Course Description

UEC Exchange program

Japanese University Studies in Science and Technology (JUSST)

Fall Semester, 2022

Center for International Programs and Exchange
The University of Electro-Communications

国立大学法人
電気通信大学
UEC TOKYO
100th ANNIVERSARY SINCE 1918

UEC JUSST Program Course Description
Japanese University Studies in Science and Technology (JUSST)
International Educational Center (IEC)
The University of Electro-Communications
1-5-1 Chofugaoka, Chofu-shi, 182-8585
Tokyo, Japan
E-mail: jusst@fedu.uec.ac.jp

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JUSST Program Course Requirements

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Research / Project
(Required for JUSST student)</td><td colspan="2">[UNDERGRADUATE STUDENTS]
<u>Individual Study Project</u> under the supervision of UEC faculty member. Minimum 8 hours/week
5 Credits/one academic year (2 Credits/one semester)</td></tr>
<tr><td colspan="2">[GRADUATE STUDENTS]
<u>Independent Research Project</u> under the supervision of UEC Faculty member. Minimum 8 hours/week
6 Credits/one academic year (3 Credits/one semester)</td></tr>
<tr><td>Academic Skills I</td><td rowspan="2">2 hours/week (2 Credits)</td><td rowspan="2">–</td></tr>
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<tr><td>Japanese Language</td><td colspan="2">Elementary / Intermediate / Advanced *
4 - 14 hours/week (2 - 7 Credits)</td></tr>
<tr><td rowspan="3">Science and Engineering Subjects
(ELECTIVE)</td><td colspan="2">[UNDERGRADUATE STUDENTS]
Need to pass <u>3 subjects</u> at minimum **
in Each Semester</td></tr>
<tr><td colspan="2">[GRADUATE STUDENTS]
Need to pass <u>3 subjects</u> at minimum **
in One Academic Year</td></tr>
<tr><td colspan="2">Electronic Experiment Lab.
4 hours/week (2 Credits)
Required for all Undergraduate Students
Only offered in the FALL Semester</td></tr>
<tr><td rowspan="4">FREE ELECTIVE</td><td>Preparation for Oversea Study
English for Intercultural Communication</td><td colspan="2">2 hours/week (2 Credits)
Offered in the SPRING Semester only</td></tr>
<tr><td>Preparation for Graduate School
English for Interpersonal Communication</td><td colspan="2">2 hours/week (2 Credits)
Offered in the FALL Semester only</td></tr>
<tr><td>Sports Classes</td><td>–</td><td>2 hours/week (1 Credit)</td></tr>
</table>

*) Japanese language classes may be exempted in the 2nd semester.

**) Students are highly recommended to take scientific & Engineering courses, at least one subject more than the minimum requirement in order to ensure your successful completion of JUSST program. (Form D)

***) "Electronic Experiment Lab" is considered as one of the Science and Engineering Subjects.

2022 FALL SEMESTER CALENDAR

	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON
OCT							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
									New Students Arrival	Orientation & Course Guidance		Classes Begin				Health & Sports Day Classes as Usual		Weekly Meeting 16:30 - 17:30		14th to 19th Course registration				No Classes (Univ. Sports Day)											
NOV			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30					
					Culture Day														17th - 21st (No Classes) University Festival (open campus day)						Labor Day											
DEC					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
																														28th Dec to 4th Jan Winter Break						
JAN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
	New Year's Day	New Year's Day	Winter Break		Classes Resume				Coming-of-Age Day																												
FEB				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28						
									6th to 10th Make-up Class Period					National Foundation Day		13th to 17th Examination Period								Emperor's Birthday	Preparing for The mini-Conference (Presentation)									
MAR				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
				JUSST mini-Conference and Closing Ceremony All JUSST students have to attend (to be announced)												10th Mar to 31st Mar Spring Break for the regular student (no class day)								Spring Equinox Day			JUSST Completes Vacate Deadline								
APR							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
									2nd semester Course Guidance All students have to attend																											Showa Day			

National holiday

University center exam and UEC entrance exams

@ JUSST students Weekly Meeting

2022/09/28

Time-Table for Fall Semester, 2022

令和４年度秋学期（後期）　短期留学プログラム時間割

Day 曜日	Period 授業時間	Subject　授業名	Department 学科等	Lecturer 教員名	Classroom 教室	Note 備考
Mon 月	1					
	2	Topics in Informatics I (Evolutionary Computation)	J	SATO Hiroyuki（佐藤 寛之）	C401	old C building
	3					
	4					
	5	Preparation for Graduate School	HLSS	UEHARA Suwako（上原　寿和子）	A403	
Tue 火	1	UEC Academic Skills I (Computer Literacy)	IEC	CHOO	C401	old C building
	2	UEC Academic Skills II (Information literacy and Research)	IEC	CHOO	C401	
		Life Long Learning Sports	SPORTS	ANDO Soichi（安藤　創一）		For 2nd semester students only
	3	Japanese Language（日本語）	IEC			
	4	Japanese Language（日本語）	IEC			
	5	English for Interpersonal Communication	HLSS	Atsuko Marie JEFFREYS	C402	old C building
Wed 水	1					
	2	Japanese Language（日本語）	IEC			
	3	Japanese Language（日本語）	IEC			
	4	Japanese Language（日本語）	IEC			
	5					
Thu 木	1	UEC Academic Skills III (Publishing Literacy and Research)	IEC	CHOO	E3-1st floor Computer room	For 2nd semester students only
		Advanced Topics in Data Analysis Optimization	I	LIU Zhi（劉　志）	W10-115	*
	2	Advanced Communication Engineering and Informatics III (Computational Complexity)	I	TARUI Jun（垂井　淳）	C301	old C building
	3	Advanced Communication Engineering and Informatics IV (Computer Algorithms)	I	KOBAYASHI Satoshi（小林　聡）	W5-214	
	3 4	Experimental Electronics Laboratory	S	KISHIMOTO Tetsuo（岸本　哲夫） NAYAK Kali Prasanna		Compulsory for undergraduates
	5	Topics in Mechanical and Intelligent Systems Engineering II (The Human Brain as Intelligent Machines)	M	MIYAWAKI Yoichi（宮脇　陽一）	E4-222	
Fri 金	1	Japanese Language（日本語）	IEC			
	2	Japanese Language（日本語）	IEC			
	3					
	4					
	5	International Communication for Science and Technology	I	MATSUURA Motoharu（松浦 基晴） ISHIBASHI Koichiro　（石橋 孝一郎）	W3-301	*
Intensive Course						

