Advanced Liberal Arts Course

Global Resource Management

2024

Program Guide

For students enrolled in
AY2023 & 2024

同志社大学
Doshisha University

Ⅰ. What is GRM (Global Resource Management) Program?

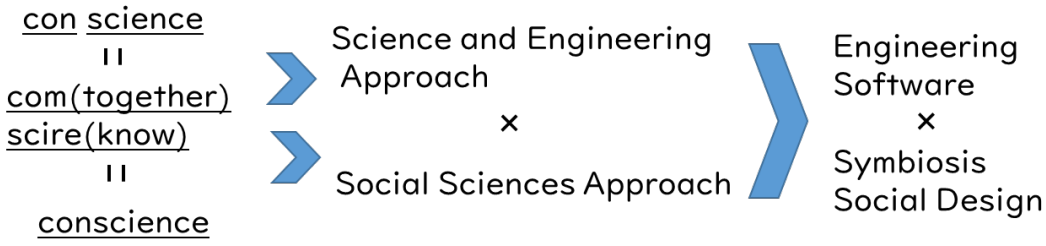
GRM program is a graduate education program for all graduate students in the master's and doctoral degree programs.

The GRM courses constitute the Advanced Liberal Arts Courses (see below), which are taken separately from studies at the graduate school. The main feature of this program is that graduate students from various backgrounds and nationalities are studying together in English.

In today's uncertain world, you may envision a future with a positive perspective, but there is also a future that can only be seen by overcoming difficult circumstances. We can learn a lot from the difficulties that the world faces and that will in turn help transform our society.

This is a program that enables students to acquire basic knowledge beyond their own fields of specialization and "advanced literacy at the graduate level", in addition to the "wisdom" to think and overcome difficulties together with others.

Fostering "Con Engineers and Innovators"



Ⅰ. Developing Human Resources

The GRM program nurtures "Con Engineers and Innovators": who not only have the skills to apply science and make it useful in human life, but also have "Wisdom" that combines science and technology, as well as "Conscience" to support people. The technology includes practical skills for building relationships and managing organizational projects.

2. What is Global Resource Management?

This course originated from our graduate school's educational program, which was adopted as a "Leading Program for Doctoral Education" by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) of Japan.

In this program, GRM defines "resources" broadly, encompassing not only natural resources but also human resources and social capital. The essence of GRM is to build and improve infrastructure as a common resource for sustainable development

and peace through appropriate and fair management and operation of these "resources".

3. What is "Advanced Liberal Arts" Course

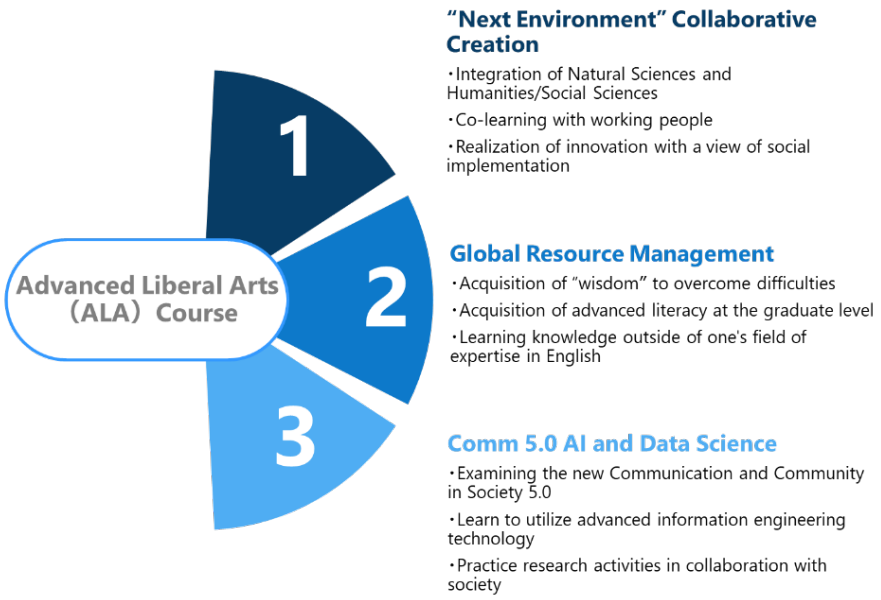
The Advanced Liberal Arts (ALA) course was developed as a part of the reform of graduate education to provide "cross-disciplinary and cross-field education". It is a selection of courses that aim to provide basic skills appropriate for graduate students from perspectives other than their specialization.

