

Programme for Developing Human Resource to Contribute to SDGs by Merging African Potential and Japanese Scientific Technology



Student Recruitment for The Compulsory Intensive Course “Sustainable Global Management” 2025



- **University of Ghana (UG)** (Ghana)
- **Addis Ababa University (AAU)** (Ethiopia)
- **Jomo Kenyatta University of Agriculture and Technology (JKUAT)** (Kenya)
- **Meru University of Science and Technology (MUST)** (Kenya)
- **University of Dar es Salaam (UDSM)** (Tanzania)
- **Nelson Mandela African Institution of Science and Technology (NM-AIST)** (Tanzania)
- **Utsunomiya University (UU)** (Japan)

Introduction

The coronavirus (COVID-19) pandemic has impacted on the global economy, and the higher education, especially studying abroad, is significantly affected. To overcome the pandemic and advance the higher education, universities have adopted online learning and started to accelerate digitization.

On the other hand, extensive and strong international cooperation is needed to achieve the United Nations-led SDGs (Sustainable Development Goals) toward 2030.

- This program aims to develop personnel who can contribute to joint activities between Africa and Japan by understanding the potential of local communities and achieving sustainable development based on the social structure. Therefore, in anticipation of the post-corona era, six African universities and Utsunomiya University in Japan will jointly offer the web online course related to Africa, SDGs, and Science.
- The course includes fifteen lectures which will be taken on the web from 2nd June to 18th July. The content will be the basis for mutual study abroad between African universities and Utsunomiya University, and the following lectures will be offered.

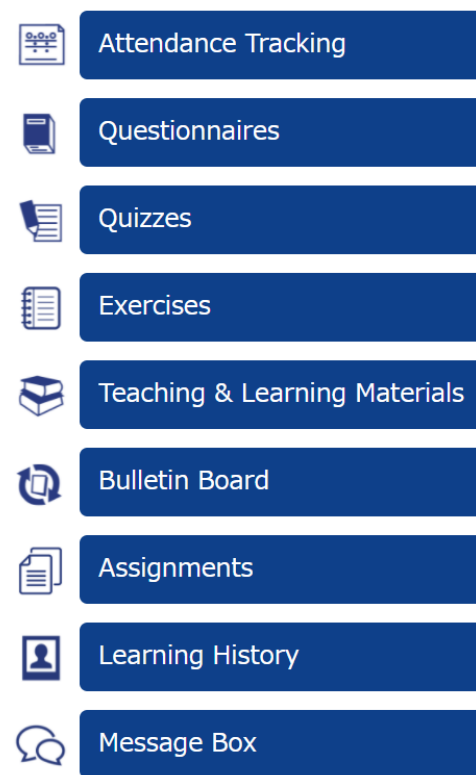
Let's join us!!

Details of the course

- ✓ **Fifteen web lectures:** In this course, 13 professors from 7 universities will give 13 lectures. This is an unprecedented international cooperation in the new digital age, so please look forward to it.
- ✓ **Course Duration:** 2nd June - 18th July, 2025
The first real-time lecture will be held on 2nd June (Mon) and the final real-time on 18th July (Fri). The other 13 lectures are offered on-demand, so you can take them any time between 2nd June - 18th July.
- ✓ **C-learning:** In the course, we will use the application named "C-learning". Only students who have applied for this course will be informed of the ID and password to access "C-learning". Instructions on how to use "C-learning" will be e-mailed to students who have registered. Hence, students who want to attend the course must apply to the person in charge at their university.
- ✓ **Application:** Please inform the person in charge at home university (see the final page "Contacts") with your Name, Student ID number, Master's Program Major and e-mail address.
- ✓ **Application deadline: 9th May.** The lecture materials will be upload to "C-learning" in May, and the ID and password will be notified to the registered students at mid-May.
- ✓ **Tuition fees are free!!**

Details of the course (cont.)

✓ **C-learning:** In C-learning system, students can find several boxes as shown on the right. In “Teaching & Learning Materials”, there are several materials such as videos, PDF files and so on for 15 lectures. Students take 13 lectures at their own convenience from 3rd June to 17th July and then answer “Quizzes” or write a report for “Assignments” .



✓ **Credits:** Equivalent at each home university








The 15 lectures are followed by either a quiz or a report, and students who pass with an overall score receive a certificate of completion, while those with outstanding results receive a further award.

✓ **Students:** Master course students from **any field** are welcome.

✓ **Capacity:** Maximum 40 or less per university.

