Advanced Liberal Arts Course

Global Resource Management

2026

Program Guide

For students enrolled in
AY2023 & 2024

同志社大学
Doshisha University

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

1. Purpose

Today's society, which is characterized by uncertainty, complexity, and ambiguity, predicting the future has become increasingly difficult. The Global Resource Management Program aims to cultivate "wisdom" that enables students to practically apply science to address social challenges and to overcome problems collaboratively with others. In addition, the program seeks to develop advanced literacy skills that allow students to interpret phenomena by effectively utilizing knowledge and information, and to make independent and well-reasoned judgments.

2. Developing Human Resources

This program aims to develop individuals who adopt a broad perspective on "resources," encompassing not only natural resources but also human resources and social capital. By appropriately allocating these resources, graduates will be capable of contributing to the development of social foundations that support a sustainable and peaceful world and will possess the practical ability to collaborate with others in addressing and solving complex challenges.

3. Program Design Policy

The program is structured to foster "skills" through the practical application of science, including competencies in relationship building as well as organizational and project management. At the same time, it aims to cultivate conscience-based judgment for applying these skills in ways that benefit society, together with the wisdom to create new values. To this end, the curriculum consists of courses that enable students to acquire a multifaceted perspective and develop highly transferable and applicable abilities through collaborative learning with others from diverse academic disciplines and cultural backgrounds.

4. Diploma (Certificate) Policy

This program certifies completion for students who are recognized as having acquired the following competencies:

Knowledge and Skills

By gaining broad perspectives that transcend disciplinary boundaries and by embracing diverse ideas and approaches, students will build a foundation for understanding diversity and developing highly adaptable skills. This foundation enables the continued autonomous expansion of their knowledge and skills.

Students will also learn about the challenge of how to appropriately allocate the shared resources of human society and acquire the skills to identify solutions through collaborative learning environments.

Thinking, Judgment, and Expression

Through collaborative learning among students from different academic backgrounds, students will acquire universal competencies required of doctoral-level candidates, including multifaceted critical thinking, the ability to make judgments from a comprehensive and overarching perspective, and the capacity to express ideas clearly in ways that facilitate shared understanding.

Autonomy, Diversity, and Collaboration

Through issue-focused and solution-oriented educational approaches, students will develop a proactive attitude toward problem solving. By employing group work to derive solutions to complex and multifaceted challenges, students will cultivate diversity in perspectives and the ability to collaborate effectively while analyzing phenomena from multiple viewpoints.

5. Curriculum Policy

The GRM program consists of three stages. This program is based on the principle of "designing your own study plan". The first stage and the third stage are required courses while the others are elective. With this, students can further develop their own strengths or deepen their studies in their weak fields.

The 1st Stage

This program provides overseas on-site practice 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

	1st stage	2nd stage	3rd stage
Category	- Learn on site, Learn from the on-site - Understanding current ability - Formulating a learning plan	- Acquiring interdisciplinary knowledge regardless of humanities or sciences. - Gaining foundational knowledge in academic fields outside one's research area - Acquiring advanced literacy at the graduate level	- Practical problem-solving - Collaboration in groups - Confirmation of skill enhancement
Courses (Each Curses worth 2 credits. ·Underlined courses are compulsory)	On-site Group Work	- On-site Group Work Introduction (AY2025~) - 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 Approach1 - Global Resource Management: Interdisciplinary Approach2 - Global Resource Management and Sustainable Development Goals1 - 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 1 - GRM Topics 2 - Capacity Development for Coexistence and Cooperative Works - Introductory Laboratory of Infrastructures	Seminar for Advanced Liberal Arts

※Advanced Liberal Arts Course Group

The Advanced Liberal Arts (ALA) course group is a collection of courses that provides “cross -disciplinary and cross-field education”, aiming to provide basic skills for graduate students from perspectives other than their specialization. This course group 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
- Creative ability to interpret the future
- Proposal ability to show the future or a conscientious human society

You can cultivate knowledge and skills that are not confined to a specific field, and a multifaceted viewpoint to help you choose a career path or develop a career after completing graduate school.

