check information from TUT.

III Curriculum

1. Courses and credits, etc.

(1) Courses

Courses are largely divided into general courses and specialized courses. Credits are set for each course.

(For the courses to be offered, see the general courses and specialized courses written in the following pages.
See the separate booklet "SYLLABUS" for details on the classes.)

(2) Compulsory courses and elective courses

- 1) Compulsory courses are the courses that must be completed as a requirement.
- 2) Elective courses can be selected and taken from those courses being offered.

(3) Calculating credits

Courses whose teaching type is lectures, seminars, experiments, practical or hands-on training, are offered individually or in combination among them. The course time for one credit is calculated under the following standards.

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

(4) Course period

The course period is determined according to the academic year calendar, and consists of three terms; Winter term, Spring term, and Fall term.

Mechanical Engineering

2009.12

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week			Instructor	note
				1st grade		2nd grade		
				Winter	Spring 1	Spring 2		
				2009.12 - 2010.3	2010.4 - 2010.9	2010.10 - 2011.11		
Compulsory	Seminar on Mechanical Engineering I	411001	3	3			Supervisor	
	Seminar on Mechanical Engineering II	411002	3	3			Supervisor	
	Thesis Research on Mechanical Engineering	411004	6	9			Supervisor	
Elective	Applied Thermal Engineering	412003	1			0.5	K. Kitamura	
	Computational Heat Transfer	412037	1		1		T. Suzuki	
	Fluid Engineering	412005	1			0.5	H. Yanada	
	Applied Combustion Engineering	412006	1	1			S. Noda	
	Aeroacoustics	412058	1	1			A. Iida	
	Fundamentals of Energy Engineering	412008	1			0.5	S. Suzuki	
	Wind Engineering	412053	1		1		N. Sekishita	
	Robotics	412028	1			0.5	N. Uchiyama	
	Surface Analytical Tools	412013	1				M. Uemura	
	Practical Surface Analysis	412066	1			0.5	Y. Takeichi	
	High-speed Two-phase Flow	412016	1		1		M. Nakagawa	
	Vibration Engineering	412039	1		1		S. Kawamura	
	Impact Mechanics	412040	1	1			H. Minamoto	
	Applied Mechanics of Materials	412065	1			0.5	T. Adachi	
	Computational Mechanics	412017	1			0.5	K. Mori ②	
	3D Vision Theory for Measurement	412020	1	1			T. Miyake ②	
	Advanced Joining Processes	412022	1		1		M. Fukumoto ②	
	Phase Transformation in Materials	412057	1			0.5	M. Umemoto ②	
	Advanced Evaluation and Failure Prevention of Materials	412049	1			0.5	H. Toda ②	
	Corrosion Engineering	412054	1			0.5	T. Takenaka ②	
	Modeling and Analysis of Dynamical Control Systems	412032	1			0.5	K. Terashima ②	
	Design and Application of Dynamical Control Systems	412033	1			0.5	T. Miyoshi ②	
	Surface Modification Engineering	412034	1			0.5	T. Yasui ②	
	Multi-Objective Optimization in Manufacturing	412035	1			0.5	Y. Shimizu ②	
	Advanced Micromachining Engineering	412050	1	1			T. Shibata ②	
	Wavelet Transform and Time-frequency Analysis	412051	1	1			Z. Zhang ②	
Engineering Safety	412052	1	1			R. Batres ②		
Soft-Solution Processing	412055	1			0.5	M. Izaki ②		
Advanced X-ray Imaging for Materials Science	412056	1		1		M. Kobayashi ②		
Deformation Processing Technology	412059	1		1		Y. Abe ②		
Electron Microscopy for Materials Science	412060	1		1		Y. Todaka ②		
Advanced Physical Chemistry of Metals	412061	1		1		S. Yokoyama ②		

Production Systems Engineering

2009.12

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week			Instructor	note
				1st grade		2nd grade		
				Winter	Spring 1	Spring 2		
				2009.12 - 2010. 3	2010. 4 - 2010. 9	2010.10 - 2011.11		
Compulsory	Seminar on Production Systems Engineering I	421001	3	3			Supervisor	
	Seminar on Production Systems Engineering II	421002	3	3			Supervisor	
	Thesis Research on Production Systems Engineering	421004	6	9			Supervisor	
Elective	Computational Mechanics	422001	1			0.5	K. Mori	
	3D Vision Theory for Measurement	422028	1	1			T. Miyake	
	Advanced Joining Processes	422004	1		1		M. Fukumoto	
	Phase Transformation in Materials	422063	1			0.5	M. Umemoto	
	Advanced Evaluation and Failure Prevention of Materials	422057	1			0.5	H. Toda	
	Corrosion Engineering	422061	1			0.5	T. Takenaka	
	Modeling and Analysis of Dynamical Control Systems	422031	1			0.5	K. Terashima	
	Design and Application of Dynamical Control Systems	422027	1			0.5	T. Miyoshi	
	Surface Modification Engineering	422033	1			0.5	T. Yasui	
	Multi-Objective Optimization in Manufacturing	422029	1			0.5	Y. Shimizu	
	Advanced Micromachining Engineering	422058	1	1			T. Shibata	
	Wavelet Transform and Time-frequency Analysis	422059	1	1			Z. Zhang	
	Engineering Safety	422060	1	1			R. Batres	
	Soft-Solution Processing	422064	1			0.5	M. Izaki	
	Advanced X-ray Imaging for Materials Science	422065	1			1	M. Kobayashi	
	Deformation Processing Technology	422066	1		1		Y. Abe	
	Electron Microscopy for Materials Science	422067	1			1	Y. Todaka	
	Advanced Physical Chemistry of Metals	422068	1		1		S. Yokoyama	
	Applied Thermal Engineering	422013	1			0.5	K. Kitamura ①	
	Computational Heat Transfer	422038	1			1	T. Suzuki ①	
	Fluid Engineering	422015	1			0.5	H. Yanada ①	
	Applied Combustion Engineering	422016	1	1			S. Noda ①	
	Aeroacoustics	422069	1	1			A. Iida ①	
	Fundamentals of Energy Engineering	422018	1			0.5	S. Suzuki ①	
	Wind Engineering	422062	1			1	N. Sekishita ①	
	Robotics	422035	1			0.5	N. Uchiyama ①	
	Surface Analytical Tools	422023	1				M. Uemura ①	
	Practical Surface Analysis	422070	1			0.5	Y. Takeichi	
	High-speed Two-phase Flow	422026	1			1	M. Nakagawa ①	
	Vibration Engineering	422045	1		1		S. Kawamura ①	
	Impact Mechanics	422046	1	1			H. Minamoto ①	
	Applied Inorganic Chemistry I	422047	1			0.5	N. Kakuta ⑤	
Applied Inorganic Chemistry II	422048	1			0.5	T. Mizushima ⑤		
Inorganic Materials Science I	422049	1		1		A. Matsuda ⑤		
Inorganic Materials Science II	422050	1			1	H. Muto ⑤		
Composite Materials Science I	422051	1	1			T. Takeichi ⑤		
Composite Materials Science II	422052	1	1			A. Matsumoto ⑤		