✓ **Visit and study in Utsunomiya:** Each African university should select a student who will be invited to Utsunomiya in 2025. The one long-term student (three to 12 months), and the one short-term student (less than one month). Selection of long- and short-term students is based on their performance in “Sustainable Global Management”. Also, a minimum **GPA of 2.30** (using the JASSO calculation method) is required.

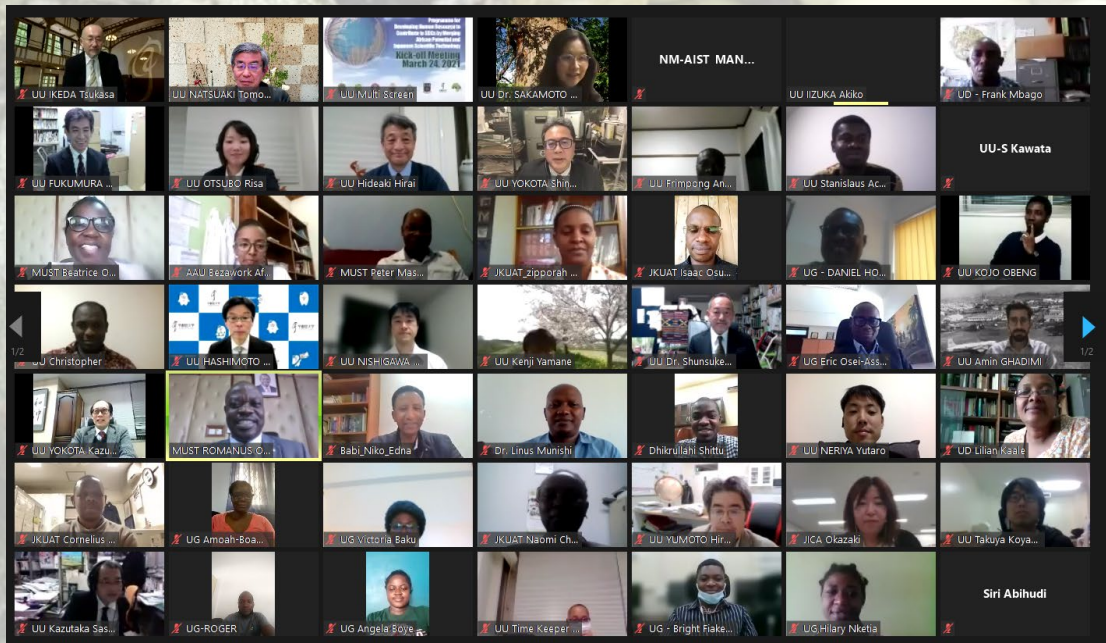
University name	Lecturer name	Title of the lecture (on-demand)	Outline of the lecture (about 100 words)	SDGs	Photo	E-mail Address (change (at) to @)
Jomo Kenyatta University of Agriculture and Technology (Kenya)	Prof. Arnold N. Onyango	Targeting the gut-liver axis for the prevention of non-communicable diseases	The burden of non-communicable diseases such as obesity, diabetes, hypertension, cardiovascular disease, chronic kidney disease and various types of cancer is increasing worldwide. Dietary and lifestyle modifications can reduce the risk for these diseases. For such approaches to be most effective, they should be targeted to pathophysiological events that occur long before the non-communicable diseases manifest. In this lecture, the concept that targeting early changes in the gut and liver could help in the prevention of many non-communicable diseases will be discussed. Examples of dietary and lifestyle modifications that promote gut and liver health will be given.	SDG 2 (Good health and well-being)		Arnold.onyango@ikuat.ac.ke
Meru University of Science and Technology (Kenya)	Dr. Zakayo Matngi	Non-tuberculous Mycobacteria in a One Health Context: Bridging Human, Animal, and Environmental Health	This lecture explores the growing significance of Non-tuberculous Mycobacteria (NTM) through a One Health approach, emphasizing their distribution and impact across human, animal, and environmental domains. It will examine the rising concern of antimicrobial resistance among NTM species, alongside key virulence factors that contribute to their persistence and pathogenic potential. Drawing on recent studies and real-world case examples, the session will highlight how genetic diversity, environmental resilience, and cross-species interactions influence the epidemiology and public health implications of NTM. The lecture underscores the urgent need for integrated surveillance, collaborative research, and coordinated intervention strategies to address the complex challenges posed by NTM at the human-animal-environment interface.	SDG 3: Good Health and Wellbeing SDG 17: Partnerships for the Goals		zmatngi@must.ac.ke
Addis Ababa University (Ethiopia)	Dr. Bezawork Afework Bogale (Associate Professor)	Climate change Impacts on birds	Although bird populations are showing a declining trend around the world mainly due to factors such as habitat loss and fragmentation, collisions with windows, infrastructures and different anthropogenic factors, the effect of climate change as an important driver behind this worrying trend is not properly addressed. The change in climate patterns on earth and human-caused climate changes in an alarming rate cause difficulty for birds to adapt. In this seminar, how changing climatic conditions affect birds and the direct and indirect impacts will be addressed.	SDG Goal 13: Climate Action		bezawork.afework@asu.edu.et
