



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

Student Recruitment for The Compulsory Intensive Course “Global Management 2023”



- **University of Ghana** (Ghana)
- **Addis Ababa University** (Ethiopia)
- **Jomo Kenyatta University of Agriculture and Technology** (Kenya)
- **Meru University of Science and Technology** (Kenya)
- **University of Dar es Salaam** (Tanzania)
- **Nelson Mandela African Institution of Science and Technology** (Tanzania)
- **Utsunomiya University** (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 1st 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.
- Following the compulsory intensive course, this program will hold the UU-A International Symposium Series and the Student Summit 2024. **Let's join us!!**

Introduction of Lecturers and Topics

University name	Lecturer name	Title of the lecture (on-demand)	Outline of the lecture (about 100 words)	SDGs	Photo	E-mail Address
Jomo Kenyatta University of Agriculture and Technology (Kenya)	Dr. Mathew Gitau GICHEHA	Nexus between Climate Change, Food Systems, SDGs and Livelihoods	<p>Climate change is having a significant impact on global food systems, threatening food security and livelihoods, particularly in developing countries. The changing climate is leading to extreme weather events such as droughts, floods, and storms, which can significantly impact crop yields and livestock production. As a result, farmers and other stakeholders in the food system are facing challenges in adapting to these changes and maintaining their livelihoods. Climate change also affects the availability and quality of water resources, which are essential for crop production and livestock rearing.</p> <p>The impacts of climate change on food systems are particularly significant in the context of achieving the SDGs, particularly SDG 2, which aims to end hunger, achieve food security and improve nutrition. Climate change is undermining efforts to achieve this goal, as it threatens the availability and accessibility of food for the most vulnerable populations, particularly in developing countries.</p> <p>At the same time, there are opportunities to mitigate the impacts of climate change on food systems and support sustainable livelihoods through the implementation of the SDGs. For example, SDG 13 focuses on climate action, and achieving this goal could help to mitigate the impacts of climate change on food systems. SDG 12 focuses on sustainable consumption and production, and promoting sustainable agriculture and food systems can contribute to achieving this goal.</p> <p>Overall, the nexus between climate change, food systems, SDGs, and livelihoods is complex and requires a multi-disciplinary approach to address. There is a need for coordinated action across different sectors and stakeholders to promote sustainable food systems that are resilient to the impacts of climate change, support livelihoods, and contribute to achieving the SDGs.</p>	SDG 2 Zero Hunger SDG 12 Responsible Consumption and Production SDG 13 Climate Action		gicheham@ikuat.ac.ke
Meru University of Science and Technology (Kenya)	Dr. Dorothy Kagendo	The SDG aims at improving healthy lives and wellbeing for everyone	<p>One health is an approach that enhances human health, animal health and their interactions with the environment/ecosystem. The three are studied together in one health rather than keeping them separate. This approach had been adopted because in one way or the other, the three, either directly or indirectly affect each other. When it comes to infectious diseases for instance, man interferes with the environment and ecosystems which are habitats for most animals and many organisms in nature. When man encroaches animal habitation, there is often exchange of diseases that we call zoonotic diseases. Often, animals defecate in the environment. As man clear bushes, herds cattle, collects fire wood, cuts down trees, collects