Materials Science

2009.12

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week			Instructor	note
				1st grade		2nd grade		
				Winter	Spring 1	Spring 2		
				2009.12 - 2010. 3	2010. 4 - 2010. 9	2010.10 - 2011.11		
Compulsory	Seminar on Materials Science I	451001	3				Supervisor	
	Seminar on Materials Science II	451002	3				Supervisor	
	Thesis Research on Materials Science	451003	6				Supervisor	
Elective	Advanced Separation Chemistry I	452015	1		1		Y.Saito	
	Advanced Separation Chemistry II	452016	1			1	Y. Hirata	
	Advanced Solution Chemistry	452002	1			1	T. Hattori	
	Applied Inorganic Chemistry I	452017	1				0.5 N. Kakuta	
	Applied Inorganic Chemistry II	452018	1				0.5 T. Mizushima	
	Inorganic Materials Science I	452019	1		1		A. Matsuda	
	Inorganic Materials Science II	452020	1			1	H.Muto	
	Applied Physical Chemistry	452034	1				0.5 T. Oogushi	
	Advanced Polymer Chemistry I	452023	1				0.5 S. Itsuno	
	Advanced Polymer Chemistry II	452024	1				0.5 E. Yoshida	
	Composite Materials Science I	452025	1	1			T. Takeichi	
	Composite Materials Science II	452026	1	1			A. Matsumoto	
	Special Topics in Applied Organic Chemistry	452035	1				0.5 S. Iwasa	
	Structural Biology	452029	1	1			K. Aoki	
	Developmental Neuroscience	452030	1			1	S. Yoshida	
	Advanced Evaluation and Failure Prevention of Materials	452031	1				0.5 H. Toda ②	
	Deformation Processing Technology	452036	1		1		Y. Abe ②	
	Electron Microscopy for Materials Science	452037	1			1	Y. Todaka ②	
	Advanced Physical Chemistry of Metals	452038	1		1		S. Yokoyama ②	
	Advanced Molecular Life Science	452039	1				0.5 Y.Kikuchi, T.Tanaka ⑧	
Advanced Applied Biochemistry and Biotechnology	452040	1	1			A.Hiraishi, T.Eki ⑧		
Advanced Physical Chemistry I	452041	1				0.5 Y. Kiso ⑧		

Architecture & Civil Engineering

2009.12

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week			Instructor	note
				1st grade		2nd grade		
				Winter	Spring 1	Spring 2		
				2009.12 - 2010. 3	2010. 4 - 2010. 9	2010.10 - 2011.11		
Compulsory	Seminar on Architecture and Civil Engineering I	461001	3	3			Supervisor	
	Seminar on Architecture and Civil Engineering II	461002	3	3			Supervisor	
	Thesis Research on Architecture Civil Engineering	461003	6	9			Supervisor	
Elective	Elasticity and Stability	462038	2	2			S. Yamada	
	Finite Element method for Continua and Bar Structures	462039	2			1	S. Nakazawa	
	Seismic Evaluation of Existing Buildings	462036	2	2			Y. Sanada	
	Geologic Hazard and Mitigation Planning	462007	2		1		M. Kawamura	
	Geotechnical Analysis	462024	2			1	K. Miura	*
	Building Science:Indoor Air Quality and Ventilation	462009	2			1	H. Matsumoto	*
	Building Climate	462008	2			1	S. Song	*
	Wave Forces on Offshore and Coastal Structures	462011	2			1	S. Aoki	*
	Coastal Hydraulics	462029	2		1		S. Kato	
	Water Quality Analysis	462030	2	2			T. Inoue	
	Computer Applications in Urban Planning	462012	2			1	A. Ohgai	*
	Human Settlement: Its History and Theory	462013	2	2			H. Izumida	
	Advanced Study on Housing System and Housing Policy	462016	2			1	S. Matsushima	*
	Advanced District Planning	462037	2		1		J. Asano	
	Advanced Transportation and Traffic Engineering	462017	2		1		Y. Hirobata	
	Advanced Structural System Planning and Design I	462018	2	※		(※)	Supervisor	
	Advanced Structural System Planning and Design II	462022	2		※	(※)	Supervisor	
	Advanced Environmental System Planning and Design I	462023	2	※		(※)	Supervisor	
	Advanced Environmental System Planning and Design II	462028	2		※	(※)	Supervisor	
	Advanced Regional System Planning and Design I	462020	2	※		(※)	Supervisor	
Advanced Regional System Planning and Design II	462021	2		※	(※)	Supervisor		
Advanced Regional System Planning and Design III	462031	2		※	(※)	Supervisor		

※ Please ask your academic adviser about class schedule of this subject.

Knowledge-based Information Engineering

2009.12

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week			Instructor	note
				1st grade		2nd grade		
				Winter	Spring 1	Spring 2		
				2009.12 - 2010. 3	2010. 4 - 2010. 9	2010.10 - 2011.11		
Compulsory	Seminar on Knowledge-based Information Engineering I	471001	3	3			Supervisor	
	Seminar on Knowledge-based Information Engineering II	471002	3	3			Supervisor	
	Thesis Research on Knowledge-based Information Engineering	471003	8	12			Supervisor	
Elective	Parallel and Distributed Computing	472001	2			1	S. Masuyama	
	Computer Speech Processing	472002	2	2			T. Nitta	
	Quantum Biology	472003	2	2			N. Kurita	
	Quantum Materials Science	472004	2			1	H. Sekino	
	Chemometrics	472005	2		1		Y. Takahashi	
	Complex Systems	472006	2			1	Y. Ishida	
	Neuroscience	472007	2			1	J. Horikawa	
	Computers and Education	472008	2		1		K. Kawai	

Ecological Engineering

2009.12

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week			Instructor	note	
				1st grade		2nd grade			
				Winter	Spring 1	Spring 2			
				2009.12 - 2010.3	2010.4 - 2010.9	2010.10 - 2011.11			
Compulsory	Seminar on Ecological Engineering I	481001	3	3			Supervisor		
	Seminar on Ecological Engineering II	481002	3	3			Supervisor		
	Thesis Research on Ecological Engineering	481003	6	9			Supervisor		
Elective	Advanced Molecular Life Science	482016	1				0.5	Y. Kikuchi, T. Tanaka	
	Advanced Applied Biochemistry and Biotechnology	482017	1	1				A. Hiraishi, T. Eki	
	Advanced Electrical and Electronic Technology for Ecological Engineering	482018	1		1			S. Tanaka, A. Mizuno, K. Takashima	
	Advanced Environmental Numerical Engineering	482019	1				0.5	T. Kitada	
	Advanced Eco-Materials Engineering	482020	1		1			H. Tsuji	
	Advanced Physical Chemistry I	482021	1				0.5	Y. Kiso	
	Advanced Physical Chemistry II	482022	1				0.5	H. Kim	
	Advanced Environmental System Engineering for Recycle-oriented Society	482023	1		1		0.5	N. Goto	
	Advanced Life Science and Biotechnology I	482010	2	※			(※)	Supervisor	
	Advanced Life Science and Biotechnology II	482011	2		※		(※)	Supervisor	
	Advanced Environmental Technology I	482012	2	※			(※)	Supervisor	
	Advanced Environmental Technology II	482013	2		※		(※)	Supervisor	
	Advanced Environmental and Ecological Systems I	482014	2	※			(※)	Supervisor	
Advanced Environmental and Ecological Systems II	482015	2		※		(※)	Supervisor		