GRM courses are designated as Advanced Liberal Arts courses by the Graduate School of Doshisha University. The ALA courses will develop individuals who can play an active role in modern society with "conscience" as their backbone, in accordance with the philosophy of liberal arts education. In particular, the courses aim to impart the following abilities:

-Ability to overview from a universal perspective
-Comprehensive ability to deal with issues by combining multiple specialized knowledge
-Imagination to interpret the future
-Proposal ability to show the future of a conscientious human society

The ALA courses consist of three programs with different themes which include "Environment" and "AI data science". You can cultivate knowledge, skills, and a multifaceted viewpoint to help you choose a career path or develop a career after completing graduate school.

◆ Features of the course/program consists of ALA Course



Ⅱ. Enrollment of GRM Program

1. Eligibility to take GRM courses

The GRM courses are open to all students of Graduate Schools in the master's and doctoral degree programs.

Each graduate school has its own regulations on the handling of GRM course credits. Check the course registration guide of each graduate school for the maximum number of credits that can be earned in this program, and whether those credits will be counted to complete the master's/doctoral degree programs.

2. Registration of GRM courses

You may register from a single course in this program. Register the courses on DUET during the designated course registration period each semester. There are no additional procedures other than course registration.

Ⅲ. Overview of GRM Program

This program consists of three stages and a total of 17 subjects as in the table below. GRM program is based on the principle of "designing your own study plan". The first stage and the third stage are required courses while in the second stage, the courses can be freely selected. With this, students can further develop their own strengths or deepen their studies in their weak fields.

◆The 1st Stage

This program provides on-site practice (either overseas or in Japan) to experience "local conditions and issues" on chosen topics. Through learning in the field, students will recognize knowledge to be acquired, abilities to be developed, and necessary perspectives, and design their own learning plans for the future.

◆The 2nd Stage

Based on a self-designed study plan, students will learn a wide range of cross-field knowledge and perspectives necessary to solve problems, without distinction between the humanities and the sciences.

◆The 3rd Stage

Students will review and develop practical proposals for problem-solving in groups. In the process, the students will also confirm the growth in their own performance as a result of taking the GRM program.

GRM Program Course List

Category		Course Name
1st Stage	Compulsory	On-site Group Work
2nd Stage	Selective (3 courses or more)	Resource Management for Coexistence and Cultural Diversity
		Mathematics and Physics as Liberal Arts
		Infrastructure Design for Human Communities
		Environmental Earth Science as Liberal Arts
		Global Resource Management: Interdisciplinary Approach I
		Global Resource Management: Interdisciplinary Approach2
		Global Resource Management and Sustainable Development Goals I
		Global Resource Management and Sustainable Development Goals2
		Global Resource Management and International Relations
		Research Methods of Social Sciences
		Global Society in the Modern World
		GRM Topics I
		GRM Topics 2
		Capacity Development for Coexistence and Cooperative Works
		Introductory Laboratory of Infrastructures
3rd Stage	Compulsory	Seminar for Advanced Liberal Arts

・Each course is worth 2 credits.
・GRM classes will be conducted primarily in English. In consideration of the language ability of the students, some classes may be partially conducted in Japanese.
・In order to register and take “Seminar for Advanced Liberal Arts”, "On-site Group Work" must have been completed in previous years or registered during the same year.

Ⅳ. Requirements for Completing GRM Program

1. Credit requirement

The number of credits required for completion of this course is 10.

・The first stage and the third stage courses are Compulsory.

・The second stage courses are Selective. At least 3 courses (6 credits) of your choice are required.

Category	Course Group	Required Credits
1st Stage	On-site Group Work	1 course (2 credits)
2nd Stage	Selective courses	3 courses (6 credits) or more
3rd Stage	Seminar for Advanced Liberal Arts	1 course (2 credits)
Total		5 courses (10 credits) or more

2. Program period

This program can be completed in one year, or it can also be completed over multiple years. Students may enroll the program in any year of the master's or doctoral program.

3. Review for the completion of the program

Students who have registered for the "Seminar for Advanced Liberal Arts" will be asked if they wish to complete the GRM program. Only those students who wish to complete the program will be reviewed for the completion.