herbs, harvests honey, or hunts animals for food, they often leave trails of human pathogens in the animal habitat and ecosystem. Similarly, they carry animal pathogens with them. This exchange can lead to potentially harmful and extremely virulent pathogens exchanged between the two environments. Most often, and due to various reasons, the exchanged pathogens are not susceptible to commonly used therapeutic agents. The aftermath is increased mortality due to emerging and reemerging zoonotic diseases that are now spread across human populations and across the animal populations and the subsequent environments.</p>	SDG 3 Good Health and Well-Being		dkagendi@must.ac.ke
Addis Ababa University (Ethiopia)	Prof. Tadesse Fetahi	The contribution of aquatic ecosystem services to meet SDGs	<p>Ecosystem services (ES) represent the benefits that humans obtain from ecosystems (MEA, 2005), which include supporting services, regulating services, provisioning services, and cultural services. Aquatic ecosystems provide drinking water, fishing, irrigation, power generation, transportation, flood control, and aesthetic values (Abhachire, 2014). Correspondingly, human well-being is fundamentally dependent upon these services. In 2005, the Millennium Ecosystem Assessment found that 70% of the 1.1 billion people surviving on less than USD 1 per day depended directly on natural ecosystems. Thus, the amount and quality of ES depend on the types of ecosystems, pollution status, and land use/land cover in the catchment (Negussie et al., 2019). The Sustainable Development Goals (SDGs) proposed for water and sanitation (SDG 6) and ecosystems (SDG 15) have targets for restoring and maintaining ecosystems to provide water-related services. The targets require to integrate ecosystem services and values into planning, development processes, and strategies for reducing poverty. Thus, a balance between the exploitation of natural resources for socio-economic development, protecting the ecosystems from point and non-point pollutions, and conserving ecosystem services that are critical to everyone's well-being and livelihoods are key components for sustainable development (Falkenmark et al., 2007).</p> <p>In the lecture, I will discuss:</p> <ol style="list-style-type: none"> 1. Different aquatic ecosystem services – tangible and non-tangible 2. Link the ecosystem services with SDGs 3. Major factors that change the ecosystem services and consequences 4. Solutions <ol style="list-style-type: none"> a. Balance socio-economic development/exploitation and ecosystem services (link people, development such as agriculture and ecosystems) b. Mind your water footprint c. Ecosystem-based approach management d. Begin the end in mind (while development intervention is necessary, the long-term impact should be thought very well – the Design) 5. Concluding and take-home messages 	SDG 6 Clean Water and Sanitation SDG 15 Life On Land		tadesse.fetahi@aau.edu.et
University of Dar es Salaam (Tanzania)	Dr. Lilian Kaale	Chilling of Fresh Foods: State-of-the-art and New Development of Technology	<p>Chilling foods</p> <p>Chilling methods</p> <p>Superchilling technology – 'shell freezing'</p> <p>Superchilling methods</p> <p>Supercooling technology</p>	SDG 2 Zero Hunger SDG 3 Good Health and Well-Being		elykaale@gmail.com
Nelson Mandela African Institution of Science and Technology (Tanzania)	Dr. Janeth Jonathan Marwa	Innovation and Entrepreneurship Management	<p>This course aims provide the knowledge to the leaner in terms of describing the development of knowledge systems for innovation, forming strategies for sustainable futures through initiatives of partnerships, sustainable policy development to curb challenges of the basic needs, resource management, efficiency and digital inclusion.</p>	SDG 1 No Poverty SDG 2 Zero Hunger SDG 4 Quality Education SDG 17 Partnerships for the Goals		janeth.marwa@nm-aist.ac.tz