※ Please ask your academic adviser about class schedule of this subject

General courses

2009.12

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week			Instructor	note	
				1st grade		2nd grade			
				Winter	Spring 1	Spring 2			
				2009.12 - 2010.3	2010.4 - 2010.9	2010.10 - 2011.11			
Elective	Courses relevant to Social Planning Engineering	Management Science	401001	2	2		(1)	Y. Miyata, T. Fujiwara	
		Industrial Policies	401008	2		1	(1)	H. Shibusawa	
	Courses relevant to Social Culture Studies	Culture and Communication I	402011	2			1	English teacher	
		Culture and Communication II	402012	2	2			M. Tamura	
		Japanese Life Today	407011	2		1	(1)	T. Hayashi	
		Intercultural Communication I -A	402013	1		1		0.5	Y. Muramatsu
		Intercultural Communication I -B	402014	1			1	0.5	Y. Muramatsu

Twinning Program

Course Requirement Guide Book

(December 2009)

Master's Program Given in English

TOYOHASHI UNIVERSITY OF TECHNOLOGY

I Requirements for graduation, etc.

1. Requirements for graduation

To complete the master's course, a student must participate in the graduate courses 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 and must submit a master thesis, and pass the review and final exams.

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

Class	No. of credits required for graduation	Remarks
General courses		
Courses relevant to Social Planning Engineering	6	
Courses relevant to Social Culture Studies		
Total	6	
Specialized courses		
Mechanical Engineering major	24	
Production Systems Engineering major	24	
Electrical and Electronic Engineering major	24	
Information and Computer Sciences major	24	
Materials Science major	24	
Architecture & Civil major	24	
Knowledge-Based Information Engineering major	24	
Ecological Engineering major	24	
Grand total	30	

"English Courses" indicate the classes prepared for the students enrolled in "English Special Course".

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

2. Application for degree

Only a student who has acquired the credits required for finishing, or who is expected to acquire the credits can apply for a master's degree. Submission of thesis for master's degree, etc., shall be posted at a bulletin board.

II Course registration methods, examination, limits of attendance period, etc.

1. Course registration method

The courses shall be registered according to the education schedule of the respective major.

(1) Study schedule

Read this manual thoroughly, and follow the instructions and advice given during orientation at the beginning of the academic year or that given by the supervisor, and set your class schedule in the course timetable. Provide some time-allowance to your schedule.

Note that some elective courses will not be held sometimes.

(The course timetable will be provided at the beginning of each academic year.
Schedule for special intensive courses will be posted up on a bulletin board
as soon as the date and time, etc., are decided.)

(2) Course registration

The student must register the courses by the sheet of "Course Registration List" b before the designated date.

Accreditation to the courses not registered will not be made in any case.

- 1 If the student does not attend the course nor take the examinations, the credits will not be given even if the registration is made. This does not apply when the registration is canceled.
- 2 A student can not re-register the courses for which credits are given.
- 3 Courses held at the same class time cannot be registered. Note that this does not apply for courses being taken again by examinations, or intensive courses.

(3) Confirming and correcting course registration

Confirm your course registration with the "Course registration confirmation list" (distributed only once to each student at the beginning of the academic year).

If there is any mistake in the written list, correction procedures should be taken.

(4) Repeating courses

As a rule, a student who has failed in a course with the regular examination, etc., must repeat the course in the next academic year.

Students must make registration again if the course is a compulsory course for graduation even for the repeated course once they fail.

(5) Repeating courses by examinations, etc.

If a student wants to register, the student can submit and register the course with the "Request for repetition through examination, etc." only when the course instructor approves of crediting through examinations, etc.

2. Examination

Examination includes regular examination and makeup examination.

(1) Regular examination

As a principle, regular examination shall be held during the set period at the end of each term. Note that examination may be held at any time when found necessary by the course instructor.

The regular examination period and examination timetable, etc., will be posted up on a bulletin board.

(2) Make-up examination

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

- 1) When the student is sick (doctor's medical certificate must be submitted)
- 2) When considered appropriate due to accidents or disaster (certificate of proof must be submitted), and other reasons (a letter explaining the reason must be submitted).

b The "Request for makeup examination" must be submitted to the Educational Affairs Division within one week from the final date of regular examination.

c If the student fails to take the makeup examination, a farther examination will not be held.

(3) Approval of credits and evaluation

The course instructor shall approve the credits for the course through the means of exams, etc.

- 1) Tests are basically conducted at the end of each term. All students are to check the test schedules on the academic calendar on Dream Campus (TUT's website), bulletin board at A-bldg. or printed calendar at the office of Academic Affairs section. In addition, your instructor may schedule extra tests. All tests scheduling will be placed on the bulletin boards at lecture hall of A-bldg. 2 weeks before the day of start. Your units are graded according to test scores by instructors.

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) Grades approved for credits shall be notified from the Educational Affairs Division with the "Credit Acquisition List" after the end of each term. (For the date of issue, see the schedule related to registration.)

3. Maximum years of attendance

It is not possible for a student to be in the master course at the university exceeding two years.

4. Leave of absence

If the student cannot attend classes for two or more months successively due to illness or other special reasons, the student may submit the specific "Request for leave of absence" to the Educational Affairs Division via the supervisor and department head. Upon approval from the President, the student may have a leave of absence (within one year in total).

The period that the student is absent will not be counted in the above "3. Maximum years of attendance".

To return to school after the end of the approved leave of absence period, the student must submit the "Application to return to school".

To return to school during the period of the leave of absence due to the elimination of the reason of leave, the student must submit the "Request to return to school" and obtain approval.

5. Withdrawal

If the students want to withdrawal from the university, the student may submit the specific "Request for withdrawal" to the Educational Affairs Division via the supervisor and department head. Upon approval from the President, the student may have withdrawal from the university.

6. Information about canceled or makeup classes.

All students may need to double-check about your classes at following bulletin boards:

Location		information
Lecture hall at 1 st floor. A-bldg.	Central Bulletin Board (panel board)	Class schedule change (all school term)
	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
	http://annai00.gakumu.tut.ac.jp/adlight/adlightweb/conduct_list_b.asp	Class schedule or classroom change
TUT website for mobile phones	http://osirabe.net/tut/ *Mobile tagging by camera phones	Canceled or makeup classes

*TUT's policy for conducting classes/tests in case A STORM WARNING is announced.

