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Code	Course Title	Semester	Quarter	Main Instructor	Course Description
024617	Graduation Thesis	Spring Semester	ONE-YEAR	TAKIYAMA Ken	This course is intended to obtain an experience of research planning, simulations, experimental skills, investigations, discussion, reading academic papers, and presentation in the field of electrical and electronic engineering.
024618	Graduation Thesis	Spring Semester	ONE-YEAR	WATANABE Shun	This course is intended to obtain an experience of research planning, simulations, experimental skills, investigations, discussion, reading academic papers, and presentation in the field of electrical and electronic engineering.
02a3693	Advanced Electric Devices	Fall Semester	3rd Quarter	ZHANG Ya	This course covers introduction current semiconductor device physics. 1.Introduction 2.Electrical properties for semiconductor: band theory 3.Electrical conductance for semiconductor: carrier density 4.Electrical conductance for semiconductor: doping 5.Electrical conductance for semiconductor—current 6.PN junction—space charge effect 7.PN junction—important values 8.PN junction—Minority carrier behavior 9.PN junction—current 10.MOS field effect transistor—MOS capacitor 1 11.MOS field effect transistor—MOS capacitor 2 12.MOS field effect transistor—output characteristics 13.MOS field effect transistor—CMOS
02a3695	Special Lecture on Electrical Engineering and Computer Science	Fall Semester	3rd Quarter	JAMES BALDWIN	This course aims to further develop students' oral and written communication ability in technical and scientific English. Special emphasis will be placed on acquiring the skills needed to prepare and deliver effective scientific presentations in English. Students will also have the opportunity to lead discussions on topics related to their field of studies and laboratory activities.
02a3697	Special Lecture on Electrical Engineering and Computer Science ()	Fall Semester	3rd Quarter	JAMES BALDWIN	This course aims to develop students' oral and written communication ability in technical and scientific English. Special emphasis will be placed on acquiring the skills needed to prepare and deliver effective scientific presentations in English. Students will also have the opportunity to lead discussions on topics related to their field of studies and laboratory activities.
02a3700	Special Lecture on Electrical Engineering and Computer Science	Spring Semester	1st Quarter	JAMES BALDWIN	This course aims to develop students' oral and written communication ability in technical and scientific English. Special emphasis is placed on acquiring the skills needed to prepare and deliver effective scientific presentations in English. Students will also have the opportunity to lead discussions on topics related to their field of studies and laboratory activities.
02a3701	Special Lecture on Electrical Engineering and Computer Science	Spring Semester	1st Quarter	JAMES BALDWIN	This course aims to develop students' oral and written communication ability in technical and scientific English. Special emphasis is placed on acquiring the skills needed to prepare and deliver effective scientific presentations in English. Students will also have the opportunity to lead discussions on topics related to their field of studies and laboratory activities.
02a4610	Graduation Thesis	Spring Semester	ONE-YEAR	WATANABE Shun	This course is intended to obtain an experience of research planning, simulations, experimental skills, investigations, discussion, reading academic papers, and presentation in the field of electrical and electronic engineering.
02b2265	Science English Seminar	Spring Semester	1st Quarter	YOSHINO Daisuke	This course is designed to develop students' ability to write clear, concise, and effective scientific English. Through a series of lectures, writing assignments, and peer review workshops, students will learn how to communicate scientific information in a way that is appropriate for academic and professional contexts. Topics covered include scientific style and tone, organization, and structure of scientific papers, writing effective abstracts, literature reviews, and scientific reports, and creating figures and tables. All lectures will be conducted in English.