Introduction of Lecturers and Topics

University of Ghana (Ghana)	Dr Daniel Brain Akakpo	Crop-Livestock Integration for Circular Agriculture	<p>The current global agricultural system has impacted the environment in many ways. The system is responsible for about a quarter of all greenhouse gases released by human activity, drives deforestation and loss of biodiversity, pollutes fresh and marine waters. As a result, the manner in which agriculture is practised to produce food has become a point of contention in many high-income countries, and increasingly across the world.</p> <p>There are mounting concerns about a range of issues such as farm size, farm profitability, animal welfare and the risk to human health of zoonotic diseases. There are many kinds of research being conducted to make intensified agricultural systems more sustainable to maintain the natural resource base. The sustainable intensification of the system cannot be enhanced without crop-livestock integration to promote circularity in the use of resources of the system.</p> <p>The concept of circularity aimed to reduce resource consumption and emissions to the environment by closing the loop of materials and substances. Hitched in this concept, losses of materials and substances are prevented and rather recovered for reuse, remanufacturing and recycling.</p> <p>After this course, students should:</p> <ol style="list-style-type: none"> Understand the underlying principles and pillars of circularity. Understand and adopt sustainable agricultural practices such as: <ol style="list-style-type: none"> Crop rotation and intercropping. Planting cover crops and perennials. Reducing or eliminating tillage. Applying integrated pest management (IPM). Integrating livestock and crops. Adopting best agroforestry practices. Be familiar with some mitigation measures against climate challenges. 	SDG 1 Zero Poverty SDG 2 Zero Hunger SDG 13 Climate Action		dbakakpo@ug.edu.gh
Univerisity name	Lecturer name	Title of the lecture (on-demand)	Outline of the lecture (about 100 words)	SDGs	Photo	E-mail Adress
	Dr. Nao IGARASHI	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
	Dr. Mie SATO	VR and AR technologies to change our lives	VR (virtual reality) and AR (augmented reality) technologies have been rapidly developed in the past few years and are expected to continue to grow more and more in the near future. This lecture explains what VR and AR are from a technical perspective and introduces the applications of VR and AR in the various fields such as medicine and education. We also look into the future possibilities and problems that VR and AR technologies will bring.	SDGs 9 Industry, Innovation and Infrastructure		mie@is.utsunomiya-u.ac.jp
	Dr. Sugit Arjon	Political Dynamics and Sustainable Development in Post-Conflict Regions.	Political Dynamics and Sustainable Development in Post-Conflict Regions is a lecture that will explore the importance of sustainable development in regions that have experienced conflict. The lecture will begin with an introduction that defines post-conflict regions and discusses the significance of sustainable development in these areas. The political dynamics in post-conflict regions will be examined, highlighting the importance of political stability, democratic process, and the roles of government and international actors in promoting sustainable development. The impact of power-sharing arrangements will also be explored. The lecture will then delve into the concept of sustainable development, defining it and exploring its importance in post-conflict regions. Key areas of sustainable development in these regions will be discussed. The challenges to achieving sustainable development in post-conflict regions will also be examined, including limited institutional capacity, lack of resources, and political and social unrest. Strategies for achieving sustainable development in post-conflict regions will be discussed in the lecture, focusing on strengthening governance and institutional capacity, encouraging economic growth and development, and promoting social cohesion and reconciliation. The lecture will conclude with a recap of the key points and an emphasis on the importance of sustained efforts towards sustainable development in post-conflict regions. The need for political will and commitment to achieving sustainable development in these regions will also be highlighted.	SDG 1 No Poverty SDG 8 Decent Work and Economic Growth SDG 11 Sustainable Cities and Communities SDG 16 Peace, Justice and Strong Institutions		sugit@cc.utsunomiya-u.ac.jp
	Dr. Hiroshige FUJII	Introduction to Armed Conflict and Emergency Humanitarian Assistance	This lecture will provide an overview of emergency humanitarian assistance in armed conflict situations. Armed conflicts are still occurring in many parts of the world today. Emergency humanitarian assistance is essential to protect people's lives, but not everyone wants it. The lecturer has experience in UN peacekeeping operations as a Japanese government official and would like to discuss with students the complex challenges and the efforts in the field.	Goal 16 Peace, Justice and Strong Institutions		fujii@cc.utsunomiya-u.ac.jp
	Dr. Atsuo IKEGUCHI	Sustainable management and Precision Livestock Farming (PLF) contributed to one health approach	One health is an integrated, unifying approach that aims to sustainably balance and optimize the health of humans, domestic and wild animals, plants and ecosystems. The One Health Joint Plan of Action has been set by FAO, UNEP, WHO, and WOAH(OIE). In livestock production precision livestock farming (PLF) contributes to one health approach. The role of the IoT and PLF in improving productivity and the concept of PLF are overviewed in the world. The Japanese situation of PLF is introduced for large size faming and small size farming (family farming). Key considerations for farmers in adopting PLF are introduced including financial factors.	SDG 2 Zero Hunger. SDG 9 Industry, Innovation and Infrastructure SDG 13 Climate Action		ikeguchi@cc.utsunomiya-u.ac.jp
	Dr. Takaho ITOIGAWA	Inducing behavior change by applying nudges	This lecture will introduce the application of nudges as an approach to induce behavior change. This lecture will consist of the following three parts. 1. an overview of nudges 2. Introduction of case studies of bias 3. Case studies of nudge application This lecture aims to enable students to examine how nudges can be used to induce ideal behaviors such as energy-saving and healthy behaviors.	SDG 13 Climate Action		itoigawa@cc.utsunomiya-u.ac.jp
	Dr. Shinso YOKOTA	Edible mushroom cultivation and its applications in Japan	In this lecture, types of edible mushroom and their cultivation methods are explained. In addition, their applications are elucidated, especially focussing on biomass utilization.	SDG 2 Zero Hunger SDG 13 Climate Action		yokotas@cc.utsunomiya-u.ac.jp