In case a storm warning is announced in the South East Aichi Pref., TUT will conduct classes or examinations as follows:

- 1) In order to prevent any accident, All classes will be CANCELED (tests will be RESCHEDULED) during the storm warning.
- 2) The storm warning is CLEARED BEFORE AM7:00, all classes(tests) are on SCHEDULE.
- 3) The storm warning is CLEARED FROM AM7:00 TO AM11:00, all classes(tests) STARTS on 4TH HOUR(*1,2 and 3 hr. will be CANCELED)
- 4) The storm warning is still ANNOUNCED AFTER AM11:00, ALL classes will be CANCELED (tests will be RESCHEDULED).

***Information about RESCHEDULED CLASSES/TESTS**

TUT will reschedule classes/tests canceled by natural disasters on occasional dates. The dates may also be used for makeup classes, students may check the schedules TWO WEEKS BEFORE THE DATES at lecture hall at A-Bldg. However, rescheduled classes (tests) will COME FIRST on the occasional dates and scheduled makeup classes on the dates will be canceled. Double check information from TUT.

III Curriculum

1. Courses and credits, etc.

(1) Courses

Courses are largely divided into general courses and specialized courses. Credits are set for each course.

(For the courses to be offered, see the general courses and specialized courses written in the following pages.
See the separate booklet "SYLLABUS" for details on the classes.)

(2) Compulsory courses and elective courses

- 1) Compulsory courses are the courses that must be completed as a requirement.
- 2) Elective courses can be selected and taken from those courses being offered.

(3) Calculating credits

Courses whose teaching type is lectures, seminars, experiments, practical or hands-on training, are offered individually or in combination among them. The course time for one credit is calculated under the following standards.

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

(4) Course period

The course period is determined according to the academic year calendar, and consists of three terms; Winter term, Spring term, and Fall term.

Mechanical Engineering (Twinning Program)

2009.12

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week			Instructor	note
				Winter 2009.1 - 2010. 2	Spring 1 2010. 4 - 2010. 9	Spring 2		
Compulsory	Seminar on Mechanical Engineering	411005	6	6			Supervisor	
	Thesis Research on Mechanical Engineering	411004	6	9			Supervisor	
Elective	Applied Thermal Engineering	412003	1				K. Kitamura	
	Computational Heat Transfer	412037	1			1	T. Suzuki	
	Fluid Engineering	412005	1				H. Yanada	
	Applied Combustion Engineering	412006	1	1			S. Noda	
	Aeroacoustics	412058	1	1			A. Iida	
	Fundamentals of Energy Engineering	412008	1				S. Suzuki	
	Wind Engineering	412053	1			1	N. Sekishita	
	Robotics	412028	1				N. Uchiyama	
	Surface Analytical Tools	412013	1				M. Uemura	
	Practical Surface Analysis	412066	1				Y. Takeichi	
	High-speed Two-phase Flow	412016	1			1	M. Nakagawa	
	Vibration Engineering	412039	1		1		S. Kawamura	
	Impact Mechanics	412040	1	1			H. Minamoto	
	Applied Mechanics of Materials	412065	1				T. Adachi	
	Computational Mechanics	412017	1				K. Mori ②	
	3D Vision Theory for Measurement	412020	1	1			T. Miyake ②	
	Advanced Joining Processes	412022	1		1		M. Fukumoto ②	
	Phase Transformation in Materials	412057	1				M. Umemoto ②	
	Advanced Evaluation and Failure Prevention of Materials	412049	1				H. Toda ②	
	Corrosion Engineering	412054	1				T. Takenaka ②	
	Modeling and Analysis of Dynamical Control Systems	412032	1				K. Terashima ②	
	Design and Application of Dynamical Control Systems	412033	1				T. Miyoshi ②	
	Surface Modification Engineering	412034	1				T. Yasui ②	
	Multi-Objective Optimization in Manufacturing	412035	1				Y. Shimizu ②	
	Advanced Micromachining Engineering	412050	1	1			T. Shibata ②	
	Wavelet transform and Time-frequency Analysis	412051	1	1			Z. Zhang ②	
	Engineering Safety	412052	1	1			R. Batres ②	
	Soft-Solution Processing	412055	1				M. Izaki ②	
	Advanced X-ray Imaging for Materials Science	412056	1			1	M. Kobayashi ②	
	Deformation Processing Technology	412059	1		1		Y. Abe ②	
	Electron Microscopy for Materials Science	412060	1			1	Y. Todaka ②	
	Advanced Physical Chemistry of Metals	412061	1		1		S. Yokoyama ②	
	Advanced Mechanical Engineering I	412062	2	※			Supervisor	
Advanced Mechanical Engineering II	412063	2		※		Supervisor		
Advanced Mechanical Engineering III	412064	2		※		Supervisor		

※ Please ask your academic adviser about class schedule of this subject

Production Systems Engineering(Twinning Program)

2009.12

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week		Instructor	note
				Winter	Spring		
				2009.1 2 -	2010. 4 - 2010. 9		
Compulsory	Seminar on Production Systems Engineering	421005	6	6		Supervisor	
	Thesis Research on Production Systems Engineering	421004	6	9		Supervisor	
Elective	Computational Mechanics	422001	1			K. Mori	
	3D Vision Theory for Measurement	422028	1	1		T. Miyake	
	Advanced Joining Processes	422004	1		1	M. Fukumoto	
	Phase Transformation in Materials	422063	1			M. Umemoto	
	Advanced Evaluation and Failure Prevention of Materials	422057	1			H. Toda	
	Corrosion Engineering	422061	1			T. Takenaka	
	Modeling and Analysis of Dynamical Control Systems	422031	1			K. Terashima	
	Design and Application of Dynamical Control Systems	422027	1			T. Miyoshi	
	Surface Modification Engineering	422033	1			T. Yasui	
	Multi-Objective Optimization in Manufacturing	422029	1			Y. Shimizu	
	Advanced Micromachining Engineering	422058	1	1		T. Shibata	
	Wavelet Transform and Time-frequency Analysis	422059	1	1		Z. Zhang	
	Engineering Safety	422060	1	1		R. Batres	
	Soft-Solution Processing	422064	1			M. Izaki	
	Advanced X-ray Imaging for Materials Science	422065	1			M. Kobayashi	
	Deformation Processing Technology	422066	1		1	Y. Abe	
	Electron Microscopy for Materials Science	422067	1			Y. Todaka	
	Advanced Physical Chemistry of Metals	422068	1		1	S. Yokoyama	
	Applied Thermal Engineering	422013	1			K. Kitamura ①	
	Computational Heat Transfer	422038	1			T. Suzuki ①	
	Fluid Engineering	422015	1			H. Yanada ①	
	Applied Combustion Engineering	422016	1	1		S. Noda ①	
	Aeroacoustics	422069	1	1		A. Iida ①	
	Fundamentals of Energy Engineering	422018	1			S. Suzuki ①	
	Wind Engineering	422062	1			N. Sekishita ①	
	Robotics	422035	1			N. Uchiyama ①	
	Surface Analytical Tools	422023	1			M. Uemura ①	
	Practical Surface Analysis	422070	1			Y. Takeichi	
	High-speed Two-phase Flow	422026	1			M. Nakagawa ①	
	Vibration Engineering	422045	1		1	S. Kawamura ①	
	Impact Mechanics	422046	1	1		H. Minamoto ①	
	Applied Inorganic Chemistry I	422047	1			N. Kakuta ⑤	
Applied Inorganic Chemistry II	422048	1			T. Mizushima ⑤		
Inorganic Materials Science I	422049	1		1	A. Matsuda ⑤		
Inorganic Materials Science II	422050	1			H. Muto ⑤		
Composite Materials Science I	422051	1	1		T. Takeichi ⑤		
Composite Materials Science II	422052	1	1		A. Matsumoto ⑤		