02c1301	Introduction to Applied Chemistry	Spring Semester	1st Quarter	IWAMA Etsuro	[Purpose] The purpose of this course is to provide students with the foundation necessary to study chemistry in the Department of Applied Chemistry, based on the basic knowledge of “Basic Chemistry” and “Chemistry” in high school. In addition, the opportunity to experience cutting-edge research conducted in the laboratories of the Department of Applied Chemistry and to imagine oneself as a researcher in the future will motivate students to study in this department. For this reason, we will incorporate laboratory visits in small groups that incorporate elements of active learning. [Summary] This course consists of an explanation of the collection of information necessary for self-study and specialized study, an introduction to the research content of each laboratory in the Department of Applied Chemistry, and a laboratory tour conducted in small groups. The introduction to the research content is given in rotation by the faculty members who lead the laboratories, and together with the opportunity to visit the laboratories, this course serves as an introduction to applied chemistry.
02c1315	Experiments in Fundamental Science	Spring Semester	1st Quarter	TSUBOUCHI Akira	Experiments in Fundamental Science is the first experimental lesson after entering university. Students learn basic experimental methods and attitude (safety management, report preparation, etc.). These experiments consist of two parts, "Experiments of Basic Chemistry" and "Experiments of Physics". Location: "Experiments of Basic Chemistry":Building 1, 3F, Rooms 301-306 "Experiments of Physics": Building 4, 2F, Rooms 201 and 204 [Experiments of Basic Chemistry] Students will learn fundamental skills and knowledge of inorganic analytical chemistry. [Experiments of Physics] Students will learn basic knowledge of physical chemistry and experimental techniques of material science. After these experimental lesson, students will be ready to conduct your graduation research as an expert experimentalist.

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02c1316	Chemical English	Fall Semester	3rd Quarter	LOUIS Marine	Marine Louis, an associate professor from the department of Applied Chemistry will be in charge of this class. The instructor is a native French speaker, fluent in English, has contributed to English publications for many years, and has been teaching Chemistry laboratory practice in English in Japan for 4 years. Emphasize will be put on conversation. For this reason, this course is divided into two classes according to ability. As the class is organized during the new student orientation by the school board, the placement test will be conducted based on the results of the external examination, so students who wish to take classes will be educated between July 20th and September 20th. Please be sure to submit the score sheet to the committee (description of the course of engineering). If you have not submitted, you cannot take the course. This syllabus is subject to change due to lectures. The lecture is a basic class related to chemistry English and will be taught mainly in English but Japanese will be use when necessary.
02c1318	Chemical English	Fall Semester	3rd Quarter	LOUIS Marine	Marine Louis, an associate professor from the department of Applied Chemistry will be in charge of this class. The instructor is a native French speaker, fluent in English and has contributed to English publications for many years, and has been teaching Chemistry laboratory practice in English in Japan for 4 years. Emphasize will be put on conversation and dialogue will be held. For this reason, this course is divided into two classes according to ability. As the class is organized during the new student orientation by the school board, the placement test will be conducted based on the results of the external examination, so students who wish to take classes will be educated between July 20th and September 20th. Please be sure to submit the score sheet to the committee (description of the course of engineering). If you have not submitted, you cannot take the course. This syllabus is subject to change due to lectures. The lecture is an advanced class related to chemistry English and will be taught in English.
02c3368	Literature Reading	Spring Semester	1st Quarter	MURAOKA Takahiro	The first session of this lecture will be held on April 17 in 2025. To perform our own research, we often gain necessary knowledge and useful techniques of related research from scientific articles. The aim of this course is to improve reading comprehension ability of English scientific articles related to applied chemistry and materials and presentation skills, it is required every time to make a presentation of the contents understood from an English article as an assignment. It should be noted that students are divided into a small groups and attend a lecture by a different teaching stuff every week. Students must receive an article one week before each lecture and prepare to give a full presentation. In some cases, submission of the summary is required in advance.
02c4302	Applied Chemistry Seminar I	Spring Semester	1st Quarter	MURAOKA Takahiro	The aim of the course is to learn items necessary to promote the graduation study such as literature survey, presentation, discussion, experimental safety, and operation of scientific instruments in a seminar style. Students need to take this course along with Graduation Thesis, and learn mainly the following items: 1) Safety education, 2) understanding of the purpose and background of the study, 3) acquisition of knowledge and techniques necessary for the study. The format and schedule is dependent on each adviser, and active involvement in the course is very important.