Informatics, Science and Enginerring Courses

* Joint classes with regular graduate students

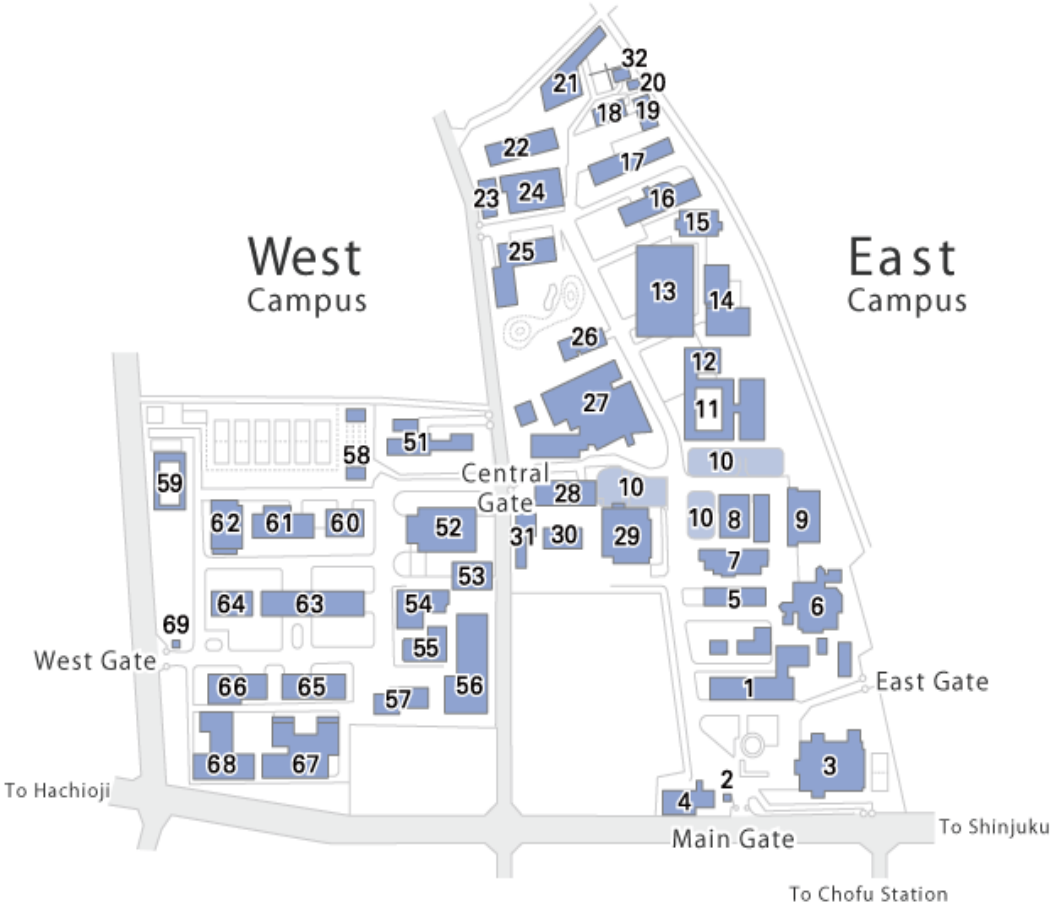
Department 学科等

J: Department of Informatics（情報学専攻）
I: Department of Computer and Network Engineering（情報・ネットワーク工学専攻）
M: Department of Mechanical and Intelligent Systems Engineering（機械知能システム学専攻）
S: Department of Engineering Science（基盤理工学専攻）
IEC: International Education Center（国際教育センター）
SPORTS: UEC Physical Education Division（健康・スポーツ科学部会）
HLSS: The Division of Humanities Languages and Social Sciences（総合文化部会）

Period 授業時間 (JST)

1:	9:00-10:30
2:	10:40-12:10
3:	13:00-14:30
4:	14:40-16:10
5:	16:15-17:45
6:	17:50-19:20
7:	19:30-21:00

UEC CAMPUS MAP



- Main Building （1）
- Auditorium （3）
- 80th Anniversary Memorial Hall（4）
- Building E-1（7）
- Building E-2（28）
- Building E-3（27）
- Building E-4（11）
- Building E-5（12）
- Building E-6（13）
- Building E-7（14）
- Building E-8（15）
- Building E-9（16）
- Building E-10（17）
- Building A（5）
- Building B（6）
- Building C（8）
- Building D（9）
- Communication Park （10）
- University Center （29）
- Health Care Center（26）
- International House（21）
- Facilities for Extracurricular Activities（22）
- Judo Gymnasium（31）
- Personnel Clubhouse（20）
- Child-Care Facility（32）
- Building E-31（18）
- Building E-32（19）
- Building E-33（23）
- Building E-34（24）
- Building E-35（25）
- Building E-36（30）
- Security Office of the Main Gate（2）
- Building W-1（65）
- Building W-2（63）
- Building W-3（66）
- Building W-4（64）
- Building W-5（54）
- Building W-6（60）
- Building W-7（61）
- Building W-8（67）
- Building W-9（68）
- Building W-10（56）
- Building W-11（62）
- Gymnasium（52）
- Gymnasium II（53）
- Archery Facility（58）
- Swimming Pool（59）
- West Cafeteria（55）
- Student Dormitory（51）
- Building W-31（57）
- Security Office of West Gate（69）
- Center for International Programs and Exchange（28）
- University Library（27）
- Information Technology Center（27）
- Coordinated Center for UEC Research Facilities（13）
- Center for Industrial and Governmental Relations（14）
- Advanced Wireless Communication Research Center（17）
- UEC Museum of Communication（17）
- Center for Developing e-Learning（66）
- Institute for Laser Science（61）
- Center for Community Relations（1）
- Innovation Research Center for Fuel Cells（16）
- Center for Photonic Innovation（62）
- Research Center for Ubiquitous Networking and Computing（66）
- Advanced Ultrafast Laser Research Center（62）

Preparation for Graduate School

General Information

Course title (Japanese)	Preparation for Graduate School		
Course title (English)	Preparation for Graduate School		
Course Code	ENG604z		
Academic year	2022	**Year offered**	3/4
Semester(s) offered	Fall semester	**Faculty offering the course**	School of Informatics and Engineering
Teaching method	Lecture	**Credits**	2
Category	General culture subjects		
Cluster/Department	School of Informatics and Engineering		
Lecturer(s)	UEHARA Suwako (上原　寿和子)		
Office	East 1-803		
e-mail	uehara.suwako@uec.ac.jp		
Course website	Please also join Google Classroom: atkyf4x		
Last updated	2022/04/06 8:26:06	**Update status**	Released

Course Description

Topic and goals	This is a course for learners who intend to pursue a graduate course. The aim is to search and collect information related to one's graduate school admission, and the kinds of English one may use in your future lab. Through a survey or interview with professors and future lab members, learners will collect data and report to the course members in a form of a presentation in English. Learners will also select and read academic papers, and provide a summary and conduct discussions in small groups. Learners should aim to complete self-set goals autonomously. By the end of the course, each learner will have a portfolio related to preparing to English for graduate school admission, and English learning goals planned and achieved. Classes will be conducted on Zoom (if the situation has not improved) and partially on-demand
Prerequisites	Academic Spoken English I Academic Spoken English II Academic Written English I Academic Written English II English Seminar
Recommended prerequisites and preparation	Academic Spoken English I Academic Spoken English II Academic Written English I Academic Written English II English Seminar
Course textbooks and materials	There is no textbook, and necessary materials will be provided in class. Students will also be required to investigate academic papers in English that is related to their interest. Make sure you bring a computer to class.
Course outline and weekly schedule	Week 1: Introduction to Preparation for Graduate School (Overview, Login to Google Classroom, Goal setting, Evaluation) Week 2: Self Assessment (Discussion) Week 3: Talk by graduate students Week 4: Presentation skills Week 5: Proximal and distal goals Week 6: Review presentation content and performance Week 7: Work on the essentials 1 (Write your CV) Week 8: Work on the essentials 2 (Practice interview skills) Week 9: Reading Summary and Discussion I (speed reading and reading academic papers) Week10: Reading Summary and Discussion II (speed reading and critical review) Week 11: Needs Analysis 1 Academic Publication: Where to publish? What style to use? Latex Week 12: Submission sample (IEICE): Needs Analysis 1 Week 13: Needs Analysis 2 Survey or interview with a professor or lab member Week 14: Needs Analysis 3 Requirements for entering grad school/Finding a job Week 15: Needs Analysis Report: Student selection