Electrical and Electronic Engineering (Twinning Program)

2009.12

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week		Instructor	note
				Winter	Spring		
				2009.12 - 2010. 3	2010. 4 - 2010. 9		
Compulsory	Seminar on Electrical and Electronic Engineering	431005	6	6		Supervisor	
	Thesis Research on Electrical and Electronic Engineering	431003	8	12		Supervisor	
Elective	Physics for Electronics I	432001	2	2		A. Oota, M. Fukuda, M. Inoue	
	Physics for Electronics II	432002	2		1	K. Hattori, Y. Nakamura	
	Electrical Energy Systems	432003	2	2		M. Nagao, H.Takikawa, Y. Sakurai	
	Electrical Technology and Materials	432004	2		1	Y. Murakami, Y. Suda	
	Semiconductor Physics	432005	2	2		A. Wakahara, K. Pak,	
	LSI Process	432006	2		1	K. Sawada, Y. Furukawa, H.Okada	
	Methodology of R & D	432007	2	2		Supervisor	

Information and Computer Sciences (Twinning Progi

2009.12

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week		Instructor	note
				Winter	Spring		
				2009.12 - 2010. 3	2010. 4 - 2010. 9		
Compulsory	Seminar on Information and Computer Sciences	441005	6			Supervisor	
	Thesis Research on Information and Computer Sciences	441003	8			Supervisor	
Elective	Speech and Natural Language Processing	442001	2	2		S. Nakagawa, T. Akiba	
	Computer System Architecture	442002	2		1	R. Kobayashi, M. Sugihara	
	Web Data Engineering	442003	2	2		S. Kuriyama, M. Aono	
	Robotics Fundamentals	442004	2		1	J. Miura, Y. Sugaya, N. Fukumura	
	Network Hardware Technology	442005	2	2		T. Ohira, K. Wada	
	Network Software Technology	442006	2		1	S. Nakauchi, K. Umemura, H. Uehara	
	Methodology of R & D	442007	2	2		K.Wada	

Materials Science (Twinning Program)

2009.12

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week			Instructor	note
				Winter 2009.12 -	Spring 1 2010.4 -	Spring 2 2010.9		
Compulsory	Seminar on Materials Science	451005	6				Supervisor	
	Thesis Research on Materials Science	451003	6				Supervisor	
Elective	Advanced Separation Chemistry I	452015	1		1		Y.Saito	
	Advanced Separation Chemistry II	452016	1			1	Y. Hirata	
	Advanced Solution Chemistry	452002	1			1	T. Hattori	
	Applied Inorganic Chemistry I	452017	1				N. Kakuta	
	Applied Inorganic Chemistry II	452018	1				T. Mizushima	
	Inorganic Materials Science I	452019	1		1		A. Matsuda	
	Inorganic Materials Science II	452020	1			1	H.Muto	
	Applied Physical Chemistry	452034	1				T. Oogushi	
	Advanced Polymer Chemistry I	452023	1				S. Itsuno	
	Advanced Polymer Chemistry II	452024	1				E. Yoshida	
	Composite Materials Science I	452025	1	1			T. Takeichi	
	Composite Materials Science II	452026	1	1			A. Matsumoto	
	Special Topics in Applied Organic Chemistry	452035	1				S. Iwasa	
	Structural Biology	452029	1	1			K. Aoki	
	Developmental Neuroscience	452030	1			1	S. Yoshida	
	Advanced Evaluation and Failure Prevention of Materials	452031	1				H. Toda ②	
	Deformation Processing Technology	452036	1		1		Y. Abe ②	
	Electron Microscopy for Materials Science	452037	1			1	Y. Todaka ②	
	Advanced Physical Chemistry of Metals	452038	1		1		S. Yokoyama ②	
Advanced Molecular Life Science	452039	1				Y.Kikuchi, T.Tanaka ⑧		
Advanced Applied Biochemistry and Biotechnology	452040	1	1			A.Hiraishi, T.Eki ⑧		
Advanced Physical Chemistry I	452041	1				Y. Kiso ⑧		

Architecture & Civil Engineering (Twinning Program)

2009.12

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week		Instructor	note
				Winter	Spring		
				2009.12 - 2010. 3	2010. 4 - 2010. 9		
Compulsory	Seminar on Architecture and Civil Engineering	461005	6	6		Supervisor	
	Thesis Research on Architecture Civil Engineering	461003	6	9		Supervisor	
Elective	Elasticity and Stability	462038	2	2		S. Yamada	
	Finite Element method for Continua and Bar Structures	462039	2			S. Nakazawa	
	Seismic Evaluation of Existing Buildings	462036	2	2		Y. Sanada	
	Geologic Hazard and Mitigation Planning	462007	2		1	M. Kawamura	
	Geotechnical Analysis	462024	2			K. Miura	
	Building Science: Indoor Air Quality and Ventilation	462009	2			H. Matsumoto	
	Building Climate	462008	2			S. Song	
	Wave Forces on Offshore and Coastal Structures	462011	2			S. Aoki	
	Coastal Hydraulics	462029	2		1	S. Kato	
	Water Quality Analysis	462030	2	2		T. Inoue	
	Computer Applications in Urban Planning	462012	2			A. Ohgai	
	Human Settlement:Its History and Theory	462013	2	2		H. Izumida	
	Advanced Study on Housing System and Housing Policy	462016	2			S. Matsushima	
	Advanced District Planning	462037	2		1	J. Asano	
	Advanced Transportation and Traffic Engineering	462017	2		1	Y. Hirobata	
	Advanced Structural System Planning and Design I	462018	2	※		Supervisor	
	Advanced Structural System Planning and Design II	462022	2		※	Code No.	
	Advanced Environmental System Planning and Design I	462023	2	※		Supervisor	
	Advanced Environmental System Planning and Design II	462028	2		※	Supervisor	
	Advanced Regional System Planning and Design I	462020	2	※		Supervisor	
Advanced Regional System Planning and Design II	462021	2		※	Supervisor		
Advanced Regional System Planning and Design III	462031	2		※	Supervisor		