02el0030	Integrated English	Spring Semester	1st Quarter	NIN Ri	This is a foundational course for TUAT English education that provides basic knowledge required to study in university. Students learn how to combine skills and use them properly. This class particularly focuses on listening and reading skills. In addition, students are given the opportunity to learn how to integrate those skills with writing and speaking skills.
02el0064	English Discussion	Fall Semester	3rd Quarter	SLAYBAUGH BROOKS	Outline (English Discussion): This course aims to improve each student’s basic speaking fluency and ability to effectively communicate in English through the discussion of a variety of general and academic topics. This course is mandatory for first-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0065	English Discussion	Fall Semester	3rd Quarter	ONWONA-AGYEMAN Siaw	Outline (English Discussion): This course aims to improve each student’s basic speaking fluency and ability to effectively communicate in English through the discussion of a variety of general and academic topics. This course is mandatory for first-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0066	English Discussion	Fall Semester	3rd Quarter	TBA	Outline (English Discussion): This course aims to improve each student’s basic speaking fluency and ability to effectively communicate in English through the discussion of a variety of general and academic topics. This course is mandatory for first-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0067	English Discussion	Fall Semester	3rd Quarter	MOORE JEFFREY MATTHEW	Outline (English Discussion): This course aims to improve each student’s basic speaking fluency and ability to effectively communicate in English through the discussion of a variety of general and academic topics. This course is mandatory for first-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0068	English Discussion	Fall Semester	3rd Quarter	Robin SAKAMOTO	Outline (English Discussion): This course aims to improve each student’s basic speaking fluency and ability to effectively communicate in English through the discussion of a variety of general and academic topics. This course is mandatory for first-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.

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02el0069	English Discussion	Fall Semester	3rd Quarter	MARK KOPROWSKI	The focus of this online course will be on the development of pair work and small group discussion skills in English. Students will practice and enhance their speaking, listening and reading skills, while developing their ability to express themselves more fluently and confidently on a range of general and academic topics. Students will also learn how to effectively lead and manage small group discussions and learn a number of discussion management skills, such as choosing and suggesting topics, politely expressing opinions, summarizing, and agreeing and disagreeing. English will be the medium of instruction at all times. A mid-term and final exam speaking assessment will be given to evaluate student achievement.
02el0070	English Discussion	Fall Semester	3rd Quarter	HIGUCHI SONIA	Outline (English Discussion): This course aims to improve each student's basic speaking fluency and ability to effectively communicate in English through the discussion of a variety of general and academic topics. This course is mandatory for first-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0071	English Discussion	Fall Semester	3rd Quarter	TAMARA ELDRIDGE	Outline (English Discussion): This course aims to improve each student's basic speaking fluency and ability to effectively communicate in English through the discussion of a variety of general and academic topics. This course is mandatory for first-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0072	English Discussion	Fall Semester	3rd Quarter	JAMES BALDWIN	Outline (English Discussion): This course aims to improve each student's basic speaking fluency and ability to effectively communicate in English through the discussion of a variety of general and academic topics. This course is mandatory for first-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0073	English Discussion	Fall Semester	3rd Quarter	SLAYBAUGH BROOKS	Outline (English Discussion): This course aims to improve each student's basic speaking fluency and ability to effectively communicate in English through the discussion of a variety of general and academic topics. This course is mandatory for first-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0074	English Discussion	Fall Semester	3rd Quarter	ONWONA-AGYEMAN Siaw	Outline (English Discussion): This course aims to improve each student's basic speaking fluency and ability to effectively communicate in English through the discussion of a variety of general and academic topics. This course is mandatory for first-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0075	English Discussion	Fall Semester	3rd Quarter	TBA	Outline (English Discussion): This course aims to improve each student's basic speaking fluency and ability to effectively communicate in English through the discussion of a variety of general and academic topics. This course is mandatory for first-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0076	English Discussion	Fall Semester	3rd Quarter	MOORE JEFFREY MATTHEW	Outline (English Discussion): This course aims to improve each student's basic speaking fluency and ability to effectively communicate in English through the discussion of a variety of general and academic topics. This course is mandatory for first-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0077	English Discussion	Fall Semester	3rd Quarter	Robin SAMAMOTO	Outline (English Discussion): This course aims to improve each student's basic speaking fluency and ability to effectively communicate in English through the discussion of a variety of general and academic topics. This course is mandatory for first-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0078	English Discussion	Fall Semester	3rd Quarter	MARK KOPROWSKI	The focus of this online course will be on the development of pair work and small group discussion skills in English. Students will practice and enhance their speaking, listening and reading skills, while developing their ability to express themselves more fluently and confidently on a range of general and academic topics. Students will also learn how to effectively lead and manage small group discussions and learn a number of discussion management skills, such as choosing and suggesting topics, politely expressing opinions, summarizing, and agreeing and disagreeing. English will be the medium of instruction at all times. A mid-term and final exam speaking assessment will be given to evaluate student achievement.