	(Schedule subject to change)
Course content utilizing practical experience	
Distance learning information	The first class will be conducted face-to-face in the classroom. Teaching mode for later classes will be announced by the teacher.
Preparation and review outside class	In addition to other assignments, students will prepare spoken summaries in English.
Evaluation and grading	Evaluation: Participation in class (discussion, attitude, teamwork): 10% Academic vocabulary: 10% Academic paper selection: 20% Needs analysis report: 30% Summary and discussion: 30%
Office hours	By appointment.
Message for students	This class will be taught through English.
Others	
Keyword(s)	preparation, graduate school, English

English for Interpersonal Communication

General Information

Course title (Japanese)	English for Interpersonal Communication		
Course title (English)	English for Interpersonal Communication		
Course Code	ENG603z		
Academic year	2022	**Year offered**	3/4
Semester(s) offered	Fall semester	**Faculty offering the course**	School of Informatics and Engineering
Teaching method	Lecture	**Credits**	2
Category	General culture subjects		
Cluster/Department	School of Informatics and Engineering		
Lecturer(s)	Atsuko Marie Jeffreys		
Office	East 1-807		
e-mail	ajeffreys@uec.ac.jp		
Course website	https://www.edmodo.com/		
Last updated	2022/03/28 0:03:40	**Update status**	Released

Course Description

Topic and goals	The main goal of this class is for students to develop their abilities to use English in real-life communication. Note that the word “communication” does not only mean “conversation.” Students therefore will engage in writing activities as well as discussions, oral presentations, and other speaking tasks. It is not important that the students already have good English skills, but they must be willing to use the language at all times.
Prerequisites	All required first-year and second-year English courses, namely, ASE I & II, AWE I & II, and AE2Y I & II.
Recommended prerequisites and preparation	none
Course textbooks and materials	All materials will be provided electronically by the instructor.
Course outline and weekly schedule	Week 1: Introduction to class ? how to prepare for discussions, oral presentations and conversation activities Week 2: Discussion (1) Why study English? / What is your motivation for studying English? Week 3: Writing (1) + Conversation (1) Linguistic registers Week 4: Oral presentation + Q & A (1) Praise your country / hometown Week 5: Discussion (2) SDGs Week 6: Writing (2) Letters home Week 7: Conversation (2) Be a TV announcer! Week 8: Oral presentation + Q & A (2) Open topic Week 9: Oral presentation + Q & A (3) Open topic Week 10: Discussion (3) Military duties Week 11: Writing (3) Preparing your curriculum vitae Week 12: Conversation (3) Mock graduate school admissions interview Week 13: Conversation (4) Mock job interview Week 14: Oral presentation + Q & A (4) Your current research Week 15: Review + class wrap-up
Course content utilizing practical experience	
Distance learning information	
Preparation and review outside class	There will be homework, preparation, and/or self-study assignments every week. Students are expected to complete all assignments on time. Students may not receive credit for late assignments.

Evaluation and grading	Oral presentation (midterm): 30% Research paper (final): 40% Class participation (not attendance) and other assignments: 30%
Office hours	Email me to set up an appointment to meet for consultation.
Message for students	* This class will be taught in English. Students are expected to use English at all times, even among your peers who share the same mother language. * "What does not kill you makes you stronger." -- it is true.
Others	The contents of this syllabus are subject to change as deemed necessary.
Keyword(s)	autonomous learning, critical thinking, interpersonal, communication

Japanese Language

General Information

Course title (Japanese)	日本語		
Course title (English)	Japanese Language		
Course Code	JPN101z		
Academic year	All year	**Year offered**	1/2/3/4
Semester(s) offered	Spring/Fall semester	**Faculty offering the course**	School of Informatics and Engineering
Teaching method	Lecture	**Credits**	Based on the seated time
Category	General culture subjects		
Cluster/Department	School of Informatics and Engineering and JUSST Program		
Lecturer(s)	内藤 真理子, 笠原 ゆう子 and et. al.		
Office	East 2-213（内藤）, East 2-215（笠原）		
e-mail	内藤真理子<naito-m@uec.ac.jp>, 笠原ゆう子<ykasahara@uec.ac.jp>		
Course website	NIL		
Last updated	2022/04/24 20:03:46	**Update status**	Released

Course Description

Topic and goals	Students will learn the basic grammar, daily use vocabulary and comprehensive in an intensive manner (自分の考えや情報が的確に伝えられる日本語を習得する).
Prerequisites	NIL
Recommended prerequisites and preparation	NIL
Course textbooks and materials	Texts and materials will be provided
Course outline and weekly schedule	A placement test will be taken before courses begin and students will be assigned to a class, as shown below, based on their Japanese language level. • Introductory Level Japanese • Japanese Language Elementary I • Japanese Language Elementary II • Japanese Language Elementary III • Japanese Language Intermediate I • Japanese Language Intermediate II • Japanese Language Intermediate III • Japanese Language Advanced The course content, schedule and other information will be provided after the class assigning.
Course content utilizing practical experience	
Preparation and review outside class	
Evaluation and grading	Evaluation method 90% < S, 80% < A, 70% < B, 60% < C, 60% > D (fail)
Office hours	Comments and questions could be submitted by email
Message for students	
Others	Lecture style: Real time Tools to be used: ZOOM, Google Classroom, Google Drive and else
Keyword(s)	

Topics in Informatics I （Evolutionary Computation）

General Information

Course title (Japanese)	Topics in Informatics I （Evolutionary Computation） （学域）		
Course title (English)	Topics in Informatics I （Evolutionary Computation）		
Course Code	INT004a INT004b INT004e		
Academic year	2022	**Year offered**	3/4
Semester(s) offered	Fall semester	**Faculty offering the course**	School of Informatics and Engineering
Teaching method	Lecture	**Credits**	2
Category	Core subjects		
Cluster/Department	Cluster I （Informatics and Computer Engineering)/Cluster II （Emerging Multi-interdisciplinary Engineering）		
Lecturer(s)	SATO Hiroyuki (佐藤　寛之)		
Office	W6-205		
e-mail	h.sato@uec.ac.jp		
Course website	WebClass		
Last updated	2022/03/03 14:25:07	**Update status**	Released

