

2020年度

集 中 講 義

英語で学ぶ全学共通科目



京都大学
国際高等教育院



集中講義

英語で学ぶ全学共通科目

Feb. 12 (Fri) - Mar. 19 (Fri)

AI, Big Data & Data Science in Practice-E2

Laurent Magnin
Intact Insurance

Big Data, Artificial Intelligence / Machine Learning and Data Science in general are more and more omnipresent. In our daily lives, but also in all kind of professional activities. From automated translation to medicine, through supply chain optimization... Consequently, it is essential not only to understand - on a high level - their underlying technologies, but also their strengths and capabilities, as well as their limitations. This course will not focus on the scientific aspect of those domains, but on their applications and how to make use of them.

情報科学科目群
対象学生：全学向け
対象学年：全回生*
教室：オンライン(ライブ配信6回(毎週金曜日 11:00-12:30)・オンデマンド9回)
定員：25名(先着順)

Informatics
Eligible students: All majors
Grade allotted: All students*
Classroom: Online(Zoom lectures (on Fridays, 11:00 AM-12:30 PM Japan Time) and online material)
The full quota of this lecture: 25 students (on a first-come, first-served basis)

*A basic programming competency will be required at the beginning of this course. Also, students will need to have access to computers (Linux or macOS preferred, or Windows except Home versions), on which they can freely install softwares like Python and Docker.

開講日・曜時限 Course offered day/period

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2/12	2/15-2/18	2/19	2/22-2/25	2/26	3/1-3/4	3/5	3/8-3/11	3/12	3/15-3/18	3/19				
Fri	Mon-Thu	Fri	Mon-Thu	Fri	Mon-Thu	Fri	Mon-Thu	Fri	Mon-Thu	Fri				
11:00	on-demand	11:00	On-demand	11:00	On-demand	11:00	On-demand	11:00	On-demand	11:00				
12:30		12:30		12:30		12:30		12:30		12:30				12:30



Feb. 10 (Wed) - Mar. 4 (Thu)

Introduction to many-particle quantum mechanics-E2

Miguel A. Cazalilla
Donostia International Physics Center (DIPC)

This is an introductory course to the physics of quantum many-particle systems. Fundamental concepts and techniques such as Fock space, second quantization, field operators, operator equations of motion, and mean field theory will be introduced using simple models of increasing complexity.

自然科学科目群、物理学分野
対象学生：理系向け
対象学年：全回生
教室：北部構内理学研究科 5号館 525号室(キャンパスマップ建物番号 21番)
定員：50名(先着順)

Natural Sciences, Physics
Eligible students: Science students
Grade allotted: All students
Classroom: 525, Graduate School of Science Bldg. No. 5, North Campus (Bldg. No. 21 of the campus map)
The full quota of this lecture: 50 students (on a first-come, first-served basis)

開講日・曜時限 Course offered day/period

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2/10	2/12	2/15	2/16	2/17	2/18	2/19	2/22	2/24	2/25	2/26	3/1	3/2	3/3	3/4
Wed	Fri	Mon	Tue	Wed	Thu	Fri	Mon	Wed	Thu	Fri	Mon	Tue	Wed	Thu
4限	4限	4限	4限	4限	4限	4限	4限	4限	4限	4限	4限	4限	4限	4限



Feb. 15 (Mon) - Feb. 24 (Wed)

Infectious Diseases and Public Health-E2

Richard Paul
Institut Pasteur

An introduction to the burden that infectious diseases have imposed and continue to place on our society. We will trace the evolution of our knowledge on infectious diseases from the discovery of microbes through to today and how we have and continue to fight against their public health impact.