02el0079	English Discussion	Fall Semester	3rd Quarter	HIGUCHI SONIA	Outline (English Discussion): This course aims to improve each student's basic speaking fluency and ability to effectively communicate in English through the discussion of a variety of general and academic topics. This course is mandatory for first-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0080	English Discussion	Fall Semester	3rd Quarter	TAMARA ELDRIDGE	Outline (English Discussion): This course aims to improve each student's basic speaking fluency and ability to effectively communicate in English through the discussion of a variety of general and academic topics. This course is mandatory for first-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.

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02el0081	English Discussion	Fall Semester	3rd Quarter	JAMES BALDWIN	Outline (English Discussion): This course aims to improve each student's basic speaking fluency and ability to effectively communicate in English through the discussion of a variety of general and academic topics. This course is mandatory for first-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0159	Essay Writing	Spring Semester	1st Quarter	ISHIZUKA Masayuki	Building on the writing skills and knowledge learned in the Paragraph Writing course, this class aims to advance students' writing skills by developing paragraphs into cohesive and coherent essays. Students will learn how to shape their arguments into essays through the process of outlining ideas, creating essay drafts, and revising the texts into stronger arguments. The classes are formed according to the degree of students' English proficiency and advancement. This course is offered as an intermediate writing course in the English curriculum of Tokyo University of Agriculture and Technology.
02el0168	Essay Writing	Spring Semester	1st Quarter	ASAI Yuichi	Building on the writing skills and knowledge learned in the Paragraph Writing course, this class aims to advance students' writing skills by developing paragraphs into cohesive and coherent essays. Students will learn how to shape their arguments into essays through the process of outlining ideas, creating essay drafts, and revising the texts into stronger arguments. The classes are formed according to the degree of students' English proficiency and advancement. This course is offered as an intermediate writing course in the English curriculum of Tokyo University of Agriculture and Technology.