V. AY2024 GRM Program Course List

Selective Compulsory	Course code	Class	Course Name	Instructor(s) (Main instructor)	Credit	Semester	Campus	Day Period
Compulsory	3565060 I	000	On-site Group Work【※】	Yuko ONISHI	2	S	T/I	Intensive
[Selective] 3courses required	3565061 I	000	Resource Management for Coexistence and Cultural Diversity	Eiji OYAMADA Tadashi YAGI Shinichiro HAMA Naoto NAGAOKA Jiro SENDA Minoru INABA Yuko ONISHI	2	S	Online	Sat 2nd
	3565062 I	000	Mathematics and Physics as Liberal Arts	Camille-faith PASCUA ROMERO	2	S	Online	Thu 2nd
	35650622	000	Infrastructure Design for Human Communities	Camille-faith PASCUA ROMERO	2	F	Online	Fri 2nd
	35650623	000	Environmental Earth Science as Liberal Arts	Yuko ONISHI	2	F	T	Intensive
	35650624	000	Global Resource Management: Interdisciplinary Approach I -Natural Science	Yuko ONISHI	2	S	T	Tue 2nd
	35650625	000	Global Resource Management and Sustainable Development Goals I	Yuko ONISHI	2	F	T	Thu 2nd
	3565063 I	000	Global Resource Management and International Relations	Seifudein ADEM	2	S	I	Mon 1st
	35650632	000	Research Methods of Social Sciences	Seifudein ADEM	2	F	I	Tue 6th
	35650633	000	Global Society in the Modern World	Eiji OYAMADA	2	F	I	Intensive
	35650634	000	Global Resource Management: Interdisciplinary Approach2-Humanity and Social Science	Yuko ONISHI	2	S	I	Thu 2nd
	35650635	000	Global Resource Management and Sustainable Development Goals2	Yuko ONISHI	2	F	I	Tue 2nd
	3565064 I	000	GRM Topics I -Natural Hazards and Disaster Management	Anna MATSUKAWA	2	S	I	Intensive
	35650642	000	GRM Topics 2 -Topics in Mathematics for Information and Data Sciences	Takeshi TOKUYAMA	2	S	I	Intensive
	35650643	001	Capacity Development for Coexistence and Cooperative Works	Mitsuaki UEDA	2	S	I	Mon 4th
		002				F	T	Mon 4th
	35650644	000	Introductory Laboratory of Infrastructures	Yoki IKEDA	2	S	I	Fri 3-4th continuous
Compulsory	3565065 I	000	Seminar for Advanced Liberal Arts	Masanori NAITO Yuko ONISHI	2	F	I	Intensive

・All courses can be registered from M I.

・In consideration of the language ability of the students, GRM classes will be conducted primarily in English.

・Face-to-face classes will be held on either campus (I = Imadegawa /T = Kyotanabe).

・In order to register “Seminar for Advanced Liberal Arts”, "On-site Group Work" must have been completed in previous years or registered during the same year.

・【※】On-site Group Work in AY2024: Participation in an overseas on-site practice is required. The schedule and destination will be announced later, and the number of students will be limited to about 10. In addition, some lectures/report sessions may be held on Imadegawa or Kyotanabe campus before and after the on-site practice.

Ⅵ. Overview of AY2024 GRM Program Courses

1st Stage (Compulsory)

On-site Group Work	
(Instructors) Yuko ONISHI(Institute for Advanced Research and Education)	(Overview) This course aims at constructing the concept of solution building through the combination of lectures, field visits and group work. Lectures from the angles of both social science and engineering provide basic insight and knowledge in pursuing field visits and group work. Field visits give students the practical experience, while group work, made up of students from different specialties, offers students the platform for sharing ideas, seeking problems and discussing views based on knowledge gained in the class and experience gained on the field. -Necessary expenses incurred during the field visit will be covered by the GRM program. -Prescreening may take place based on individual English competency levels.

2nd Stage (Selective: At least 3 courses are required)

Resource Management for Coexistence and Cultural Diversity	
Eiji OYAMADA(GS) Tadashi YAGI(Economics) Shinichiro HAMA (Law) Naoto NAGAOKA(S&E) Jiro SENDA(S&E) Minoru INABA(S&E) Yuko ONISHI(Institute for Advanced Research and Education) *GS: Global Studies S&E: Science & Engineering	(Overview) In this course, students will learn the interpretation of “resource” and how we can translate problems with this concept. Lectures will be delivered by all different professors in each time and explain how the concept of “resource” can be adapted in each field. Lectures will also explain how the proper management of “resources” could contribute to solve problems of their field. The course is delivered with the relayed lecture style in order to cover wide range of topics: both social and natural science.