Course Description

Topic and goals	Evolutionary computation is a bio-inspired computation methodology and categorized as a part of computational intelligence. Evolutionary computation treats information as genes of organisms, and evolve it inside the computer. The primary usage of evolutionary computation is optimization. As representative industrial applications, the front nose design of the Shinkansen N700 and the wing design of the Mitsubishi regional jet (MRJ) were optimized by evolutionary computation. Evolutionary optimization can be applied even if the characteristic of the target optimization problem is unknown. This course provides lectures of evolutionary algorithms from classic to the latest ones, types of optimization problems, their handling methods in evolutionary algorithms, and implementation techniques. The goals of the class are to be able to recognize the types of optimization problems, select appropriate evolutionary algorithms, and implement one of these algorithms.
Prerequisites	The course has computer exercises involving programming. Students need to know at least one programming language.
Recommended prerequisites and preparation	Computer literacy, Fundamental programming
Course textbooks and materials	Materials are distributed by using WebClass system.
Course outline and weekly schedule	1. Introduction to Evolutionary Computation 2. Optimization Problems 3. MATLAB Programming 4. Hill Climbing 5. Genetic Algorithms 6. Evolutionary Programming 7. Evolution Strategies 8. Genetic Programming 9. Evolutionary Algorithm Variations 10. Simulated Annealing 11. Particle Swarm Optimization 12. Differential Evolution 13. Estimation of Distribution Algorithm 14. Evolutionary Multi-objective Optimization 15. Other Applications and Futures of Evolutionary Computation
Course content utilizing practical experience	

Distance learning information	
Preparation and review outside class	Review and computer exercises are needed after the weekly class.
Evaluation and grading	Report submissions related to computer exercises are required. The reports are scored, and the evaluation is decided by the followings (100 points maximum). S: >= 90 points A: >= 80 points B: >= 70 points C: >= 60 points D: <60 points
Office hours	Tuesday, 10:40-12:10. Please make sure to make an appointment by e-mail before visiting the lecturer.
Message for students	According to the schedule of the Short-term Exchange Study Program JUSST, the course starts from October 10th (Mon). The above WebClass is limited only for the registered students. The lecturer registers international students of the Short-term Exchange Study Program JUSST to the WebClass. Other students need to mail to the lecturer to join the WebClass.
Others	N/A
Keyword(s)	Evolutionary computation, evolutionary algorithm, optimization, computational intelligence

Advanced Topics in Data Analysis Optimization

General Information

Course title (Japanese)	データ解析最適化論		
Course title (English)	Advanced Topics in Data Analysis Optimization		
Course Code			
Academic year	2022	**Year offered**	All years
Semester(s) offered	Fall semester	**Faculty offering the course**	Master's Program, Doctoral Program
Teaching method	Lecture	**Credits**	2
Category	Graduate school core education subjects - Core subjectsII		
Cluster/Department	Department of Communication Engineering and Informatics		
Lecturer(s)	劉　志		
Office	East 2-611		
e-mail	liuzhi@uec.ac.jp		
Course website	https://webclass.cdel.uec.ac.jp/webclass/ （Register at the UEC Webclass）		
Last updated	2022/02/25 10:37:54	**Update status**	Released

Course Description

Topic and goals	This lecture addresses the fundamentals and algorithms of optimization theory which is one of core technologies of machine learning and many other IT research areas. Especially, non-linear programming and convex optimization are focused.
Prerequisites	Linear algebra 線形代数
Recommended prerequisites and preparation	Linear algebra 線形代数
Course textbooks and materials	Not special The PPTs will be available online.
Course outline and weekly schedule	The class is held in English. The contents will be adjusted according to the students' level of understanding. 1. Introduction： 2. Convex sets 3. Convex function 4. Convex optimization problems I：basic concepts 5. Convex optimization problems II: examples 6. Duality 7. KKT conditions 8. Approximation and fitting 9. Use case of optimization 10. Markov decision process 11. Applications of Markov decision process 12. Network Flow: Basic Concepts 13. Network Flow Optimization Methods 14. Shortest path and its optimization 15. Paper Presentation by Students
Course content utilizing practical experience	
Distance learning information	
Preparation and review outside class	Read and understand the optimization theory in the book and paper

Evaluation and grading	Evaluation method: Small tests in each class (40%) and reports (60%). Evaluation basis: Understanding of each class is evaluated by small test. Reports are evaluated by understanding, initiative, and contents.
Office hours	It is recommended to contact me by e-mail if you have any questions.
Message for students	The topics in the class are closely related with "big-data" analysis, network management, signal processing, optimization and machine learning techniques.
Others	- Students who are interested in machine learning, network management, optimization, pattern recognition, and big data analysis are welcome. - It is recommended to contact the lecturer by e-mail if you have any questions. - The spoken language is English - MATLAB simulation tasks are provided to students for their deeper understandings. - This class is given either real-time or on-demand. The details will be announced in web. - Zoom will be used for real-time lecture.
Keyword(s)	Optimization problem, Non-linear programming, Convex set/function, Optimality conditions, KKT conditions, Duality, convex optimization, Markov decision process, shortest path

Advanced Communication Engineering and Informatics III （Computational Complexity）

General Information

Course title (Japanese)	Advanced Communication Engineering and Informatics III （Computational Complexity）		
Course title (English)	Advanced Communication Engineering and Informatics III （Computational Complexity）		
Course Code	INT003c INT003d INT003f INT003g		
Academic year	2022	**Year offered**	3/4
Semester(s) offered	Fall semester	**Faculty offering the course**	School of Informatics and Engineering
Teaching method	Lecture	**Credits**	2
Category	Core subjects		
Cluster/Department	Cluster I （Informatics and Computer Engineering)/Cluster II （Emerging Multi-interdisciplinary Engineering）		
Lecturer(s)	TARUI Jun (垂井　淳)		
Office	E3-824		
e-mail	juntarui0@gmail.com		
Course website	www.jtlab.cei.uec.ac.jp		
Last updated	2022/02/28 15:22:50	**Update status**	Released

Course Description

Topic and goals	Update(Sept08): If you are (possibly) interested in taking this course, email me by Sept 30th (or ASAP in Oct); the course will initially use zoom, youtube, emails, googleclassroom, and I will email relevant info back to you back. Jun Tarui juntarui0@gmail.com In the academic year of 2021, the subject of this course will be Computational Complexity, which studies questions such as "Which computational problems have efficient algorithms?" and "Do quantum computers have more computational power than classical computers?" The course will be an introduction to Computational Complexity, and will cover a wide spectrum of topics.
Prerequisites	none
Recommended prerequisites and preparation	Students should have taken an introductory course on algorithms, and should have written at least one computer program.
Course textbooks and materials	none
Course outline and weekly schedule	In the first half of the course, we will dicuss the following various algorithmic paradigms: (1) learning algorithms (2) randomized algorithms (3) approximation algorithms In the second half, we will discuss the following: (1) complexity classes inculuding importand classes P and NP (2) theory of NP-completeness (3) theoretical cryptography More specific plan of 15 lectures is as follows. I will somewhat fine-tune the lecture plan after finding out backgrounds of actual class attendees. 1. overview, review of algorithm analysis 2. review of sorting algorithms and their analysis 3. explanation of programming project 4. learning algorithm (1): learning axis-parallel rectangles 5. learning algorithm (2): PAC learning paradigm 6. learning algorithm (3): learning conjunctions and DNFs 7. student presentation of programming project 8. randomized algorithm 9. approximation algorithm