02el0171	English Presentation	Spring Semester	1st Quarter	SLAYBAUGH BROOKS	This course aims to improve each student's ability to plan and deliver effective academic presentations in English. Special focus is given to improve students' presentation skills and Q&A abilities. This course is mandatory for second-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0172	English Presentation	Spring Semester	1st Quarter	MARK KOPROWSKI	This course aims to improve each student's ability to plan and deliver effective academic presentations in English. Special focus is given to improve students' presentation skills and Q&A abilities. This course is mandatory for second-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0173	English Presentation	Spring Semester	1st Quarter	HIGUCHI SONIA	This course aims to improve each student's ability to plan and deliver effective academic presentations in English. Special focus is given to improve students' presentation skills and Q&A abilities. This course is mandatory for second-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0174	English Presentation	Spring Semester	1st Quarter	TAMARA ELDRIDGE	This course aims to improve each student's ability to plan and deliver effective academic presentations in English. Special focus is given to improve students' presentation skills and Q&A abilities. This course is mandatory for second-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0175	English Presentation	Spring Semester	1st Quarter	Robin SAMAMOTO	This course aims to improve each student's ability to plan and deliver effective academic presentations in English. Special focus is given to improve students' presentation skills and Q&A abilities. This course is mandatory for second-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0177	English Presentation	Spring Semester	1st Quarter	JAMES BALDWIN	This course aims to improve each student's ability to plan and deliver effective academic presentations in English. Special focus is given to improve students' presentation skills and Q&A abilities. This course is mandatory for second-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0178	English Presentation	Spring Semester	1st Quarter	ONWONA-AGYEMAN Siaw	This course aims to improve each student's ability to plan and deliver effective academic presentations in English. Special focus is given to improve students' presentation skills and Q&A abilities. This course is mandatory for second-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0180	English Presentation	Spring Semester	1st Quarter	SLAYBAUGH BROOKS	This course aims to improve each student's ability to plan and deliver effective academic presentations in English. Special focus is given to improve students' presentation skills and Q&A abilities. This course is mandatory for second-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0181	English Presentation	Spring Semester	1st Quarter	MARK KOPROWSKI	This course aims to improve each student's ability to plan and deliver effective academic presentations in English. Special focus is given to improve students' presentation skills and Q&A abilities. This course is mandatory for second-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0182	English Presentation	Spring Semester	1st Quarter	HIGUCHI SONIA	This course aims to improve each student's ability to plan and deliver effective academic presentations in English. Special focus is given to improve students' presentation skills and Q&A abilities. This course is mandatory for second-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.

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02el0183	English Presentation	Spring Semester	1st Quarter	TAMARA ELDRIDGE	This course aims to improve each student's ability to plan and deliver effective academic presentations in English. Special focus is given to improve students' presentation skills and Q&A abilities. This course is mandatory for second-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0184	English Presentation	Spring Semester	1st Quarter	Robin SAMAMOTO	This course aims to improve each student's ability to plan and deliver effective academic presentations in English. Special focus is given to improve students' presentation skills and Q&A abilities. This course is mandatory for second-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0186	English Presentation	Spring Semester	1st Quarter	JAMES BALDWIN	This course aims to improve each student's ability to plan and deliver effective academic presentations in English. Special focus is given to improve students' presentation skills and Q&A abilities. This course is mandatory for second-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0188	English Presentation	Spring Semester	1st Quarter	RIESER Lukas	This course aims to improve each student's ability to plan and deliver effective academic presentations in English. Special focus is given to improve students' presentation skills and Q&A abilities. This course is mandatory for second-year students as an introduction to the English curriculum of Tokyo University of Agriculture and Technology.
02el0190	Academic Reading	Spring Semester	1st Quarter	MOORE JEFFREY MATTHEW	Outline: The purpose of this course is twofold. The first aim is to provide students with opportunities to read scientific articles in English. The second aim is to provide opportunities for students to communicate in English about these scientific readings. Students will learn how to read and discuss scientific articles in English as well as talk about their own research interests. This course is offered as an advanced course in the English curriculum of Tokyo University of Agriculture and Technology.
02el0226	Academic Communication	Fall Semester	3rd Quarter	MOORE JEFFREY MATTHEW	Outline: The purpose of this course is to prepare students to present a research paper at an international conference in the future. This course is aimed at students planning on attending graduate school. Students will choose a published paper from a reputable journal from their field of study. Then we will go over a different section of the paper (i.e. background, methods, results, etc.) each week. In class students will discuss each section of their paper in English at length. At the end of the course, students will present their chosen research paper twice. The first presentation will receive detailed feedback from the professor so that students can improve on the final presentation.
02ga0305	Global Advanced Science (Introduction to Seminars on Engineering)	Spring Semester	1st Quarter	YASUMURA Yuki	In Global Advanced Science, students learn in vivid detail about internationally competitive, cutting-edge research from internationally distinguished researcher, and about how research develops through scientist network and collaborations across the world. The lectures also include examples of how basic studies are fundamental to and applied to the cutting-edge research, and of the research environment in the globalized society. Through such experience, students are encouraged to consider the values of their studies and research in a broad context and towards their own future. This course will aid students to elevate their global awareness and improve their English communication skills in practice. This lecture course is included in Global Integrated Studies of the Liberal Arts and Fundamental Studies, and offers students opportunities to apply and integrate their knowledge and skills obtained in the foundation courses during their first two years in the university.