Ⅱ. Course Enrollment and Completion of the 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 programs. After reviewing the syllabus, register the courses on DUET during the designated course registration period each semester.

On-site Group Work involves on-site practical training and is limited to approximately 10 participants. If there are many applicants, a screening process will be conducted. If you are unable to enroll due to not being selected, the university will cancel your registration for both On-site Group Work Introduction and On-site Group Work, which must be taken concurrently. Since the screening will be conducted in April, please register for replacement 4 credits in the fall semester.

2. Completion of the program (Course Registration and Completion Requirements)

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

A survey will be conducted among GRM course enrollees regarding their desire to complete the program, and those who wish to complete it will be registered as “Course Students.”

Course students can view the list of courses and their registration status (such as the year of enrollment and grades) under “Global Resource Management” in the “Other Educational Program” menu on DUET. Completion evaluations will be conducted for course students, and certificates of completion will be awarded to those who satisfy the requirements. We will also provide information on the issuance of an open badge, a digital credential that certifies their learning history.

Ⅲ. AY2026 GRM Program Course List (All courses can be registered from M1)

Stage	Elective/ Compulsory	Course Code	Class	Course Name	Instructor(s) Main Instructor	Credit	Semester	Campus
1st Stage	Compulsory	3565060I	000	On-site Group Work	Yuko ONISHI	2	S Intensive	I
2nd Stage	Elective (3courses or more)	35650600	000	On-site Group Work Introduction	Yuko ONISHI	2	S Intensive	I
		3565061I	000	Resource Management for Coexistence and Cultural Diversity	Yuko ONISHI Eiji OYAMADA Minoru INABA Naoto NAGAOKA Masao NAKAGAWA Takashi YAGI Shinichiro HAMA	2	S	Real-time Online
		3565062I	000	Mathematics and Physics as Liberal Arts	Camille-faith PASCUA ROMERO	2	S	Real-time Online
		35650622	000	Infrastructure Design for Human Communities	Camille-faith PASCUA ROMERO	2	F	Real-time Online
		35650623	000	Environmental Earth Science as Liberal Arts	Yuko ONISHI	2	F Intensive	I
		35650624	000	Global Resource Management: Interdisciplinary Approach 1 -Climate Change-	Yuko ONISHI	2	S Intensive	Real-time Online
		35650634	000	Global Resource Management: Interdisciplinary Approach 2 -Transdisciplinary Research Methods-	Yuko ONISHI	2	F Intensive	I
		35650625	000	Global Resource Management and Sustainable Development GoalsI	Yuko ONISHI	2	S	I
		35650635	000	Global Resource Management and Sustainable Development Goals 2	Yuko ONISHI	2	F	Real-time Online
		3565063I	000	Global Resource Management and International Relations	NOT offered in AY2026	2		
		35650632	000	Research Methods of Social Sciences	NOT offered in AY2026	2		
		35650633	000	Global Society in the Modern World	Eiji OYAMADA	2	F Intensive	I
		3565064I	000	GRM Topics 1 -Natural Hazards and Disaster Management-	Anna MATSUKAWA	2	S Intensive	I
		35650642	000	GRM Topics 2 -Topics in Mathematics for Information and Data Sciences-	Takeshi TOKUYAMA	2	S Intensive	I
		35650643	000	Capacity Development for Coexistence and Cooperative Works	Yukiko NISHIKAWA	2	S Intensive	I
		35650644	000	Introductory Laboratory of Infrastructures	Yoki IKEDA	2	F	T
3rd stage	Compulsory	3565065I	000	Seminar for Advanced Liberal Arts	Yuko ONISHI Masanori NAITO	2	F Intensive	I

- GRM courses will be conducted in English, but considering the language proficiency of the students, some parts may be conducted in Japanese.
- Due to the balance of the school locations of the enrolled students, there may be a possibility of changing the campus.