University of Dar es Salaam (Tanzania)	Mr. Steven Kitigwa	Functional foods and nutraceuticals from Indigenous and wild foods of Africa	This lecture will cover the role of functional foods and nutraceuticals derived from indigenous and wild foods of Africa. The lecture will define functional foods and nutraceuticals, giving emphasis on their health benefits beyond basic nutrition. The session will explore African foods, focusing on their bioactive compounds that can combat micronutrient deficiencies and non-communicable diseases. The session will also highlight how traditional knowledge can be integrated with research to address the challenges and opportunities in utilization of indigenous and wild foods.	SDG 1: Zero hunger SDG 2: Good Health and Well-being		kitigwassteven@gmail.com
Nelson Mandela African Institution of Science and Technology (Tanzania)	Dr. Pavithravani Venkataramana	Transforming Seed Systems for Climate Resilience: Governance, Innovation, and Equity in Achieving the SDGs	It focuses on the role of diverse, accessible, and well-governed seed systems in supporting food security, environmental sustainability, and social equity. By examining the interplay between formal and informal seed systems, governance structures, innovation, and local knowledge, students will gain a systems-level understanding of how seeds influence global food systems. The course also critically analyzes policies, private sector dynamics, and participatory approaches that shape seed access and biodiversity in the face of climate change.			pavithravani.venkataramana@nm-aist.ac.tz
University of Ghana (Ghana)	Dr. Solomon Kofi Amoah	State-Philanthropy Relations in Modern Governance	Philanthropy, defined as private giving for human welfare, plays a vital role in governance and social policy delivery. However, its effectiveness can wane without the power of the state. The relationship between state and philanthropy is essential for enhancing public welfare, driving innovation, and promoting sustainable development. Collaborative efforts between these sectors can create a more equitable and effective approach to addressing social challenges. This lecture aims to explore the dynamics, advantages, and challenges of partnerships between state and philanthropy in contemporary governance. We will examine the global evolution of philanthropy, highlight the historical connections between state entities and philanthropic organizations, and analyse their complementary roles. The lecture will also delve into the challenges and tensions currently present in state-philanthropy relations.	SDG 1 – 'No poverty' and zero hunger SDG 3 – Good health and well-being		skamoah@ug.edu.gh