02I2167	Technical English for Life Scientists I	Fall Semester	3rd Quarter	MORI Tetsushi	In any scientific field, it is important and necessary for one to be able to explain and present their research in the right English context. This course is designed for students to further improve their reading, writing, listening and speaking abilities particularly in the Biotechnology and Life Science field.
02I2168	Technical English for Life Scientists I	Fall Semester	3rd Quarter	MORI Tetsushi	In any scientific field, it is important and necessary for one to be able to explain and present their research in the right English context. This course is designed for students to further improve their reading, writing, listening and speaking abilities particularly in the Biotechnology and Life Science field.
02I3154	Technical English for Life Scientists II	Fall Semester	3rd Quarter	Lauritsen Paul Erik	The main aims of the course are as follows: 1. To understand the basic structure of scientific papers and the significance and importance of each section. 2. To identify the features of a good scientific paper and quickly find suitable research material. 3. Hints on how to read or extract information from a scientific paper. 4. To be able to explain a research topic and write an abstract.
02I3162	Technical English for Life Scientists I	Spring Semester	1st Quarter	VAVRICKA JR CHRISTOPHER JOHN	This course will cover fundamentals and applications of enzyme engineering. Topics will include biochemistry fundamentals, organic biochemistry fundamentals, molecular structure and function, enzyme structure and function, enzymology, synthetic biology, metabolic engineering, bioproduction, modeling enzyme structures, docking and machine learning prediction of biological functions. We will also focus on some technical English related to Enzyme Engineering.
02I3180	Technical English for Life Scientists II	Fall Semester	3rd Quarter	Lauritsen Paul Erik	The main aims of the course are as follows: 1. To understand the basic structure of scientific papers and the significance and importance of each section. 2. To identify the features of a good scientific paper and quickly find suitable research material. 3. Hints on how to read or extract information from a scientific paper. 4. To be able to explain a research topic and write an abstract.

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02m4501	English for Science and Technology	Spring Semester	1st Quarter	JAMES BALDWIN	This course aims to develop students' oral and written communication ability in technical and scientific English. Special emphasis is placed on acquiring the skills needed to prepare and deliver effective scientific presentations in English. Students will also have the opportunity to lead discussions on topics related to their field of studies and laboratory activities.
02m4503	English for Science and Technology	Spring Semester	1st Quarter	JAMES BALDWIN	This course aims to develop students' oral and written communication ability in technical and scientific English. Special emphasis is placed on acquiring the skills needed to prepare and deliver effective scientific presentations in English. Students will also have the opportunity to lead discussions on topics related to their field of studies and laboratory activities.
02md0250	Japanese Science and Technology	Fall Semester	3rd Quarter	Tatsuo Noma	This course is intended to cultivate a better understanding Japanese Science and Technology among students. We focus on current science and technology issues in Japan. These lectures will not only provide students with an important foundation in science and technology, but also help them develop ideas of their own research. In this semester the development and status of Japanese science and technology is explained through a keyword “Material” which acted as several breakthrough in the innovations in the field of science and technology. This course is offered in English as one of the Multidisciplinary Courses of the Global Integrated Studies.
02md0310	Inter-University Special Lecture II (Communicating Science)	Fall Semester	3rd Quarter	YASUMURA Yuki	This course is designed to consider and evaluate the technological advances and their impacts on the society from various points of view, and to nurture the mindsets and skills to communicate with people who have different priorities and interests when discussing new technologies in the social context. This year, we will discuss food security, which is one of the major global issues we face today. We will learn modern biotechnologies that are applied in food production, and think about ways in which the stakeholders from different sectors of society and scientists can share views and ideas effectively and work together collaboratively. This course is offered as part of the Multidisciplinary Courses in Global Integrated Studies of the Liberal Arts and Fundamental Studies, and is also open to international students of STEP (Short Term Exchange Program).