- For courses conducted in classrooms other than intensive courses, please check the syllabus for the availability of on-demand classes (such as Do Week in the first week). If there are no on-demand classes, the course instructor will set a separate schedule.
- On-site Group Work must be taken concurrently with On-site Group Work Introduction."
- If you have already earned credits for ‘On-site Group Work’ before the AY2024, you cannot register ‘On-site Group Work Introduction.
-The practical course, 'Introductory Laboratory of Infrastructures' is 4 hours per week. All other courses are 2 hours per week.

Ⅳ. Overview of AY2026 GRM Program Courses

On-site Group Work	We are currently facing a significant and complex global resource crisis, to which effective solutions are urgently sought. We must now collaborate and integrate all relevant knowledge, expertise, interests, and aspirations to tackle the unprecedented challenges. In this course, students will gain hands-on experience of interdisciplinary and transdisciplinary collaboration by carrying out a group project on the themes of global significance. Students from different schools in Doshisha university and professionals in a private company will join the course. They will travel together to a foreign country to collect information and data necessary for the group project. The theme for the 2026 program is, Climate actions and clean energy transition in the European Union – collaboration and co-creation toward carbon neutral society. Destination. Belgium Date. 1 week between 16-23 August Presentation. 4 September Climate change is now affecting every corner of our life. Hot weather is killing over half a million people annually. Changes in precipitation and temperatures are affecting our natural resources. To avoid catastrophic changes in our environment and society, the global leaders agreed for carbon neutrality by 2050. Nations, industries, communities and individuals are all expected to make efforts to achieve this challenging goal. Europe is at forefront of the global efforts in carbon neutrality. In 2026, the students in On-site Group Work will visit Belgium, to learn about the policy framework, technological and research development, consumer preferences, and community actions in European cities. Based on the lessons learned from the European experience, students will develop the guide for climate actions in their group project and present it in an open seminar. Note on the selection. Only 10 students are permitted to undertake this course. The participants to this course will be selected through the following procedure. 1.Students enrolled for this course will be invited to attend the guidance session at the 3rd lecture period on the 17th April (Fri). 2.<Screening> After the guidance session, students will be requested to submit a form during the guidance session. Screening will take place based on the information submitted.(Please make sure that you can use your PC to fill in the form at the guidance session.)

	3.<Interviews> Interviews will take place on the 24th April (Fri) for those applicable. 4.Students will receive the results on 28 April. Selection criteria 1.Relevance to students' research and career plans 2.English competency 3.Diversity 4.Completion of other GRM courses This is a compulsory course for Global Resource Management Program. Students already studying in the program will be given priority in the selection. Students wishing to take this course must enroll in "On-site Group Work Introduction" in the same semester. Successful completion of On-site Group Work Introduction is compulsory to undertake the field trip in this course. This course is supported by Daikin Industries Ltd.

On-site Group Work Introduction	This course provides introductory lectures and workshops for the "On-site Group Work" course. It is composed of lectures, students' activities, and a visit to a Daikin Corporation. The aim of this course is to provide essential information for the field study in "On-site Group Work" and practical training to improve skills for interdisciplinary collaboration before departure. In 2026, the students will undertake two group projects in "On-site Group Work Introduction". 1. Campus/company tour Students will design and implement a tour of their own campus/company to other students 2. Doshisha carbon neutral proposal Students will develop a proposal to reduce carbon emission at Doshisha university by 2030 Successful completion of this course is required for the students to undertake the field study in "On-site Group Work". Please check the lecture schedule carefully and make sure that you are available on the dates indicated below. Only 10 students will be selected to participate in "On-site Group Work". Students who were not successful in the selection will be automatically withdrawn from this course. (Please check the syllabus for "On-site Group Work" regarding the selection process.