※ Please ask your academic adviser about class schedule of this subject

Knowledge-based Information Engineering(Twinning Program)

2009.12

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week		Instructor	note
				Winter	Spring		
				2009.1 2 -	2010.4 - 2010.9		
Compulsory	Seminar on Knowledge-based Information Engineering	471005	6		6		
	Thesis Research on Knowledge-based Information Engineering	471006	6		9		
Elective	Parallel and Distributed Computing	472001	2			S. Masuyama	
	Computer Speech Processing	472002	2	2		T. Nitta	
	Quantum Biology	472003	2	2		N. Kurita	
	Quantum Materials Science	472004	2			H. Sekino	
	Chemometrics	472005	2		1	Y. Takahashi	
	Complex Systems	472006	2			Y. Ishida	
	Neuroscience	472007	2			J. Horikawa	
	Computers and Education	472008	2		1	K. Kawai	

※ Please ask your academic adviser about class schedule of this subject

Ecological Engineering (Twinning Program)

2009.12

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week			Instructor	note
				Winter	Spring	Spring		
				2009.12 - 2010. 3	2010. 4 - 2010. 7	2010. 8 - 2010. 9		
Compulsory	Seminar on Ecological Engineering	481005	6	6			Supervisor	
	Thesis Research on Ecological Engineering	481003	6	9			Supervisor	
Elective	Advanced Molecular Life Science	482016	1				Y. Kikuchi, T. Tanaka	
	Advanced Applied Biochemistry and Biotechnology	482017	1	1			A. Hiraishi, T. Eki	
	Advanced Electrical and Electronic Technology for Ecological Engineering	482018	1		1		S. Tanaka, A. Mizuno, K. Takashima	
	Advanced Environmental Numerical Engineering	482019	1				T. Kitada	
	Advanced Eco-Materials Engineering	482020	1		1		H. Tsuji	
	Advanced Physical Chemistry I	482021	1				Y. Kiso	
	Advanced Physical Chemistry II	482022	1				H. Kim	
	Advanced Environmental System Engineering for Recycle-oriented Society	482023	1		1		N. Goto	
	Advanced Life Science and Biotechnology I	482010	2	※			Supervisor	
	Advanced Life Science and Biotechnology II	482011	2		※		Supervisor	
	Advanced Environmental Technology I	482012	2	※			Supervisor	
	Advanced Environmental Technology II	482013	2		※		Supervisor	
	Advanced Environmental and Ecological Systems I	482014	2	※			Supervisor	
Advanced Environmental and Ecological Systems II	482015	2		※		Supervisor		

※ Please ask your academic adviser about class schedule of this subject

General courses (Twinning Program)

2009.12

Compulsory / Elective	Subject Name	Code No.	Credits	Classes/Week			Instructor	note
				Winter	Spring	Spring		
				2009.12 - 2010.3	2010.4 - 2010.9			
Elective	Management Science I	401004	1	1			T. Fujiwara	
	Management Science II	401005	1	1			Y. Miyata	
	Industrial Policies I	401009	1		1		H. Shibusawa	
	Industrial Policies II	401010	1			1	H. Shibusawa	
	※ Culture and Communication I-A	402015	1				English teacher	
	※ Culture and Communication I-B	402016	1				English teacher	
	Culture and Communication II-A	402017	1	1			M. Tamura	
	Culture and Communication II-B	402018	1	1			M. Tamura	
	Japanese Life Today I	407012	1		1		T. Hayashi	
	Japanese Life Today II	407013	1			1	T. Hayashi	
	Intercultural Communication I-A	402013	1		1		Y. Muramatsu	
	Intercultural Communication I-B	402014	1			1	Y. Muramatsu	

※ Please ask your academic adviser about class schedule of this subject

Course Requirement Guide Book

(December 2009)

Doctoral Program Given in English

TOYOHASHI UNIVERSITY OF TECHNOLOGY

I Requirements for graduation, etc.

1. Requirements for graduation

To complete the doctoral course, a student must participate in the graduate courses 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 and must submit a doctoral thesis, and pass the review and final exams.

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

Class	No. of credits required for graduation	Remarks	
Specialized courses			
Mechanical and Structural System Engineering major	9	4 credits	When considered appropriate by the supervisor, the credits shown on the left can be substituted with "Master's Courses" (except Advanced topics subjects and General Courses) and "Doctoral Courses" in other majors for those in Specialized Courses
Functional Materials Engineering major	9	4 credits	
Electronic and Information Engineering major	9	4 credits	
Environment and Life Engineering major	9	4 credits	

2. Application for degree

Only a student who has acquired the credits required for finishing, or who is expected to acquire the credits can apply for a doctoral degree. Procedure to submit thesis for doctoral degree, etc., shall be posted at a bulletin board.

II Course registration methods, examination, limits of attendance period, etc.

1. Course registration method

The courses shall be registered according to the education schedule of the respective major.

(1) Study schedule

Read this manual thoroughly, and follow the instructions and advice given during orientation at the beginning of the academic year or that given by the supervisor, and set your class schedule in the course timetable. Provide some time-allowance to your schedule.

Note that some elective courses will not be held sometimes.

(The course timetable will be provided at the beginning of each academic year.
Schedule for special intensive courses will be posted up on a bulletin board
as soon as the date and time, etc., are decided.)

(2) Course registration

The student must register the courses by the sheet of "Course Registration List" before the designated date.

Accreditation to the courses not registered will not be made in any case.

- 1 To complete a course of "Master's Courses" (except Advanced topics subjects and General Courses) or "Doctoral Courses" in other majors, the student must obtain approval from the supervisor and course instructor with the "Other Major Course Approval Form", before registering the course.
- 2 If the student does not attend the course nor take the examinations, the credits will not be given even if the registration is made. This does not apply when the registration is canceled.
- 3 A student can not re-register the courses for which credits are given.
- 4 Courses held at the same class time cannot be registered. Note that this does not apply for courses being taken again by examinations, or intensive courses.

(3) Repeating courses

As a rule, a student who has failed in a course with the regular examination, etc., must repeat the course in the next academic year.

Students must make registration again if the course is a compulsory course for graduation even for the repeated course once they fail.

2. Examination

Examination includes regular examination and makeup examination.

(1) Regular examination

As a principle, regular examination shall be held during the set period at the end of each term. Note that examination may be held at any time when found necessary by the course instructor.

The regular examination period and examination timetable, etc., will be posted up on a bulletin board.

(2) Make-up examination

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

- 1) When the student is sick (doctor's medical certificate must be submitted)
- 2) When considered appropriate due to accidents or disaster (certificate of proof must be submitted), and other reasons (a letter explaining the reason must be submitted).

b The "Request for makeup examination" must be submitted to the Educational Affairs Division within one week from the final date of regular examination.

c If the student fails to take the makeup examination, a farther examination will not be held.