02md0311	Inter-University Special Lecture I (Global Communication)	Spring Semester	2nd Quarter	HORIKIRI Yukiko	This course explores what is the appropriate and effective communication in a global society. By examining the communication used in specific social contexts, the students observe and analyze their own communication. The course includes group work and activities to share their thoughts and experiences. This course is offered in English as one of the Multidisciplinary Courses of the Global Integrated Studies, and is open to students from Tokyo University of Foreign Studies and the University of Electro-Communications.
02md0313	Inter-University Special Lecture II (Physics in English～What is a Wave?～)	Fall Semester	4th Quarter	MISAWA Kazuhiko	Physics is the study of the fundamental laws that explain all phenomena in nature. Various phenomena surrounding us can be explained by the basic principles and fundamental laws of physics. Moreover, if we understand the fundamental principles of physics, we can explain various phenomena in a common way. The objective of this lecture is to develop the ability to observe, analyze, and interpret familiar phenomena using the concept of "waves," which is the most universal and versatile among various principles in physics. By watching experimental video materials on "waves," students will be able to explain phenomena according to the basic procedures of natural science (experiment, observation, and discussion).
02t5006	工学部特別講義 I (英語で学ぶ生物学～細胞間コミュニケーション～)	Fall Semester	3rd Quarter	YASUMURA Yuki	As biological phenomena and technologies are extensively applied in both scientific and social contexts, scientific researchers are required to be equipped with knowledge and skills to describe and discuss biotechnology-related research. In particular, current topical subjects and health problems are often related to nervous system, endocrine system, and immunology. Focusing on cellular communication in such topical subjects, this lecture course aims to develop skills to discuss such topics and research questions in English. Students will work on thought problems, and describe and discuss their own ideas and interpretations. Such exercise and discussion opportunities are designed for students to learn and practice English phrases and expressions that are frequently used in explaining biological processes, functional interactions and regulatory mechanisms, as well as identifying similarities and differences of biological systems in function and effect.
02t5009	工学部特別講義 I (英語で学ぶ音声科学～言葉の発声と知覚～)	Spring Semester	1st Quarter	MOORE JEFFREY MATTHEW	The study of the sounds of language crosses many disciplines. The field of phonetics includes the study of the physical production of speech sounds, measurement of those sounds as they travel through the air, and how those sounds are perceived by listeners. The related field of phonology studies how these sounds are organized within languages. This course provides students with an opportunity to think about language in a scientific way, to dabble in a broad range of scientific studies, and to use some of the research methods used in the study of language sounds. They will also have many opportunities to think critically about the languages they can speak, and practice talking about language and the study of language in English.
02t8801	Summer Programme (Overview of Japan)	Fall Semester	3rd Quarter	TBA	The series of sessions focus on developing basic communication skills needed in Japanese daily life during the Semester program at TUAT. The participants are expected to learn general knowledge about Japan and skills for further Japanese study. The sessions also provide basic information and knowledge about Japanese life and culture to help them study and communicate with Japanese people successfully.

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02t8802	Summer Programme (Workshop on Modern Japanese Society)	Fall Semester	3rd Quarter	TBA	This course will be open to both International Students and TUAT students. All of the participants will participate in the workshop to understand the current situation of Engineering and Research and deepen insights into modern society from the trends of start-up companies to meet the needs of a fast-changing society. The course will include a lecture, guest speaker's speech, discussion, group work and presentation.
02t8804	Japanese Language and Culture	Fall Semester	3rd Quarter	HONGO Tomoko	This course is designed for students who have little or no experience of studying Japanese. It helps learners acquire basic communication skills needed in Japanese academic life during their stay in Japan. The participants are also expected to learn general knowledge about Japan and skills for further Japanese study. The course includes group work and activities to share their thoughts and experiences in Japanese. This course is offered to international students as an introductory Japanese language course in Global Language and Cultural Studies.