自然科学科目群、生物学分野
対象学生：全学向け
対象学年：全回生
教室：オンライン(全回オンデマンド)
定員：60名(先着順)

Natural Sciences, Biology
Eligible students: All majors
Grade allotted: All students
Classroom: Online(On-demand)
The full quota of this lecture: 60 students (on a first-come, first-served basis)

開講日・曜時限 Course offered day/period

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2/15	2/16		2/17		2/18		2/19		2/22		2/23		2/24	
Mon	Tue		Wed		Thu		Fri		Mon		Tue		Wed	
2限	1限	2限	1限	2限	1限	2限	1限	2限	1限	2限	1限	2限	1限	2限



Feb. 19 (Fri) - Feb. 26 (Fri)

Fundamentals of Computer Vision-E2

Xuefeng Liang
Xidian University

Visual sensing devices (cameras) have deeply engaged in our everyday life. They do not only record visual data for memories but also provide extra assistance, such as recognition, tracking, visual based robot localization, car navigation, etc. This course introduces fundamental concepts and techniques in image processing and computer vision, and reveals the secrets in a modern camera and its applications, e.g. the principle of a camera, diverse effects built in the camera, primary image processing techniques, face recognition, image understanding, etc.

情報科学科目群
対象学生：全学向け
対象学年：全回生
教室：東一条館(思修館)大講義室 201(医学部構内キャンパスマップ建物番号 30番)
定員：25名(先着順)

Informatics
Eligible students: All majors
Grade allotted: All students
Classroom: Room 201, Higashi-Ichijo Kan (Bldg. No. 30 in the campus map of Medicine campus)
The full quota of this lecture: 25 students (on a first-come, first-served basis)

開講日・曜時限 Course offered day/period

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	2/19			2/22			2/24			2/25			2/26	
	Fri			Mon			Wed			Thu			Fri	
2限	3限	4限	2限	3限	4限	2限	3限	4限	2限	3限	4限	2限	3限	4限



申込について

- 申込期間：各講義とも初回授業日の1週間前の17時まで申込を受け付けます。申込をもって履修登録とします。
申込方法：件名を「集中講義申込」として、本文に学生番号、所属学部・研究科、回生、氏名および履修希望の科目名を明記し、apply@mail2.adm.kyoto-u.ac.jpへメールで申し込んでください。なお、日程が一部でも重複する集中講義を複数申し込むことはできません。
履修取消：受講を取り止める場合は、2日目の授業日の当日中までに申込時と同じメールアドレス宛に申し出てください。なお、「AI, Big Data & Data Science in Practice-E2」については2月18日(木)まで履修取消の申し出を受け付けます。
注意事項：1. 「Infectious Diseases and Public Health-E2」「Fundamentals of Computer Vision-E2」「Introduction to many-particle quantum mechanics-E2」は過年度に開講された集中講義と同一の科目です。
2. 2021年3月卒業予定者がこのポスターで案内している集中講義を履修した場合、成績報告が各学部の卒業判定までに間に合わないことがあります。
3. 対面授業についてもコロナウイルスの感染拡大等の状況によってはオンライン授業に切り替える場合があります。
4. 講義内容等の詳細はシラバスを確認してください。

How to apply

Application period: Application is accepted by 17:00 of the day one week prior to the first class date in each course. It is treated as the class registration.

Application procedure: Applicants are requested to send an email titled "Application for Intensive Lecture" to apply@mail2.adm.kyoto-u.ac.jp.

In the email body, please write your student ID number, faculty/graduate school, grade, name, and title of the course that you'd like to register.

You cannot register for two or more intensive courses whose schedules overlap.

Class withdrawal: If you would like to withdraw from a course, please send an email to apply@mail2.adm.kyoto-u.ac.jp by the end of the second day of the course.

As for "AI, Big Data & Data Science in Practice-E2", students can request class withdrawal by Feb 18. After the deadline, it is not accepted.

Important note: 1. "Infectious Diseases and Public Health-E2", "Fundamentals of Computer Vision-E2" and "Introduction to many-particle quantum mechanics-E2" were provided also past academic years.

2. Graduating students in March, 2021 taking the intensive courses in this flyer should be aware that the score reports may not make the examination of graduation at each faculty.

3. If there may be another wave of coronavirus, the face-to-face classes might be switched over to remote learning.

4. Please check out the syllabus for more details of the courses.

集中講義

英語で学ぶ全学共通科目

Feb. 16 (Tue)-Mar. 3(Wed)

Understanding Population Change-E2

Objective: To Understand concepts and methods to study changes in population size and structures. And to analyze recent trends in population and develop alternative future scenarios for the future.