	10. complexity classes P and NP 11. NP-completeness (1): reduction 12. NP-completeness (2): 3SAT 13. NP-completeness (3): 3coloring 14. cryptography 15. P vs NP conjecture
Course content utilizing practical experience	
Distance learning information	If necessary, the course will be by zoom; zoom link info will be announced by September.
Preparation and review outside class	at least 1.5 hour/week expected
Evaluation and grading	Grading will be based on biweekly homework reports and one programming project. To pass the course, you have to understand at least two-thirds of the topics in class well enough to the extent that you can give simple examples for explanation, and you have to complete well at least two-thirds of your homework.
Office hours	TBA
Message for students	Regular UEC students from all departments are very much welcome.
Others	If you have questions about this course, please feel free to ask me by email.
Keyword(s)	algorithm, computational complexity, learning algorithm, NP-completeness

Advanced Communication Engineering and Informatics IV （Computer Algorithms）

General Information

Course title (Japanese)	Advanced Communication Engineering and Informatics IV （Computer Algorithms）		
Course title (English)	Advanced Communication Engineering and Informatics IV （Computer Algorithms）		
Course Code	INT004c INT004d INT004f INT004g		
Academic year	2022	**Year offered**	3/4
Semester(s) offered	Fall semester	**Faculty offering the course**	School of Informatics and Engineering
Teaching method	Lecture	**Credits**	2
Category	Core subjects		
Cluster/Department	Cluster I （Informatics and Computer Engineering)/Cluster II （Emerging Multi-interdisciplinary Engineering）		
Lecturer(s)	KOBAYASHI Satoshi (小林　聡)		
Office	W9-735		
e-mail	kobayashi.satoshi@uec.ac.jp		
Course website	http://www.comp.cs.uec.ac.jp/lectures/		
Last updated	2022/03/22 17:33:41	**Update status**	Released

Course Description

Topic and goals	The purpose of this lecture is provide the theory and technique to design efficient algorithms for various fundamental problems. The goals of the students are to achieve the following points: (1) to understand the behavior, correctness, and time complexity analysis of the algorithms discussed in the lecture, (2) to understand the principles of design methodologies of algorithms, such as dynamic programming, greedy method, etc.
Prerequisites	Registered students should have ability to write C programs. Furthermore, the knowledge about some basic data structures (list, binary tree, heap, etc.) and basic algorithms (sorting, etc.) are required.
Recommended prerequisites and preparation	None
Course textbooks and materials	Some handouts are provided at the lecture.
Course outline and weekly schedule	(a) Contents of the lecture [1] Minimum spanning tree problem and greedy algorithms [2] Correctness of Prim's and Kruskal's algorithm [3] Greedy algorithms for other problems [4] Shortest path problem and Dynamic Programming (DP) [5] DP Method (1) --- Transform DFAs to regular expressions [6] DP Method (2) --- Context-free grammar and its recognition problem [7] DP Method (3) --- CYK algorithm for CFG recognition [8] DP Method (4) --- Hidden Markov Models (HMM) [9] DP Method (5) --- Recognition problem of HMM [10] DP Method (6) --- HMM recognition algorithm [11] DP Method (7) --- Approximate string matching algorithms [12] String matching problem [13] Computing failure functions in KMP algorithm [14] Correctness and time complecity of KMP algorithm [15] Summary and conclusion of this lecture (b) How does this lecture proceed?

	For each problem, we first discuss on its background and motivation, and then give an algorithm for the problem. The correctness and time complexity analysis of the given algorithm will be discussed in details. Example runs will be used to enrich the understanding.
Course content utilizing practical experience	
Distance learning information	The information about the lecture will be given at Google classroom. Please access to the class code: <--- the code will be distributed in September
Preparation and review outside class	Implement algorithms given in the the lecture, if possible.
Evaluation and grading	Academic performance is evaluated by exams. The lowest standard is 60%.
Office hours	Any time, but appointments by e-mails are necessary.
Message for students	None
Others	None
Keyword(s)	Dynamic programming, greedy algorithms, context free grammars, HMM, string matching, etc.

Experimental Electronics Laboratory

General Information

Course title (Japanese)	Experimental Electronics Laboratory （学域）		
Course title (English)	Experimental Electronics Laboratory		
Course Code	INT401k INT401m INT401n INT401p		
Academic year	2022	**Year offered**	2/3/4
Semester(s) offered	Fall semester	**Faculty offering the course**	School of Informatics and Engineering
Teaching method	Practical (Experiment)	**Credits**	2
Category	Core subjects		
Cluster/Department	Cluster III (Fundamental Science and Engineering)		
Lecturer(s)	KISHIMOTO Tetsuo (岸本　哲夫), NAYAK Kali Prasanna		
Office	Building East 6, Room 628		
e-mail	kishi(at)pc.uec.ac.jp, kalipnayak@uec.ac.jp		
Course website	none		
Last updated	2022/04/08 14:21:22	**Update status**	Released

Course Description

Topic and goals	This course aims for providing the students, who may have no practical knowledge of electrical circuits, with the basics of analog and digital electronics through hands-on experience.
Prerequisites	Basic Electronics
Recommended prerequisites and preparation	Analysis, especially complex numbers.
Course textbooks and materials	Instruction manual in text materials or a pdf file will be provided at the class.
Course outline and weekly schedule	A student builds the following electrical circuits on the solderless breadboard. He or she then measures and analyzes various properties. The experiments are carried out every other week, and classroom discussion is held online in between. 1) Guidance. 2) Measurement of resistance. 3) Classroom discussion. 4) Measurement of complex impedance for C and L. 5) Classroom discussion. 6) Resonant behavior of LC-circuits. 7) Classroom discussion. 8) Transmit radio signals and receive them using LC-circuits. 9) Classroom discussion. 10) Transistor and LED. 11) Classroom discussion. 12) Operation amplifier and its applications.(transmit and receive sound signal using LEDs). 13) Classroom discussion. 14) Logic gates. 15) Classroom discussion.
Course content utilizing practical experience	
Distance learning information	
Preparation and review outside class	Please study on the basic technical terms of the IC you will work on each week.
Evaluation and grading	Students should be able to build the actual circuits to understand and explain the principle of operation. It is mandatory to finish all the projects listed above in order to acquire the credit. The score rate

	is 80%, where the attitude toward the experiment is also taken into account. The student must submit a report on the project within a week, which is subject to either quick, oral examination with the lecturer or open discussion in which every student is to participate. This post-laboratory step will be assessed at a rate of 15%. The pre-laboratory test will also be assessed (5%).
Office hours	Please make an appointment before coming to my office. Contact: Bldg-E6, room 628 Ext:5449, kishi(at)pc.uec.ac.jp
Message for students	Electronic circuits are fun to play with.
Others	The course has originally been designed for JUSST students, but regular students can take it. Due to COVID-19, the classroom discussion will be done online. Online access codes and other details will be announced in the Google Classroom. If you have any questions regarding taking this class or other things related to this class, please write in the Google classroom.
Keyword(s)	complex impedance, inductor, capacitor, logic gate, operational amplifier, bipolar junction transistor.