02t8841	Separation Process	Fall Semester	3rd Quarter	TAKIYAMA Hiroshi	Introduction to unit operations in chemical engineering: evaporation, liquid-liquid separation, liquid vapor separation, liquid-liquid extraction, solid-liquid separation, and mechanical separation process. See the Curriculum maps.
02t8842	Environmental Engineering and Microbiology	Fall Semester	3rd Quarter	TERADA Akihiko	Towards the resolution of various environmental problems, environmental engineering is scientific learning based on concepts of material balance and energy balance with the transport phenomenon approach. The course consists of wastewater engineering and solid waste (especially, sewage sludge) engineering issues. The former topics will be given by Prof. Terada and the latter by Prof Riya.
02t8843	Chemical Reaction Engineering	Fall Semester	3rd Quarter	NAGATSU Yuichiro	This course provides students how to treat Kinetics of homogenous reaction, Reactor design, Basics of Non-ideal flow, and Solid Catalyzed reactions.
02t8846	Process Safety & Health Management	Fall Semester	3rd Quarter	KIM Sanghong	This course will provide the student with the ability to manage process safety, abnormal situation management, and environmental health issues in chemical industry.
02t8851	Control Engineering	Fall Semester	3rd Quarter	RAKSINCHAROENS AK Pongsathorn	This course introduces the basic design theory of feedback control systems for linear dynamical systems. Several applications on automotive control as well as aircraft dynamics control are described based on control theories. Classical control and Modern control theories are introduced in the class. The theory of state observer and Kalman filtering are also introduced.
02t8852	Mechanics of Machines and Vibration	Fall Semester	3rd Quarter	RAKSINCHAROENS AK Pongsathorn	This course introduces the topic of vibrations which is a direct application of the principles of kinetics. In this course, the study of discrete systems is limited to those whose configurations are described with one displacement or angular variable. We will describe the free vibration of particles and forced vibration of particles which are subdivided into un-damped and damped motion categories. Then, we will discuss the vibration of rigid bodies. Finally, an energy approach to the solution of vibration problems and several applications relevant to mechanical machineries, e.g. motors, rotational machines, etc. including vibration measurement and control are also introduced.
02t8862	System modeling and analysis	Fall Semester	3rd Quarter	TBA	In wireless communications, estimation is one of the fundamental issues. Specifically, to receive and demodulate the received signal properly, the receiver has to estimate not only the transmitted signal but also the channel response. However, typically they involve randomness, we have to consider it in the estimation problems. In this class, we will study the estimation problem and techniques.
02t8863	Parallel Processing & Computer Network	Fall Semester	3rd Quarter	NAKAJO Hironori	The lectures deal with control design of systems. Modelling method, stability and tracking performance of the systems are studied. In details, some design examples on electrical, mechanical and mechatronic systems are shown. By using MATLAB, simulations of the above mentioned systems are given.
02u2474	Electrical Device Physics and Engineering	Fall Semester	3rd Quarter	SATRIA ZULKARNAEN BISRI	This course covers the introduction to current semiconductor device physics. To gain solid understanding of: • Basic properties of semiconductor materials • Basic physical phenomena in (micro)electronic devices • Working principles of mainstream integrated (micro)electronic devices • Working principles of semiconductor-based devices Since nowadays scientific and technological advancements of semiconductor devices are global endeavors that require high capability of global communication, many parts of this course will also be delivered in English.
02u3460	Electrical and Electronic Material Engineering	Spring Semester	1st Quarter	SHIMIZU Hiromasa	Various elements in the periodic table will be given, and materials are classified in terms of materials used in commercial products in smartphones, PC, solar cells, cameras, light emitting diodes, and various sensors. Characteristics of metal, insulators, semiconductors, and ionic solids will be given, and fundamental properties will be explained. Based on the lectures, students themselves will perform material surveys. This lecture aims to review and further understand the electromagnetism, quantum mechanics, device engineering, and thermodynamics that have been studied so far in practical application settings.