(3) Approval of credits and evaluation

The course instructor shall approve the credits for the course through the means of exams, etc.

Tests are basically conducted at the end of each term. Your units are graded according to test scores by instructors.

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) Grades approved for credits shall be notified from the Educational Affairs Division with the "Credit Acquisition List" after the end of each term. (For the date of issue, see the schedule related to registration.)

3. Maximum years of attendance

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

4. Leave of absence

If the student cannot attend classes for two or more months successively due to illness or other special reasons, the student may submit the specific "Request for leave of absence" to the Educational Affairs Division via the supervisor and department head. Upon approval from the President, the student may have a leave of absence (within two years in total).

The period that the student is absent will not be counted in the above "3. Maximum years of attendance".

To return to school after the end of the approved leave of absence period, the student must submit the "Application to return to school".


To return to school during the period of the leave of absence due to the elimination of the reason of leave, the student must submit the "Request to return to school" and obtain approval.

5. Withdrawal

If the students want to withdrawal from the university, the student may submit the specific "Request for withdrawal" to the Educational Affairs Division via the supervisor and department head. Upon approval from the President, the student may have withdrawal from the university.

6. Information about canceled or makeup classes.

All students may need to double-check about your classes at following bulletin boards:

Location		information
Lecture hall at 1 st floor. A-bldg.	Central Bulletin Board (panel board)	Class schedule change (all school term)
	Electronic Bulletin Board (LCD)	Canceled or makeup classes, rescheduled notices
	Glass-covered Bulletin Board	Others
TUT website	http://www.tut.ac.jp/educ/ed12/index.html	Canceled or makeup classes
	http://www.tut.ac.jp/educ/ed13/index.html	Class schedule or classroom change
TUT website for mobile phones	http://osirabe.net/tut/ *Mobile tagging by camera phones 	Canceled or makeup classes

***TUT's policy for conducting classes/tests in case A STORM WARNING is announced.**

In case a storm warning is announced in the South East Aichi Pref., TUT will conduct classes or examinations as follows:

- 1) In order to prevent any accident, All classes will be CANCELED (tests will be RESCHEDULED) during the storm warning.
- 2) The storm warning is CLEARED BEFORE AM7:00, all classes(tests) are on SCHEDULE.
- 3) The storm warning is CLEARED FROM AM7:00 TO AM11:00, all classes(tests) STARTS on 4TH HOUR(*1,2 and 3 hr. will be CANCELED)
- 4) The storm warning is still ANNOUNCED AFTER AM11:00, ALL classes will be CANCELED (tests will be RESCHEDULED).

***Information about RESCHEDULED CLASSES/TESTS**

TUT will reschedule classes/tests canceled by natural disasters on occasional dates. The dates may also be used for makeup classes, students may check the schedules TWO WEEKS BEFORE THE DATES at lecture hall at A-Bldg. However, rescheduled classes (tests) will COME FIRST on the occasional dates and scheduled makeup classes on the dates will be canceled. Double check information from TUT.

III Curriculum

1. Courses and credits, etc.

(1) Courses

Courses are only specialized courses. Credits are set for each course.

(For the courses to be offered, see specialized courses written in the following pages.
See the separate booklet "SYLLABUS" for details on the classes.)

(2) Compulsory courses and elective courses

- 1) Compulsory courses are the courses that must be completed as a requirement.
- 2) Elective courses can be selected and taken from those courses being offered.

(3) Calculating credits

Courses which teaching type is lectures, seminars, experiments, practical or hands-on training, are offered individually or in combination among them. The course time for one credit is calculated under the following standards.

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

(4) Course period

The course period is determined according to the academic year calendar, and consists of three terms; Winter term, Spring term, and Fall term.

Mechanical and Structural System Engineering

Compulsory / Elective	Field	Subject Name	Credits	Instructor	1st grade		2nd grade	3rd grade
					Winter	Spring		
					2009.12 — 2010. 3	2010. 4 — 2010. 9	2010.10 — 2011. 9	2011.10 — 2012.11
Compulsory		Seminar on Mechanical and Structural System Engineering	3	Supervisor	3			
Elective	Mechanical Engineering	Advanced Machine Dynamics	2	S.Kawamura and H.Minamoto		1		
Elective		Advanced Tribology	2	M.Uemura and Y.Takeichi		1		
Elective		Advanced Transport Phenomena	2	K.Kitamura			1	
Elective		Advanced Combustion Engineering	2	S.Noda	2			(1)
Elective		Advanced Thermodynamics and Fluid Dynamics of Two-phase Flow	2	M.Nakagawa			1	
Elective		Advanced Thermal Engineering	2	T.Suzuki		1		
Elective		Advanced Aeroacoustics	2	A.lida		1		
Elective		Advanced Wind Engineering	2	N.Sekishita		1		
Elective		Advanced Fluid Power Systems	2	H.Yanada	2			(1)
Elective		Advanced Instrument and Control Engineering	2	S.Suzuki and N.Uchiyama		1	(1)	(1)
Elective		Advanced Mechanics of Solids	2	T.Adachi			1	
Elective	Manufacturing Engineering	Deformation Processes	2	K.Mori and Y.Abe				1
Elective		Micro/Nanomachining Engineering	2	T.Shibata	2			
Elective		Advanced Joining Processes	2	M.Fukumoto and T.Yasui		1		
Elective	Structural Systems in Architecture and Civil Engineering	Mechanics and Design of Spatial Structure Systems	2	S.Yamada and S.Nakazawa		1		(1)
Elective		Complex Systems Planning	2	M.Kawamura and K.Miura			1	
Elective		Structural Design and Cost Performance	2	Y.Sanada	2			(1)