2nd Stage (Selective: At least 3 courses are required)

Mathematics and Physics as Liberal Arts	
(Instructors) Camille Faith PASCUA-ROMERO(Contract Instructor)	(Overview) The course aims at giving students enough knowledge in physics to understand artificial social infrastructure and natural environment. It puts particular emphasis on electrical energy explaining how electrical power is generated, transported, distributed and utilized by people. Demonstration employing small scale models of electrical generators, fluid machines and motors should enhance students' understanding of energy conversion. Simple mathematical formulations of fundamental physics rules are given, but the course does not necessarily require high mathematical skills and abilities of students.
Infrastructure Design for Human Communities	
(Instructors) Camille Faith PASCUA-ROMERO(Contract Instructor)	(Overview) Infrastructure is the foundation of any kind of activities of human community. Knowledge on how these components of infrastructure are integrated provides a viewpoint indispensable to make further study on resource management for non-engineering major graduate students. As a basic level course, this course puts more emphasis on how to understand the logics and basic methodologies required for planning and designing of infrastructures, rather than obtaining individual knowledge. The course puts more emphasis on actually solving problems, rather than just memorizing formulae, for a student to obtain some idea of thinking as an engineer.
Environmental Earth Science as Liberal Arts	
(Instructors) Yuko ONISHI(Institute for Advanced Research and Education)	(Overview) This course introduces graduate students, regardless of their background, to scientific perspectives on environmental systems of the earth. It will cover fundamental and important concepts in understanding the physical processes that are shaping the Earth and its resources, including the climate, surface, and biological processes. It will take a closer look at functioning and variations of biological resources through field observations in Kyoto City and provide computer-based practice using geographical information systems (GIS).

2nd Stage (Selective: At least 3 courses are required)

Global Resource Management: Interdisciplinary Approach I –Natural Science	
(Instructors) Yuko ONISHI(Institute for Advanced Research and Education)	(Overview) This course introduces the students to the interdisciplinary approach to global resource management, illustrated by a case of climate change and biological conservation. The course will first look at how the climate has been changing and how it is affecting the biological resources. It will then provide some details about climate change modelling and the future projected impacts. Finally, the course will cover approaches to manage the resources in light of changing climate.
Global Resource Management and Sustainable Development Goals I	
(Instructors) Yuko ONISHI(Institute for Advanced Research and Education)	(Overview) The Sustainable Development Goals were adopted by the United Nations in 2015, which include 17 goals encompassing natural, social, and economic sectors. This course introduces various topics related to SDGs on natural resources, which are considered as a basis for social and economic goals. It is structured as an interdisciplinary course, with lectures consisting of scientific backgrounds to the problem, international/national measures (e.g. policies, legislations, assessments), and case studies of projects/actions by researchers and communities.
Global Resource Management and International Relations	
(Instructors) Seifudein ADEM(Institute for Advanced Research and Education)	(Overview) This course reviews contending theories of International Relations (IR) by scrutinizing the basic concepts of each theory, its core, and auxiliary propositions, and its underlying assumptions. The course also applies each theory to contemporary history.

2nd Stage (Selective: At least 3 courses are required)

Research Methods of Social Sciences	
(Instructors) Seifudein ADEM(Institute for Advanced Research and Education)	(Overview) Theoretical perspectives about the social sciences had for long viewed cultures and civilizations through a vertical divide—as stratified and hierarchical. Culture had been thus marginalized as an important variable for understanding relations between societies. We join the growing intellectual trend by highlighting the relevance of cultural forces for a deeper understanding of the dynamics within societies and the relationships among them.
Global Society in the Modern World	
(Instructors) Eiji OYAMADA(GS)	(Overview) This course will look at the global issues of today (gap between the rich and poor, migration across national borders, religious and cultural coexistence, refugees, human security and others), examine the causes and impact of these issues, and find possible measures. Furthermore, in-depth understanding on key perspectives needed in the study of global issues will be gained. While developing knowledge through actual case studies and insights from practitioners, analysis of corrective measures will be done.
Global Resource Management: Interdisciplinary Approach2-Humanity and Social Science	
(Instructors) Yuko ONISHI(Institute for Advanced Research and Education)	(Overview) This course introduces the students to interdisciplinary approach to global resource management, with a focus on practical methods for collaboration. Global resource crisis is occurring and continues to be unsolved because a wide range of people are involved in various ways. To address the issue, it is important that we collaborate with various stakeholders and work out effective and appropriate solutions together, but the collaboration is often very difficult. This course will provide overviews and hands-on exercises for enhancing interdisciplinary and transdisciplinary (working with people with no scientific expertise) approach for problem-solving.