Background: Understanding population dynamics and heterogeneity in and within a country provides important insights for explaining social and environmental changes. It also helps to identify vulnerable sections of the population that are affected most by these changes. Projections of population dynamics and heterogeneity can serve as a prediction that assists policymakers and other stakeholders in visualizing an alternative future, to assess what-if scenarios, or to simulate sensitivity tests of single or multiple variables. While demographers are interested purely in population dynamics, the users of population projections are spread in many disciplines. Researchers and planners use population analysis and projections in the development sector such as education, health, economic (labor force participation), energy, food, land use, environmental pollution, etc. sectors, etc.



Samir KC

Asian Demographic Research Institute
Shanghai University

人文・社会科学科目群、法・政治・経済分野
対象学生：全学向け
対象学年：全回生
教室：吉田南総合館北棟共北 24CALL 教室（キャンパスマップ建物番号 86 番）
※オンライン（全回ライブ配信）での受講も可
定員：25 名（先着順。ただし、申込時には志望動機等の回答が必要）
Humanities and Social Sciences, Jurisprudence, Politics and Economics
Eligible students: All majors
Grade allotted: All students
Classroom: Room 24(CALL), North Wing, Yoshida-South Campus Academic Center Bldg. (Bldg. No.86 of the campus map)
*As for lectures, students can choose whether to participate onsite in a classroom or "live" online with Zoom.
The full quota of this lecture: 25 students (on a first-come, first-served basis)*
*It is required to submit the report in advance.

開講日・曜時限 Course offered day/period

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2/16 Tue			2/18 Thu			2/22 Mon			3/2 Tue			3/3 Wed		
3限	4限	5限	3限	4限	5限	3限	4限	5限	3限	4限	5限	3限	4限	5限

Feb. 10 (Wed) - Feb. 26 (Fri)

Evolution of IT and Changing Nature of Work-E2

IT is changing the shapes of our businesses and society, and it is still predicted that "we are only beginning to realize computing's potential (Bill Gates, Information Week, October 18, 2004)." IT has been evolved since the advent of computing in 50's and networking in 80's. Evolution of IT has influenced businesses and society in different shapes and forms. Business operations has been getting significantly smarter, faster, more efficient and effective in an unprecedented pace. Now, new business models are burgeoning up every day. Recent technological developments of IT, such as cloud computing, bigdata analytics, social media, mobile computing, IoT and AI, are unprecedented in the sense that these were dreamed of in science fiction movies. Along with digital transformation of businesses, these technologies are fastly changing the nature of work. These changes are occurring across different industries and across various levels in organizations. For example, 9 to 5, 5 days in a week is now becoming exception than norm. Permanent employment is becoming more a dream while contract works are increasing exponentially. Most jobs are becoming knowledge-based and knowledge-laden while routine tasks are more and more delegated to machines. Jobs are being threatened by being replaced by intelligent machines. All of these changes are driven by the advance of IT.

人文・社会科学科目群、法・政治・経済分野
対象学生：全学向け
対象学年：全回生
教室：2/10-2/22 吉田南 1 号館 1 共 33 講義室（キャンパスマップ建物番号 85 番）
2/24-2/26 本部 総合研究 2 号館講義室 1（キャンパスマップ建物番号 34 番）
定員：40 名（先着順）
Humanities and Social Sciences, Jurisprudence, Politics and Economics
Eligible students: All majors
Grade allotted: All students
Classroom: Feb 10 to Feb 22 Room 33, Yoshida-South Campus Bldg. No.1 (Bldg. No.85 of the campus map)
Feb 24 to Feb 26 Lecture Room 1, Research Bldg. No.2, Main Campus (Bldg. No.34 of the campus map)
The full quota of this lecture: 40 students (on a first-come, first-served basis)

開講日・曜時限 Course offered day/period

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2/10 Wed		2/12 Fri		2/15 Mon		2/17 Wed		2/19 Fri		2/22 Mon		2/24 Wed		2/26 Fri	
3限	4限	3限	4限	3限	4限	3限	4限	3限	4限	3限	4限	3限	4限	3限	4限



Jungwoo Lee
Yonsei University

Feb. 17 (Wed) - Feb. 23 (Tue)

European Social Security Models-E2

This lecture intends to bring an overview of the history and the actual status of European Social Security Systems. It will not focus only on narrow legal topics but will show the development of social security systems as result of a European history, a specific mindset and imagination of the relation between individuals and society. The interdependencies between social security, the status of families, the status of legal regulation and specific institutions will be shown.