Functional Materials Engineering

Compulsory / Elective	Field	Subject Name	Credits	Instructor	1st grade		2nd grade	3rd grade
					Winter	Spring		
					2009.12 — 2010. 3	2010. 4 — 2010. 9	2010.10 — 2011. 9	2011.10 — 2012.11
Compulsory		Seminar on Functional Materials Engineering	3	Supervisor	3			
Elective	Materials Design	Advanced Production Engineering of Materials	2	M.Izaki and T.Takenaka			1	
Elective		Advanced Synthesis of Molecular Materials	1	S.Iwasa			0.5	
Elective		Computational Materials Science	2	H.Sekino			1	
Elective	Materials Characterization	Advanced Structural Materials Analysis	2	H.Toda and M.Kobayashi		2	(1)	(1)
Elective		Advanced Separation Science	1	Y.Saito	1			0.5
Elective		Advanced Analytical Separation Chemistry	1	Y.Hirata		1		0.5
Elective		Advanced Chemical Sensor	1	T.Hattori		1		0.5
Elective		Advanced Inorganic Materials Science and Engineering 1	1	M.Sakai	1			
Elective		Advanced Inorganic Materials Science and Engineering 2	1	A.Matsuda		1		0.5
Elective		Advanced Kinetic Theory of Gases	1	T.Oogushi			0.5	
Elective		Advanced Surface Analysis of Materials	1	A.Matsumoto	1			0.5
Elective	Materials Application	Advanced Materials Property Engineering	2	M.Umemoto, Y.Todaka and S.Yokoyama		1	(1)	(1)
Elective		Advanced Polymeric Materials Chemistry	1	T.Takeichi	1			0.5
Elective		Advanced Functional Polymer Chemistry	1	S.Itsuno			0.5	
Elective		Advanced Polymer Nanomaterials	1	E.Yoshida			0.5	
Elective		Advanced Physiological Property Engineering	1	S.Yoshida		1		0.5
Elective		Advanced Biomolecules Property Engineering	1	K.Aoki	1			
Elective		Advanced Functional Inorganic Chemistry 1	1	N.Kakuta			0.5	
Elective		Advanced Functional Inorganic Chemistry 2	1	T.Mizushima			0.5	
Elective		Advanced Molecular Information Engineering	2	Y.Takahashi		1		(1)
Elective		Molecular and Quantum Biology	2	N.Kurita	2			(1)

Electronic and Information Engineering

Compulsory / Elective	Field	Subject Name	Credits	Instructor	1st grade		2nd grade	3rd grade
					Winter	Spring		
					2009.12 — 2010. 3	2010. 4 — 2010. 9	2010.10 — 2011. 9	2011.10 — 2012.11
Compulsory		Seminar on Electronic & Information Engineering	3	Supervisor	3			
Compulsory		Seminar on Cultural System	3	Supervisor	3			
Elective	Electrical and Electronic Engineering	Electric Energy Engineering	2	M.Nagao, Y.Sakurai and Y.Suda			1	
Elective		Applied Engineering of Electric Energy	2	H.Takikawa and Y.Murakami				1
Elective		Physics of Electronic Materials	2	M.Inoue and K.Hattori			1	
Elective		Electronic Material Engineering	2	A.Oota, Y.Nakamura and M.Fukuda			1	
Elective		Advanced Semiconductor Device	2	M.Ishida, A.Wakahara, P.Kangsa and Y.Furukawa	2			
Elective		Advanced LSI Technology	2	K.Sawada, H.Takao and U.Okada			1	
Elective	Systems and Information Engineering	Computer System Engineering	2	S.Chikawa, M.Sugihara and R.Kabayashi	2			
Elective		Computers and Education, Advanced	2	K.Kawai			1	
Elective		Theoretical Computer Science, Advanced	2	S.Masuyama and T.Fujito				1
Elective		Speech and Language Processing	2	S.Nakagawa and T.Akiba			1	
Elective		Spoken Language Interface and Multi-modal Interaction	2	T.Nitta		1		
Elective		3D Vision Theory for Measurement	1	T.Miyake	1			
Elective		Robotics Fundamentals	2	J.Miura, M.Okada, N.Fukumura and Y.Sugaya		1		
Elective		Web Data Engineering	2	M.Aono and S.Kuriyama	2			
Elective		Brain and Neural System Engineering 1	2	J.Horikawa			1	
Elective		Brain and Neural System Engineering 2	2	S.Nakauchi	2			(1)
Elective		Intelligent Control and Its Application to Robotics	1	K.Terashima				0.5
Elective		Modern Control System Theory and Application	1	T.Miyoshi				0.5
Elective		Optimization for Industrial Engineering Applications	1	Y.Shimizu			0.5	
Elective		Topics in Engineering Safety	1	R.Batres		1		
Elective		Complex Systems and Intelligent Informatics	2	Y.Ishida and K.Murakoshi			1	
Elective		Computer Network Engineering	2	K.Umemura				1
Elective		Signal Processing	2	Z.Zhang and K.Wada		1		
Elective	Communication System Engineering	2	T.Ohira and H.Uehara			1		
Elective	Humanity System	Phonetics and Phonological Theory	2	A.Ujihira		1	(1)	(1)
Elective		Language Testing and assessment	2	Y.In'nami		1		
Elective		Western Culture and Civilization	2	M.Tamura		1		
Elective		Technology Management 1	2	T.Fujiwara		1	(1)	(1)
Elective		Technology Management 2	2	H.Shibusawa		1	(1)	(1)
Elective		European Culture	2	K.Aikyo		1	(1)	(1)

Environment and Life Engineering

Compulsory / Elective	Field	Subject Name	Credits	Instructor	1st grade		2nd grade	3rd grade
					Winter	Spring		
					2009.12 — 2010. 3	2010. 4 — 2010. 9	2010.10 — 2011. 9	2011.10 — 2012.11
Compulsory		Seminar on Environment & Life Engineering	3	Supervisor	3			
Elective	Environment Planning	Advanced Building Environmental Engineering and Building Services	2	H.Matsumoto and S.Song	2			
Elective		Sustainable Urban Planning	2	A.Ohgai and J.Asano				1
Elective		Technology and Management of Architectural and District Environment Planning	2	S.Matsushima			1	
Elective		Advanced Regional Environment Planning	2	Y.Hirobata			1	
Elective		Advanced Seminar on Regional Planning; History and Heritage	2	H.Izumida			1	
Elective		Environmental Economics 1	2	M.Yamaguchi		1	(1)	(1)
Elective		Environmental Economics 2	2	Y.Miyata		1	(1)	(1)
Elective		Environmental Economics 3	2	T.Hiramatsu		1	(1)	(1)
Elective	Environment Protection	Advanced Water Environmental Engineering	2	S.Aoki, T.Inoue and S.Kato		1		(1)
Elective		Advanced Eco-systems Protection Engineering	2	T.Kitada		1		(1)
Elective		Advanced Water and Wastewater Treatment Technology	2	Y.Kiso		1		(1)
Elective		Ecological Combustion Engineering	2	H.J.Kim and T.Oguchi	2			(1)
Elective		Ecological Engineering for Homeostatic Human Activities	2	H.Daimon		1		(1)
Elective		Environmental Applications of High Electric Field	2	A.Mizuno	2			(1)
Elective		Electrical Engineering for Ecological	2	K.Takashima	2			(1)
Elective		Advanced Industrial Ecology	2	N.Goto	2			(1)
Elective		Microbiology and Environmental Biotechnology	2	A.Hiraishi			1	
Elective	Bioscience and Bioengineering	Advanced Molecular Genetics	2	T.Eki	2			(1)
Elective		Biobased Polymers Engineering	2	H.Tsuji			1	
Elective		Applied Environmental Electromagnetism	2	S.Tanaka		1		(1)
Elective		Health Science	2	Y.Yasuda and K.Sakuma		1		(1)
Elective		Molecular Life Science	2	Y.Kikuchi		1	(1)	(1)
Elective		Advanced Biochemistry	2	T.Tanaka			1	