Topics in Mechanical and Intelligent Systems Engineering II （The human brain as intelligent machines）

General Information

Course title (Japanese)	Topics in Mechanical and Intelligent Systems Engineering II （The human brain as intelligent machines）		
Course title (English)	Topics in Mechanical and Intelligent Systems Engineering II （The human brain as intelligent machines）		
Course Code	INT003h INT003i INT003j		
Academic year	2022	**Year offered**	3/4
Semester(s) offered	Fall semester	**Faculty offering the course**	School of Informatics and Engineering
Teaching method	Lecture	**Credits**	2
Category	Core subjects		
Cluster/Department	Cluster II （Emerging Multi-interdisciplinary Engineering）/Cluster III (Fundamental Science and Engineering)		
Lecturer(s)	MIYAWAKI Yoichi (宮脇　陽一)		
Office	East 4-620		
e-mail	yoichi.miyawaki@uec.ac.jp		
Course website	None		
Last updated	2022/03/12 18:59:22	**Update status**	Released

Course Description

Topic and goals	The human brain is considered as one of the most intelligent "machines." In this lecture, we explore how the human brain is receiving, processing, and producing signals that are used to sense, perceive, feel, and make actions. In particular, we will focus on the visual information processing systems in the human brain (the visual cortex) and learn how the visual cortex works from the basic viewpoints. We would also focus on methodological aspects of analysis of the human brain function, particularly on the topics of non-invasive signal acquisition of human brain activity using electroenchephalography (EEG), magnetoenchephalography (MEG), and functional magnetic resonance imaging (fMRI), together with computational analysis of these signals and computational modeling of neural signal processing. We might refer and ask students to read and introduce (in the form of presentation) the recent literature to achieve the goal.
Prerequisites	None
Recommended prerequisites and preparation	None
Course textbooks and materials	None, but the following textbook might help students to understand the topics: [1] Jeremy M. Wolfe, Keith R. Kluender, Dennis M. Levi, Linda M. Bartoshuk, Rachel S. Herz, Roberta L. Klatzky and Daniel M. Merfeld, "Sensation & Perception (5th edition)," Sinauer Associates (2017) [2] Peter Dayan and Laurence F. Abbott, "Theoretical Neuroscience: Computational and Mathematical Modeling of Neural Systems," The MIT Press (2005) [3] Scott A. Huettel, Allen W. Song, Gregory McCarthy, "Functional Magnetic Resonance Imaging," Sinauer Associates (2008)
Course outline and weekly schedule	The following contents may vary depending on progress of students: [1] Introduction [2] Basics of our visual perception [3] Evaluation of our subjective sensation/perception (1): metrics [4] Evaluation of our subjective sensation/perception (2): psychophysical procedures [5] Exercise of psychophysical experiment (1): survey of visual illusions [6] Exercise of psychophysical experiment (2): introduction of Psychtoolbox and/or PsychoPy [7] Exercise of psychophysical experiment (3): performing test experiments [8] Student presentation of psychophysical experiment [9] Basics of the human brain

	[10] Basics of the visual cortex [11] Basics of neural signal acquisition: invasive method [12] Basics of neural signal acquisition: non-invasive method [13] Basics of neural information encoding and decoding [14] Overview of recent topics about visual information representation in the neural systems [15] Student presentation about recent topics in visual information representation in the neural systems
Course content utilizing practical experience	
Distance learning information	The lecture will be given remotely for the time being. The access information for the lecture contents is as follows: Use Google Classroom (class code: 7wjhezt), Zoom ID is shown in Google Classroom.
Preparation and review outside class	None, but maybe preferable to get used to computer programming using matlab and/or python
Evaluation and grading	Report(s) will be requirements on the topics mentioned above. Presentation(s) will be evaluated if they are assigned in the course.
Office hours	14:40 - 16:10, every Thursday. An e-mail contact prior to your visit is preferable.
Message for students	Active contribution for the course will enhance your understanding. Explore the attractiveness of this field by yourself, too.
Others	NA
Keyword(s)	human brain, neural information processing, brain activity measurement, neuroscience, visual perception, visual illusion, computer graphics, visual psychophysics

International Communication for Science and Technology

General Information

Course title (Japanese)	国際科学技術コミュニケーション論		
Course title (English)	International Communication for Science and Technology		
Course Code			
Academic year	2022	**Year offered**	All years
Semester(s) offered	Fall semester	**Faculty offering the course**	Master's Program, Doctoral Program
Teaching method	Lecture	**Credits**	2
Category	Graduate school practical education subjects		
Cluster/Department	Offered for all departments		
Lecturer(s)	MATSUURA Motoharu (松浦　基晴), ISHIBASHI Koichiro (石橋　孝一郎)		
Office	East 3-1028		
e-mail	m.matsuura@uec.ac.jp, ishibashi@uec.ac.jp		
Course website	BHN桑原基金寄付講座/ BHN Kuwabara Foundation Donation Course, https://www.bhn-uec.net		
Last updated	2022/03/05 6:56:51	**Update status**	Released

Course Description

Topic and goals	Topic In the age when sciences and technologies are deeply involved in social life, engineers and researchers need not only the ability to make presentations and negotiations in their specialized fields, but also various communication skills. In addition, in order to achieve the SDGs (Sustainable Development Goals) adopted by the United Nations, it is necessary to show leadership and work with experts from different fields and/or people from different cultures. Moreover, as science and technology tend to become deeper and more complex, it is important to have the ability to explain to general public so that they can properly understand their expertise. In this course, students will understand the international activities such as international standardization, international conferences, international projects, press releases, etc., and acquire the communication skills required in those situations, through lectures and presentations. Goals ① Understand the standardization system of science and technology that contributes to SDGs, the academic society system, the international joint research activities, and the form of press release on science and technology. ② Understand international customs and different cultures of activities at international organizations and conferences. ③ Acquire the writing and presentation skills necessary for explanations to engineers in different fields and general public by picking up science and technology articles.
Prerequisites	None
Recommended prerequisites and preparation	None
Course textbooks and materials	Reference materials ・Erin Meyer, “The Culture Map -- Breaking Through the Invisible Boundaries of Global Business,” Public Affairs Books, New York City, 2014. エリン・メイヤー著?樋口武志訳 「異文化理解力」, 英治出版, 1,800 円 ・情報通信技術委員会編 「使える会議英語～国際会議参加者の表現・事例集」, http://www.ttc.or.jp/jp/stdtext/english/ ・山本佳世子著 「研究費が増やせるメディア活用術」, 丸善出版, 1,950 円
Course outline and weekly schedule	This course is <English Type II>; All lectures will be given mainly in English. #1 Oct. 7 (Fri), 5th period “Introduction, and about SDGs” Prof. MATSUURA Motoharu and Mr. TOMINO Takeshi (BHN) #2 Oct. 14(Fri), 5th period “International communication for science and technology contributing to SDGs”