人文・社会科学科目群、法・政治・経済分野
対象学生：全学向け
対象学年：全回生
教室：オンライン（全回ライブ配信（全日 16:00-20:30））
定員：25 名（先着順）
Humanities and Social Sciences, Jurisprudence, Politics and Economics
Eligible students: All majors
Grade allotted: All students
Classroom: Online(Zoom lectures (4:00 PM - 8:30 PM Japan Time))
The full quota of this lecture: 25 students (on a first-come, first-served basis)

開講日・曜時限 Course offered day/period

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2/17 Wed		2/18 Thu		2/19 Fri		2/22 Mon		2/23 Tue						
16:00-20:30		16:00-20:30		16:00-20:30		16:00-20:30		16:00-20:30						



Wolfgang Mazal
University of Vienna

申込について

申込期間：各講義とも初回授業日の 1 週間前の 17 時まで申込を受け付けます。申込をもって履修登録とします。

申込方法：「Evolution of IT and Changing Nature of Work-E2」「European Social Security Models-E2」については、件名を「集中講義申込」として、本文に学生番号、所属学部・研究科、回生、氏名及び履修希望の科目名を明記し、apply@mail2.adm.kyoto-u.ac.jp へメールで申し込んでください。「Understanding Population Change-E2」は上記申込時に志望動機等をまとめたファイルをメールに添付して提出してください（詳細はシラバス参照）。なお、日程が一部でも重複する集中講義を複数申し込むことはできません。

履修取消：受講を取り止める場合は、2 日目の授業日の当日中までに申込時と同じメールアドレス宛に申し出てください。

注意事項：1. 「European Social Security Models-E2」は過年度に開講された集中講義と同一の科目です。また、「Understanding Population Change-E2」は過年度に開講されていた「Understanding Demography Dynamics and Projection-E2」の科目名変更です。
2. 2021 年 3 月卒業予定者がこのポスターで案内している集中講義を履修した場合、成績報告が各学部の卒業判定までに間に合わないことがあります。
3. 対面授業についてもコロナウイルスの感染拡大等の状況によってはオンライン授業に切り替える場合があります。
4. 講義内容等の詳細はシラバスを確認してください。

How to apply

Application period: Application is accepted by 17:00 of the day one week prior to the first class date in each course. It is treated as the class registration.

Application procedure: Applicants who would like to apply for "Evolution of IT and Changing Nature of Work-E2" and "European Social Security Models-E2" are requested to send an email titled "Application for Intensive Lecture" to apply@mail2.adm.kyoto-u.ac.jp. In the email body, please write your student ID number, faculty/graduate school, grade, name, and title of the course that you'd like to register. Applicants who would like to apply for "Understanding Population Change-E2" are required to submit the report by attached file when you send the above email. You cannot register for two or more intensive courses whose schedules overlap.

Class withdrawal: If you would like to withdraw from a course, please send an email to apply@mail2.adm.kyoto-u.ac.jp by the end of the second day of the course. After the deadline, it is not accepted.

Important note: 1. "European Social Security Models-E2" was provided also past academic years.

2. "Understanding Population Change-E2" is the title changed from "Understanding Demography Dynamics and Projection-E2" provided past academic years.
2. Graduating students in March, 2021 taking the intensive courses in this flyer should be aware that the score reports may not make the examination of graduation at each faculty.
3. If there may be another wave of coronavirus, the face-to-face classes might be switched over to remote learning.
4. Please check out the syllabus for more details of the courses.