Utsunomiya University	Dr. Nao IGARASHI (再任・共同教育学部)	Poetry, Language, and the World	Many poets from former British colonies write about social issues, and yet the language they use, English, is in many cases a cause of the problems. This lecture invites students to examine how the poets' complex emotions regarding language, home, and identity are explored and illustrated in their poems. The lecture focuses not only on works of African poets but also on several poems written by the Caribbean and Irish poets. Some common themes in those poems, including the influence of history on the present, will encourage students to understand and overcome inequalities and injustice that still exist in the world.	Goal 5 Gender Equality Goal 10 Reduced Inequalities Goal 16 Peace, Justice and Strong Institutions		nao.igarashi@cc.utsunomiya-u.ac.jp
	Prof. Nobuaki Ohmori (地域デザイン科学部)	Realizing Sustainable City and Transportation by Introducing Light Rail Transit (LRT)	Japan is facing an aging society with a declining population. In particular, local cities, where citizens' daily lives are heavily dependent on automobiles, are trying to change their urban form to be more compact with higher levels of public transportation service. In 2023, the city of Utsunomiya introduced the new tram system, with all new tracks. This is the first time in these 75 years in Japan and the best practice of sustainable city and transportation in Japan. This lecture will explain why and how Utsunomiya City introduced LRT, what the impacts are, and what the future of the city will be.	SDG 11 Sustainable Cities and Communities		nobuaki@cc.utsunomiya-u.ac.jp
	Prof. Yutaka Mabuhi (工学部)	CO2 Reduction Technologies Through Improved Automotive Fuel Efficiency	Reducing CO ₂ emissions is one of the biggest challenges today, and making car engines and transmissions more efficient is an important part of that effort. In this lecture, we will explore some advanced technologies that help reduce friction in car parts—such as applying diamond-like carbon (DLC) coatings to moving surfaces, and adding tiny materials like graphene or fullerenes to engine oil. These carbon-based materials work in a unique way: when friction occurs, the carbon surface reacts with the oil to form special chemical groups. These groups then attract oil additives, creating an ultra-thin layer that allows the surfaces to slide more smoothly, reducing friction. Since these processes happen on a very small (nanoscale) level, they are hard to see or measure, and recent advances in surface analysis technologies have made it possible to study and improve them.	SDG 13 Climate action		y-mabuhi@cc.utsunomiya-u.ac.jp
	Dr. Naoki Sugita (データサイエンス経営学部)	Social Management of Agrobusiness in Japan from the Perspective of SDGs Marketing of Japanese Tea	This lecture explores the distribution system of Japanese tea, highlighting varieties, production trends, and consumption patterns. It discusses the impact of agriculture on SDGs, noting both negative effects like pesticide use and positive contributions such as biodiversity conservation and cultural preservation. The role of family farms in achieving SDGs is emphasized, with a focus on mission-based marketing strategies. Case studies illustrate successful integration of environmental conservation and local culture in agricultural practices.	SDGs goal 8 and 12		sugitanaoki@cc.utsunomiya-u.ac.jp
	Dr. ARJON Sugit (国際学部)	The Dual Nature of Humanitarian Aid in Post-Conflict Reconstruction	This lecture focuses on an exploration of the dual nature of humanitarian aid, examining whether it primarily serves as a temporary measure to secure peace or as a foundational step towards sustainable peacebuilding and development. Moreover, the lecture also discusses the intricate politics underlying aid distribution, including how geopolitical interests shape aid allocation and the consequent effects on peacebuilding efforts and community recovery. The aim of this lecture is to build the awareness of how humanitarian aid works within the ecosystem of post-conflict reconstruction, navigating between immediate needs and long-term development goals while contending with the realities of international politics.	SDG 1 No Poverty SDG 11 Sustainable Cities and Communities SDG 16 Peace, Justice and Strong Institutions		sugit@cc.utsunomiya-u.ac.jp
	Dr. Masatsugu Tamura (農学部)	Creation of new healthy food using local agricultural products	Continuous intake of starch-containing foods causes rapid changes in blood glucose levels due to the hydrolysis of starch to glucose. This stress on the human body is closely related to the development of metabolic diseases such as type 2 diabetes and obesity. In recent years, it has been clarified that dietary fiber, resistant starch, polyphenols, and the tissue structure of raw materials modulate the rise in blood glucose levels and starch digestibility, and the mechanism of such modification has been studied, leading to the development of starch-restricted foods and low-starch foods. Although there are attractive agricultural products and raw materials in various regions of the world, it is an urgent issue to develop processing methods and technologies to extract and enhance the value of such products and raw materials. This lecture presents our research on the development of local foods with reduced starch digestibility, based on the evaluation of carbohydrate digestibility using an in vitro simulated digestion test.	SDG 1 Zero Hunger SDG 3 Good Health and well-being SDG 9 Industry, Innovation and Infrastructure		m-tamura@cc.utsunomiya-u.ac.jp
	Prof. Shinso Yokota (農学部)	Cellulose and its new application	Cellulose is one of the major chemical components of plant cell wall, and the most abundant biomass resource on the earth. It has been used for pulp (material for making paper) and many kinds of cellulose derivatives that are used for a wide range of fields and daily usage. Recently, some methods to change cellulose into nanofiber have been developed and its applications have been developing worldwide. In this lecture, chemical structure and characters are explained, and production methods of cellulose nanofiber and its new applications are introduced.	SDG 9 Industry, Innovation and Infrastructure SDG 15 Life on Land		yokotas@cc.utsunomiya-u.ac.jp

Two-way student exchange: This program is a mutual student exchange in which a total of two students from six African universities will be accepted and two students from Utsunomiya University will be sent to Africa.

The video of "The Student Achievement Report Meeting for 2024" by students of the Outbound and Inbound Program is available on the UU-A website: <https://uu-a.utsunomiya-u.ac.jp/2024exchange-en/>

Come and join us!



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