	Emer. Prof. MIKI Tetsuya #3 Oct. 21 (Fri), 5th period “International standardization system and Japanese efforts” TBD (Ministry of Economy, Trade and Industry) #4 Oct. 28 (Fri), 5th period “International standardization in the field of radio communications” Dr. ATARASHI Hiroyuki (NTT Docomo) #5 Nov. 4 (Fri), 5th period “International standardization in the field of networks” Dr. UEDA Hiromi (Emer. Prof. of Tokyo Univ. of Technology) #6 Nov. 11 (Fri), 5th period “International standardization and intellectual property” Mr. KOBAYASHI Tetsuo (Patent Lawyer) #7 Nov, 25 (Fri), 5th period “OECD's commitment to science and technology” Ms. KURISAKI Yoshiko (Europe-Japan Dynamics) #8 Dec. 2 (Fri), 5th period “International R&D Project Activities” Lecturer: Dr. IGUCHI Satoshi (National Astronomical Observatory of Japan) #9 Dec. 9 (Fri), 5th period “Presentation at international academic conferences and paper submission to academic journal” Prof. MATSUURA Motoharu #10, #11 Dec. 16(Fri), 5th and 6th period “Exercise 1: Presentation and discussion on the R&D contributing to SDGs” Prof. MATSUURA, Prof. ISHIBASHI, Prof. MIKI and Mr. KUREMATSU #12 Jan. 6(Fri), 5th period “Science and technology communication: Media and reporter activities” Dr. YAMAMOTO Kayoko (The Nikkan Kogyo Shinbun) #13 Jan. 20 (Fri), 5th period “Text expressing the attractiveness of research results” Dr. YAMAMOTO Kayoko (The Nikkan Kogyo Shinbun) #14, #15 Jan. 27 (Fri), 5th period “Exercise 2: Presentation and discussion on scientific and technology communication” Ms. YAMAMOTO Prof.MATSUURA, Prof. ISHIBASHI and Prof. MIKI
Course content utilizing practical experience	The faculty members for this course have made practical results in joint research regarding ICT. In addition, lecturers from outside are experienced in practical work for long time on topics in charge. Since this course is provided in an omnibus format by these members, it includes very practical contents.
Distance learning information	・Classroom: East 3-301 (3rd Floor) ・If you are unable to attend a face-to-face class due to unavoidable circumstances, please attend a live online class. It is also possible to take on-demand classes at a later date.
Preparation and review outside class	Read the lecture materials provided in advance so that you can ask questions during class.
Evaluation and grading	Evaluation method The contents of the presentations and discussions at the exercise and the reports on the final assignments will be evaluated comprehensively. Evaluation criteria The level of understanding of learning goals ① and ②, and the presentation ability of goal ③ based on the following evaluation criteria; A (80-100 points): It is recognized that goals ① and ② are sufficient l y achieve d , and goal ③ is excellent. B (70-79 points): It is recognized most of goals ① and ② are achieved, and goal ③ is good. C (60-69 points): It is recognized most of goals ① and ② are achieved fairly, and goal ③ is not sufficient but acceptable. D (59 points or less, rejected): Goals ① and ② are not fully achieved and goal ③ is not acceptable.
Office hours	Take appointments by email in advance
Message for students	If the situation of COVID-19 improves, a technical tour will be held.

Others	This subject is offered by the BHN Kuwahara Foundation Donation Course. It is also a subject for Joint Innovative PhD Program, and is offered online to students of other universities.
Keyword(s)	SDGs, information and communications, international standardization, international R&D project, academic presentation, academic journal paper, different culture, science and technology communication.

UEC Academic Skills I (Computer Literacy)

General Information

Course title (Japanese)	UEC Academic Skills I (Computer Literacy) （上級科目）		
Course title (English)	UEC Academic Skills I (Computer Literacy)		
Course Code	INT001z INT101z		
Academic year	2022	**Year offered**	3/4
Semester(s) offered	Spring semester	**Faculty offering the course**	School of Informatics and Engineering
Teaching method	Lecture	**Credits**	2
Category	General culture subjects		
Cluster/Department	School of Informatics and Engineering		
Lecturer(s)	Choo Cheow Keong		
Office	E2-305		
e-mail	uec-as1@fedu.uec.ac.jp		
Course website	http://www.fedu.uec.ac.jp/skills		
Last updated	2022/03/08 15:59:24	**Update status**	Released

Course Description

Topic and goals	This course gives the students the intermediate-advanced knowledge of computer systems and computer networks in a typical academic environment. The lecture stresses fundamental tools and techniques that are applicable to a broad reach of systems such as the use of primitive, but powerful tools as UNIX shell, HTML, LaTeX and Git/GitHub.
Prerequisites	NIL
Recommended prerequisites and preparation	コンピューターリテラシー Computer literacy
Course textbooks and materials	NIL
Course outline and weekly schedule	Course schedule and topics that will be covered ========== 1. Introduction (Usage: The Information Technology Center ITC, UEC campus network use policies) 2. Computer operating system and Tools (fundamentals) 3. Unix operating system (fundamentals) 4. Unix operating system (The Internet and computer network) 5. Word Processing and LaTeX (Basic Unix Editor and LaTeX) 6. LaTeX (Environments and layout; LaTeX commands, Structure, Package, Class, style, Text typesetting) 7. LaTeX (Mathematical Formulas) 8. LaTeX (Displayed; Lists, Tabulator, Tables) 9. LaTeX (Displayed; Graphics, Drawing) 10. LaTeX (Labels, Cross-referencing, Citations and Bibliography) 11. Introduction to Git and GitHub (Overview; applications, Website project) 12. HTML (Basic; Structure, Tag, color, typesetting) 13. HTML (Links and Multimedia; Images, Sound, and Movies) 14. HTML (List, Tables and Interactivity, Cascading Style Sheet; CSS) 15. HTML (Website Project Work) ========== This is a lecture-lab course in which the instructor presents the topics, and the students complete the assignments during lab periods or outside of class. The content is intended to be a lecture in combination with a practical exercise ("learn, practice, implement and apply") that will cover the basic usage of the UNIX system, and including how to write in LaTeX and HTML. Note that the lecture schedule is subject to constant revisions throughout the course.