Resource Management for Coexistence and Cultural Diversity	A term “resource” is often referred to natural resources, such as water, coal, petroleum, trees, etc. However, as often saying “human resource”, the use of term “resource” is not limited to natural resources. We consider that the applicability of term “resource” spreads in very wide range thus it is a useful concept to connect different study areas. There are many conflicts, from very tiny ones to that of global scale, that prevent people live together peacefully in the world. We can consider that many of those conflicts are caused by the insufficiency or inefficient distribution of “resources”. So, proper management or development of “resources” could help to solve these problems. 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. We believes that the concept of “resource” that we define could be applicable very wide range, but due to the limitation of faculty members, the course provides some lectures from electrical engineering, environmental science, informational science, water resource engineering, economics, political science, and public policies. The range of topics covered in this course provides foundation for understanding the global resource problem. As such, this course is highly recommended for students undertaking the GRM program.

Mathematics and Physics as Liberal Arts	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	Infrastructure is the foundation of any kind of activities of human community. It provides protections to citizens and assign social resources at the occasion of natural disasters. Distribution of food, commodities, energy, work force, information, etc., such kinds of resources used in the human society are arranged through infrastructure. Thus, 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. The aim of this course is to construct the foundation for non-engineering students to make further study on resource management with the way of thinking similar to engineers. 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. Tools that engineers are using for this purpose include mathematics, physics, and statistics. Therefore, basics of these subjects will be also taught in the class. 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	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 processes shaping the Earth and affecting its resources, in particular, the climate, surface, and biological processes. It will take a closer look at functioning and variations of biological resources through field observations in the Kyoto Botanical Garden.

Global Resource Management: Interdisciplinary Approach I -Climate Change-	The global climate is changing and urgent actions are needed to prevent us from the unexpected disasters and harmful impacts. The course will first look at how the climate has been changing and why this has been happening. It will then examine various impacts and measures being taken to address climate change. There is no lecture in Week 1 (Do Week). The lecture starts in Week 2. Each lecture consists of a talk by a lecturer and discussions with students.

Global Resource Management: Interdisciplinary Approach 2 -Transdisciplinary Research Methods-	The global resource crisis is difficult to be solved because a wide range of people are involved in the issue. To address the problem, people with different expertise and backgrounds must collaborate together and work out (or co-create) effective and appropriate solutions. Such collaboration and co-creation is increasingly considered as a key element for problem-solving and innovation and now used widely in governments, companies, and academia. In this course, students will learn about the theory and methods for interdisciplinary and transdisciplinary collaboration. They will gain skills for effective communication with people outside of their own schools or faculties. Students can use their own research as a case study in the exercise to evaluate and improve their own research plan. There is no on-demand video lecture in Do Week. The class starts from the second week of the semester.

Global Resource Management and Sustainable Development Goals1	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, the past and current status of the situation, and international/national responses (e.g. policies, legislations, assessments). Students from any countries and disciplines are welcome to the class. Students are expected to explore the SDGs situation in their choice of countries and share the findings with other students in discussions and presentations. This course has no on-demand video lecture in Do Week and starts in the second week of the semester.

Global Resource Management and Sustainable Development Goals2	The Sustainable Development Goals were adopted by the United Nations in 2015, which include 17 goals encompassing natural, social, and economic sectors. This course explores the scientific underpinnings of SDGs with an emphasis on how science and technology contribute to addressing global challenges such as climate change, energy, water, and biodiversity loss. The course consists of a weekly on-line lectures and a field visit. There is no on-demand video lecture in Do Week and the lecture starts in the second week of the semester.

Global Resource Management and International Relations ※NOT offered in AY 2026	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.

Research Methods of Social Sciences ※NOT offered in AY 2026	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	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.

GRM Topics I -Natural Hazards and Disaster Management-	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-	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.

Capacity Development for Coexistence and Cooperative Works	This course is to help students to design their own career paths in the globalized world and obtain the necessary skills that might be needed when searching for jobs. The course focuses on the development of students' capacity for coexistence and cooperative work by approaching career development as a lifelong and socially embedded process. In contemporary academic and professional environments, researchers and professionals are required not only to possess advanced expertise but also to work collaboratively across disciplinary, cultural, and institutional boundaries. This course addresses these demands by integrating self-reflection, dialogue, and experiential learning. By framing career design as a process of capacity development for coexistence and cooperative work, the course enables students to connect personal career goals with ethical responsibility, social contribution, and sustainable collaboration. Students will develop practical skills for cooperative work while gaining a deeper understanding of how their career choices shape, and are shaped by, relationships with others in academic and professional contexts This course does not focus on job-hunting skills, rather, it emphasizes career development as the continuous cultivation of cooperative and relational capacities required for research, professional practice, and social engagement.