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:** 1st June – 18th July, 2023. The first real-time lecture will be held on 2nd June (Fri) and the final real-time on 18th July (Tue) using Zoom at 11:40-13:10 East Africa time and 8:40-10:10 Ghana time.
- ✓ The other 13 lectures are offered on-demand, so you can take them any time between 1st June to 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 emailed to students who have registered. So, students who will attend the course must contact 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 email address.
- ✓ **Application deadline: 5th 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!!**

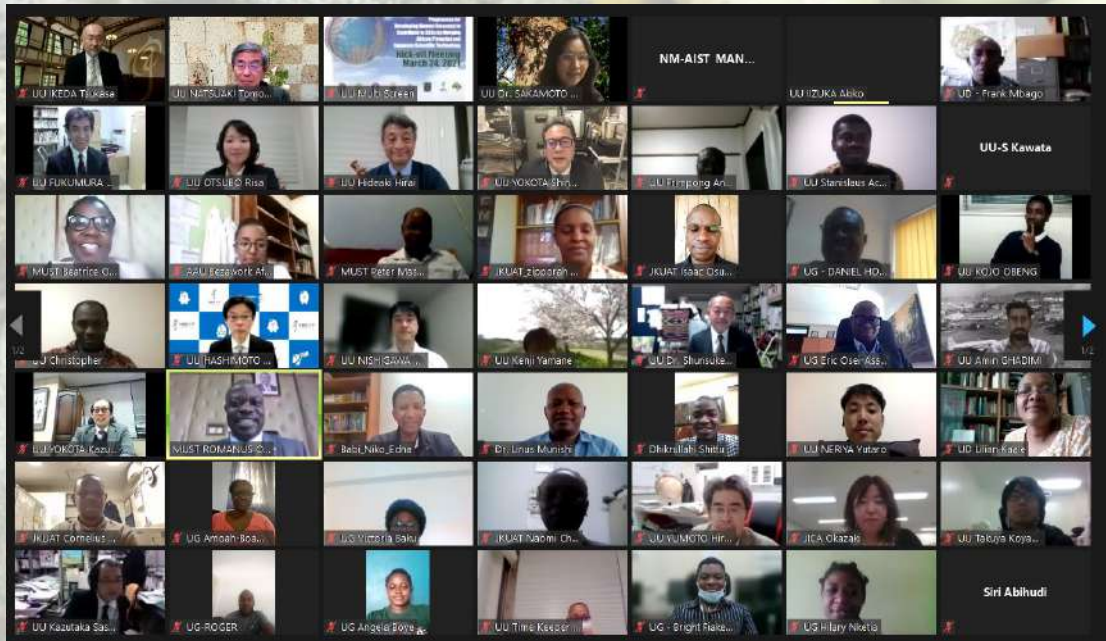
Details of the course (cont.)

- ✓ **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 1st June to 18th 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 souvenir and a certificate.
- ✓ **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 2023-2024. One student will be able to study in Utsunomiya each year, either for a long period (three to 12 months) or for a short period (less than one month).

Come and join us!



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