Course content utilizing practical experience	
Distance learning information	
Preparation and review outside class	Students are required to create/design a homepage and present it in class at the end of the semester. Thus, student may need some extra time to create the homepage.
Evaluation and grading	Evaluation is given as follows; (Tasks 50%, Mid-Semester presentation 30%, Final presentation 20%) Since this course provides the student with hands-on experience, classroom attendance and participation are thus mandatory. Only students who have 1) maintained at least 70% of attendance, 2) submitted all assignments, and 3) made their mid-semester and final presentations may get the credits.
Office hours	12:00-13:00, for just-in-case, schedule an appointment before walking in.
Message for students	We expect students to be the active part of the learning process. We encourage the students' participation in class discussions, asking questions and interacting with others. If you have any comments on the topics covered, please feel free to share with the others in class.
Others	Students are expected to come to class on time. Absences are excused in case of emergency, illness, or trips to conferences.
Keyword(s)	Unix, HTML, Latex, Website, Git/GitHub

UEC Academic Skills II (Information Literacy and Research)

General Information

Course title (Japanese)	UEC Academic Skills II (Information Literacy and Research) （上級科目）		
Course title (English)	UEC Academic Skills II (Information Literacy and Research)		
Course Code	INT002z		
Academic year	2022	**Year offered**	3/4
Semester(s) offered	Spring semester	**Faculty offering the course**	School of Informatics and Engineering
Teaching method	Lecture	**Credits**	2
Category	General culture subjects		
Cluster/Department	School of Informatics and Engineering		
Lecturer(s)	Choo Cheow Keong		
Office	E2-305		
e-mail	uec-as2@fedu.uec.ac.jp		
Course website	http://www.fedu.uec.ac.jp/skills		
Last updated	2022/03/08 16:01:44	**Update status**	Released

Course Description

Topic and goals	This course is designed to foster students' ability to identify, evaluate and use diverse information sources effectively in science and engineering studies. It involves the knowledge of information technology tools and their application to research. Students are required to give a poster presentation on their major study or research at the end of the semester.
Prerequisites	UEC Academic Skills I (Computer Literacy) or コンピューターリテラシー
Recommended prerequisites and preparation	NIL
Course textbooks and materials	NIL
Course outline and weekly schedule	Course schedule and topics that will be covered ========== 1. Introduction (Usage: The Information Technology Center etc.) 2. Scientific literatures and resources retrieval (UEC Library) 3. Mind mapping, brain storming 4. Academic Integrity (Referencing, citing, create bibliographies) 5. Managing and sharing resources 6. Writing a research proposal 7. Scientific drawing, Charts, Diagrams and Timelines (Inkscape, GIMP) 8. Tables, Graphs (SciDAVis) 9. Desktop publishing for scientific poster (Scribus) 11. Creating effective scientific poster 12. Formula editor (word processing) 12. Writing an Abstract for a research 13. Preparation for presentation 14. Poster presentation 1/2 15. Poster presentation 2/2 ========== The course introduces the use of some powerful tools for scientific research and engineering, field. The lectures include hands-on learning and applicable exercises that assumes no any previous experience or training, so the initial emphases are on the use of the basic scientific software and the basic research procedures. Note that the lecture schedule is subject to constant revisions throughout the course.
Course content utilizing practical experience	

Distance learning information	
Preparation and review outside class	Students have to read 1 to 3 articles about varied topics, and at the end of the semester, the students are expected to make a poster presentation.
Evaluation and grading	Evaluation is given as follows; (Assignments 50%, midterm presentation 20%, Poster presentation 30%) Since this course provides the student with hands-on experience, classroom attendance and participation are thus mandatory. Only students who have 1) maintained at least 70% of attendance, 2) submitted all assignments, and 3) made their poster presentations may get the credits.
Office hours	12:00-13:00, for just-in-case, schedule an appointment before walking in.
Message for students	We expect students to be the active part of the learning process. We encourage the students' participation in class discussions, asking questions and interacting with others. If you have any comments on the topics covered, please feel free to share with the others in class.
Others	Students are expected to come to class on time. Absences are excused in case of emergency, illness, or trips to conferences.
Keyword(s)	Research, library, Desktop publishing, poster presentation

UEC Academic Skills III (Publishing Literacy and Research)

General Information

Course title (Japanese)	UEC Academic Skills III (Publishing Literacy and Research)		
Course title (English)	UEC Academic Skills III (Publishing Literacy and Research)		
Course Code	INT003z		
Academic year	2022	**Year offered**	3/4
Semester(s) offered	Spring semester	**Faculty offering the course**	School of Informatics and Engineering
Teaching method	Lecture	**Credits**	2
Category	General culture subjects		
Cluster/Department	School of Informatics and Engineering		
Lecturer(s)	Choo Cheow Keong		
Office	E2-305		
e-mail	uec-as3@fedu.uec.ac.jp		
Course website	http://www.fedu.uec.ac.jp/skills		
Last updated	2022/03/08 16:03:07	**Update status**	Released

Course Description

Topic and goals	This course focuses attention on the exercise of strategic research project. Students are required to carry out a study/research project for more than a half of year with a specific topic. Then, they have to proceed their own project after they choose their own topic and make a monthly plan. At the end of the semester, there will be an international mini-conference that has participants of all the JUSST Exchange Students and other regular UEC Students.
Prerequisites	UEC Academic Skills I (Computer Literacy) or コンピューターリテラシー
Recommended prerequisites and preparation	UEC Academic Skills II (Information Literacy and Research)
Course textbooks and materials	NIL
Course outline and weekly schedule	Course schedule and topics that will be covered ========== 1. Introduction (Usage: The Information Technology Center etc.) 2. Academic Integrity (Interesting and Unpublished, Scientific misconduct) 3. Researcher's outputs (Why, How, Where) 4. Planning the research/research protocol (LaTeX editor, Mind mapping, brainstorming etc.) 5. Proposing and Reporting on Research 6. Making scientific presentation 7. Midterm Presentation 1/2 8. Midterm Presentation 2/2 9. Brush up on your skills (Handling Q&A) 10. Communication and Correspondence (Peer, Researcher, Editor, etc.) 11. Academic publishing (Overviews; Dissertation, Monograph, Scientific paper) 12. Academic publishing (Procedures, Processes and standards) 13. Assessment and evaluation 14. Oral presentation 1/2 15. Oral presentation 2/2 ========== The lecture is designed to support the pursuit of writing research paper and share the skills of quality publishing. All the lectures are linked with practical activities, and at the end of the course, the students are required to write a paper and give a presentation on their research-based projects. Note that the lecture schedule is subject to constant revisions throughout the course.

Course content utilizing practical experience	
Distance learning information	
Preparation and review outside class	Students have to read 2 to 3 articles about varied topics and at the mid and end of the semester, the students are expected to give an oral presentation. For laboratory assigned students, the essential project hours are estimated for more than 8 hours a week, where this is the same standard of graduate thesis project.
Evaluation and grading	Evaluation is given as follows; (Assignments 40%, Writing paper 30%, Oral presentation 30%) Since this course provides the student with hands-on experience, classroom attendance and participation are thus mandatory. Only students who have 1) maintained at least 70% of attendance, 2) submitted all assignments, and 3) made their presentations may get the credits.
Office hours	12:00-13:00, for just-in-case, schedule an appointment before walking in.
Message for students	We expect students to be the active part of the learning process. We encourage the students' participation in class discussions, asking questions and interacting with others. If you have any comments on the topics covered, please feel free to share with the others in class.
Others	Students are expected to come to class on time. Absences are excused in case of emergency, illness, or trips to conferences.
Keyword(s)	Research, Publishing paper, oral presentation