Introductory Laboratory of Infrastructures	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.

Seminar for Advanced Liberal Arts	This seminar presents contemporary issues surrounding our society and explores how to solve them. The seminar consists of a series of lectures by distinguished visiting professors. The guest lecturers are individuals who have been active at the forefront of the world for many years, such as ex-diplomat and officers at international organizations. Through discussions with them, students will acquire the literacy and broad perspective to understand what is happening in the "current" world. The seminar is available for graduate students in any disciplines. A wide range of the topics are covered in the lectures such as international security, nuclear powers, conflicts in the Middle East, and global environmental issues.

Class Table 2026 Spring Semester

GRM Class Table 2026 Spring

SKCMR: Shikokan Common Room, HCCMR: Hochikan Common Room

	Mon	Tue	Wed	Thu	Fri	Sat
1st						
2nd				Mathematics and Pysics as Liberal Arts Romero Real-time Online		Resource Management Onishi & Others Real-time Online
3rd					<Intensive> GRM: Interdisciplinary Approach I	<Intensive> Capacity Development for Coexistence and Cooperative Works
4th		GRM and Sustainable Development Goals I Onishi SKCMR@Imadegawa			Onishi Reeal-time Online	Nishikawa Imadegawa@SKCMR
5th						

<Intensive>

On-site Group Work Introduction	On-site Group Work	GRM Topics 1-Natural Hazards and Disaster Management	GRM Topics 2-Topics in Mathematics for Information	GRM Interdisciplinary Approach I	Capacity Development for Coexistence and Cooperative Works
Onishi	Onishi	Matsukawa	Tokuyama	Onishi	Nishikawa
Imadegawa	Imadegawa	Imadegawa	Imadegawa	Real-time Online	Imadegawa@SKCMR
*Check the syllabus for the schedule	To be announced	August 3,4,5	July 29,30,31	Friday 3-4 *Check the syllabus for the schedule	4/11(Sat) 3-4 4/18(Sat) 3-4 4/25(Sat) 3-4 5/9(Sat) 3-4 5/16(Sat) 3-4 5/23(Sat) 3-4 5/30(Sat)3-4

Please check the latest information via announcements from your instructor, DUET, or the website.

Class Table 2026 Fall Semester

GRM Class Table 2026 Fall

SKCMR: Shikokan Common Room, HCCMR: Hochikan Common Room

	Mon		Tue	Wed	Thu		Fri	
1st								
2nd							GRM and Sustainable Development Goals 2 Onishi Real-time Online	Infrastructure Design for Human Communities Romero Real-time Online
3rd	<Intensive> GRM: Interdisciplinary Approach 2	Introductory Laboratory of Infrastructures (※ Every Week)			<Intensive> Seminar for Advanced Liberal Arts	*<Intensive> Environmental Earth Science as Liberal Arts		
4th	Onishi SKCMR@Imadegawa	Ikeda HCCMR@Kyotanabe			Onishi / Naito SKCMR@Imadegawa	Onishi SKCMR@Imadegawa		
5th								

<Intensive>

GRM: Interdisciplinary Approach 2	Seminar for Advanced Liberal Arts	Global Society in the Modern World	Environmental Earth Science as Liberal Arts
Onishi	Onishi/Naito	Oyamada	Onishi
Imadegawa	Imadegawa	Imadegawa	Imadegawa
Monday 3-4 *Check the syllabus for the schedule	Thursday 3-4 *Check the syllabus for the schedule	To be announced	*Thursday 3-4 *Check the syllabus for the schedule

※Please check the latest information via announcements from your instructor, DUET, or the website.

※The text in red has been changed to September 17, 2026 (Thursday).

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