2nd Stage (Selective: At least 3 courses are required)

Global Resource Management and Sustainable Development Goals2	
(Instructors) Yuko ONISHI(Institute for Advanced Research and Education)	(Overview) The Sustainable Development Goals were adopted by the United Nations in 2015, which include 17 goals encompassing natural, social, and economic sectors. This course introduces various topics related to SDGs, with a focus on social and economic sectors. The course covers the institutions related to SDGs and various case studies on community or scientific efforts in addressing the societal problems. The course ends by the group exercises on actions for SDGs.
GRM Topics 1 (Natural Hazards and Disaster Management)	
(Instructor) Anna MATSUKAWA (Contract Instructor)	(Overview) Disasters are social phenomena, and the magnitude of the damage and the process of recovery and reconstruction resulting from them are influenced by the vulnerability of society, pre-disaster measures taken by society and legal systems, and the response during disaster occurrence. This lecture aims to examine the current state of disaster-related legislation in Japan and disaster preparedness and response based on it, using recent examples and issues from disasters.
GRM Topics 2 (Topics in Mathematics for Information and Data Sciences)	
(Instructor) Takeshi TOKUYAMA (Contract Instructor)	(Overview) Learn how mathematics is used to develop information technology and data science. The lecturer will talk his own experiences in his career, give some puzzles, and solve problems together in the class to understand how mathematics is useful in real life. Mathematical knowledge is not required, but students are suggested to study (say, search Wikipedia) about the topics given in the lectures after each lecture to have deeper understanding. Students are requested to write short report of their study.

2nd Stage (Selective: At least 3 courses are required)

Capacity Development for Coexistence and Cooperative Works	
(Instructor) Mitsuaki UEDA (Contract Instructor)	(Overview) This course is designed to design their own career paths in the globalized world, and obtain necessary skills which might be needed when searching jobs. Besides the lectures which will be given by the lecturer who is in charge of this class, there will be guest speakers and trainers. The guests will talk about not only their first hand work experiences, but also share their personal insights about how PhD students could make best use of their time in university in terms of career path and how they can design their own career.
Introductory Laboratory of Infrastructures	
(Instructor) Yoki IKEDA (Contract Instructor)	(Overview) A knowledge and technics about an electrical construction, a plumbing construction, and road construction are useful to engage for some work such as a restoration of infrastructures and a construction of life line at a country with insufficient infrastructure, such as disaster-stricken areas or conflict areas. In the class, learn about the tools and equipment which can be use in individual level, and the basics of electrical construction, by experiment using actual equipment.

3rd Stage (Compulsory)

Seminar for Advanced Liberal Arts	
(Instructor) Masanori NAITO(GS) Yuko ONISHI(Institute for Advanced Research and Education)	(Overview) This seminar will be a wrap-up for students who have taken GRM-related courses. In addition, consider about contemporary issues surrounding society and explore how to solve them. In this seminar, special lectures will be given by distinguished visiting professors. The guest lecturers are individuals who have been active at the forefront of the world for many years. Through discussions with them, students will acquire the literacy and broad perspective to understand what is happening in the "current" world.

Ⅶ. Others

◆ GRM Common Rooms

GRM Common Rooms, one located on the second floor of Shikokan building at Karasuma Campus and another one on the first floor of Hochikan building at Kyotanabe Campus, are open to the GRM students to improve students' learning environment. The two common rooms are connected online to enable students to remotely take lectures offered at the other campus. In addition, the GRM students can use laptop computers and A4 printers (black and white) in the common rooms.

Please note the following points when using the Common Rooms.

- Student ID card is required to enter the Common Rooms.
- The Common Rooms are open from 9:00 to 17:00, Monday through Friday during the office hours.
- When classes or lectures are held in the Common Rooms, you cannot use the Common Rooms personally.
- Eating and drinking are prohibited in the Common Rooms for the purpose of equipment maintenance.

If you have any questions, please contact the Office of the Institute for Advanced Research and Education.

<Contact Information >

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