授業科目名(英文名) ／Course title	Science, Technology and Sustainable Society (科学技術と持続可能社会)				
担当教員(所属)／Instructor	Wada Naoya (GRASS), Zhang Jing(Fac Sci), Shishir Sharmin(GRASS), Geetha Mohan(GRASS),Chakraborty Shamik(GRASS), 上原　雄史(芸術文化学部),岸本　充生(非常勤講師), 平川　秀幸(非常勤講師)				
授業科目区分／Category	大学院共通科目				
地域課題解決型人材育成プログラム科目／COC+Course ※平成28年度入学者から適用	-	授業種別／Type of class	講義科目		
開講学期曜限／Period	2026年度／Academic Year 第１ターム／Term 1 他	対象所属／Eligible Faculty	All graduate schools		
時間割コード／Registration Code	950010	対象学年／Eligible grade	1年,2年	単位数／Credits	1.0単位
ナンバリングコード／Numbering Code	2X1-19015-0100				
Moodleコース統合時間割コード ／Moodle course join Registration Code					
Moodleコース登録教員名 ／Moodle course registered Instructor					
MoodleコースURL ／Moodle course URL	https://moodle52.u-toyama.ac.jp/course/view.php?idnumber=2026_950010				
各種教育プログラム1 ／Various educational programs1					
各種教育プログラム2 ／Various educational programs2					
各種教育プログラム3 ／Various educational programs3					
各種教育プログラム4 ／Various educational programs4					
各種教育プログラム5 ／Various educational programs5					
SDGsとの関連／Related SDGs					

昨年度からの改善点／Changes from last year

リアルタイム・アドバイス／Real-time advice	更新日	

授業のねらいとカリキュラム上の位置付け（一般学修目標） ／Course Objectives	教育目標 ／Educational Goals	

Thanks to the development of science and technology, we have been able to build an advanced civilization and lead a rich life. On the other hand, the use of science and technology has given rise to a variety of social and environmental problems, and thus we must deal with the negative aspects of science and technology. In order to solve these problems and make our lives more affluent and sustainable, we need new science and technology and new methods to develop and implement them. In this lecture course, we learn about the changes in our lives caused by the development of science and technology from the past to the present, consider what challenges have arisen in the economy, society, and the environment as a result of these changes, explore the importance of envisioning the future that science and technology should bring, and discuss what new types of science and technology, and their uses, are needed to solve these challenges.

Interdisciplinary lectures will be provided by nine supervisors from the university's departments of medicine, science, social science, and arts and culture, as well as the Osaka University Research Center for Co-creation of Society and Technology and the CO Design Center.

達成目標／Course Goals

By taking classes and passing examinations, students will be able to learn about science and technology in relation to the economy, society, and the environment from the standpoint of their respective fields of expertise. This course aims to enable students to
1. Accurately understand the role of science and technology and gain basic knowledge of the relevant economic, social, and environmental issues that arise from scientific and technological development.
2. Understand the impact and effects of science and technology on society and nature, visualize the goals of technological development by envisioning the future that science and technology should achieve, and acquire an awareness of one's responsibilities to society and nature as an academic.
3. Enhance their ability to think multilaterally about the current status and problems of the economy, society, and the environment, as well as about the demands of society (e.g., discover problems, collect data, make comprehensive judgments, and propose improvement measures).

授業計画（授業の形式、スケジュール等）／Class schedule

Session 1: Issues surrounding science and technology innovation (Kishimoto)
Session 2: Issues of communication between science and technology and society (Hirakawa)
Session 3: Science-Driven Technology for a Water-Secure and Sustainable Agriculture Future (Geetha)
Session 4: Exploring Wetland Management Near Urban Areas: Case Study of Nakatsu Tidal Flat, Japan (Chakraborty)
Session 5: Itai-Itai (Ouch-ouch)Disease: Towards the realization of a sustainable and well-being society (Inadera)
Session 6: Reciprocity of architecture and urbanity (Uehara)
Session 7: Economic development, forest fragmentation and emerging infectious diseases in the tropics (Shishir and Wada)
Session 8: Water and material circulation in the ocean and on land: Current status and future adaptation strategies (Zhang)

授業時間外学修（事前・事後学修）／Independent Study Outside of Class

Study time outside of class is about 0.5 to 2 hours of independent study for each class session. In order to increase the effectiveness of learning, students should review the contents of previous classes in their pre-class study and write a assigned report.

キーワード／Keywords	Science and Technology Innovation, Science and Technology Communication, ELSI, Lack Model, Post-Normal Science, Global Governance, Industrial Revolution, Sustainable Society, Cities and Architecture, Itai-itai Disease, Forest Fragmentation, Emerging Infectious Diseases, Water and Material Cycles, Adaptive Measures
履修上の注意／Notices	Read and watch all documents and video over the entire course. Be sure to include personally identifiable information such as department name as well as student name and number when writing a report. Failure to do so may result in a grade of zero.
教科書・参考書等／Textbooks	**■教科書** **■参考書** **■教科書・参考書に関するその他通信欄** The supervisor will contact you before the class and distribute necessary materials. Reference books 馬田隆明，未来を実装する――テクノロジーで社会を変革する４つの原則,英治出版，2021
成績評価の方法／Evaluation	Reports 100% Mandatory viewing of all materials and videos. The acquisition of knowledge and abilities listed in the achievement objectives will be comprehensively evaluated based on report given by the supervisor.
関連科目／Related course	

リンク先URL ／URL of syllabus or other information	Ikeda https://evaweb.u-toyama.ac.jp/html/100000612_ja.html Inader http://www.med.u-toyama.ac.jp/pubhlth/staff/inadera.html Uehara http://www.tad.u-toyama.ac.jp/teacher/uehara.html Zhang https://evaweb.u-toyama.ac.jp/html/556_ja.html (https://researchmap.jp/read0083133) Long https://evaweb.u-toyama.ac.jp/html/765_ja.html?k=%E9%BE%8D Wada https://evaweb.u-toyama.ac.jp/html/789_ja.html (https://researchmap.jp/read0047843) Kishimoto https://researchmap.jp/kishimoto-atsuo Hirakaw http://www.dma.jim.osaka-u.ac.jp/view?l=ja&u=7334 (https://researchmap.jp/h_hirakawa)
備考／Notes	