



Fostering long-term creativity and innovation with science and technology disciplines based on Ochanomizu spirit "Migakazuba" in the next generation of global leaders

Program for Leading Graduate Schools

Bouquet

Ochanomizu University

Newsletter

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Topic

Essential Lecture Series

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Interacting with participants of the Summer Program in English 2016 (see p.4)



お茶の水女子大学
Ochanomizu University

Essential Lecture Series

This program offers a series of lectures given in English, with the objective of instilling in the students the requirements to work as global leaders. The Essential Lecture Series are open to all graduate schools, thus students who do not belong to Leading Program have a chance to take these lectures.

Aiming to become a global leader : Global Leader Development Course (Liberal Arts)



Essential Culture and Arts for Global Leaders

Lecturer: Midori Nishiura, Visiting Professor
Lecture title: Preparing for the Future Opportunities

< From student's view >

"In this class, we learned the essence of Liberal Arts both in and outside campus. The most impressive story by the teacher was that a variety of knowledge and sense of value could be learned from Liberal Arts and it could help to live with people who have various senses smoothly in the society."

Mio Kubota (Physics Course, Division of Advanced Sciences)

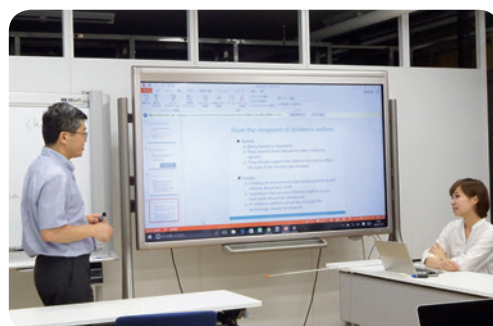
Essential Ethics for Global Leaders

Lecturer: Yasushi Ishida, Project Associate Professor, The Global Human Resource Development Center, Ochanomizu University
Lecture title: Ethical issues in modern technologies

< From student's view >

"I learned the concepts of ethical judgement of issues related to modern science and technology. A wide range of themes in this class made me realize that ethics is close to me and learning it is very important."

Saori Ebihara (Food and Nutrition Sciences Course, Division of Life Sciences)



Acquiring scientific fundamentals and English abilities! Fundamental Course for Innovation Creation

The following five courses were offered in the first semester of 2016: Mathematics I, Chemistry I, Computer Science I, Bioinformatics II, and Physics II. Even though all lectures were held in English, but were designed such as by the inclusion of creative educational materials or explanations of technical terminology, to also be accessible to students not specializing in that particular field, or those who were not so comfortable with their English skills.



Chemistry I



Mathematics I



Bioinformatics II



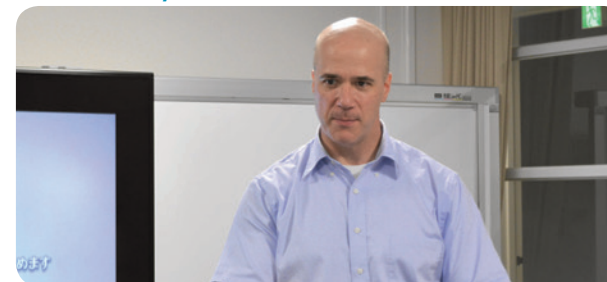
Physics II



Computer Science I

New lectures in Academic Year 2016 second semester

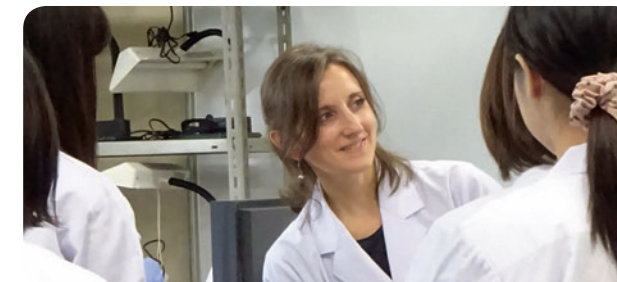
Essential Physics I



Lecturer: Edward Foley, Project Associate Professor
Day & Time: Every Wednesday, 3-4 periods

This course will present students with an introductory overview of core concepts in classical and modern physics, underlying natural systems. Students will learn how to discuss these physical concepts, and to educate fellow students in relevant topics using proper academic English.

Essential Bioinformatics I



Lecturer: Sabine Gouraud, Project Associate Professor
Day & Time: Every Wednesday, 5-6 periods

The "Essential Bioinformatics for Global Leaders I" classes has been conceived for non-biologist as well as biologist students wishing to acquire global leader skills and enrich their scientific English. This first series of interactive classes, given in friendly English, will provide the students with the fundamental cellular and molecular biology knowledge needed to understand bioinformatics. The students do not need to understand the mathematical details in the field.

Essential Chemistry II

Note: I is the fundamental course, and II is applicational. I is not a prerequisite for II.



Lecturer: Gary Richards, Project Associate Professor
Day & Time: Every Thursday, 3-4 periods

This course covers fundamental chemical science during lectures and attempts to link this knowledge to real world examples through the use of videos and reading assignments. The objective is to give students not only a working knowledge of chemistry, but also an understanding of why it is important in our everyday lives.

Essential Engineering and Technology I



Lecturer: Julien Tripette, Project Associate Professor
Day & Time: Every Tuesday, 3-4 periods

This course mostly focuses on novel ICT solutions able to positively impact our habits towards healthier lifestyles. The inclusion of accelerometer sensors in technologies that we used every day (smartphones, video games...) allows to monitor the volume of daily physical activity, encouraging active lifestyles and a better management of energy balance. The objective of this course is to make students more familiar with the accelerometer-based mobile health technologies.

Practical Use of Information Technology II

The ability to use IT correctly is necessary in a variety of situations, not only in conducting further research as a student, but also for achieving success after graduation. The Practical Use of Information Technology course I offered during the first term taught how to process information using spreadsheet software, including explanations on specific procedures.

Computers are especially good at conducting the same process repetitively. Thus, if the processing algorithm is written in such a way as to allow it to be applied to as broad a range of data as possible, such as by making use of conditional branching, functions, and error checks, then all types of data can be processed simply by copying this algorithm. It can also be made to work even if data is later added or changed.

During the course, students were given a company's accounting procedure as a specific example to work on, as the underlying concepts can be applied to any given situation. All of the students were very quick to grasp the explanations provided during the course. I believe they acquired strong IT capabilities by completing the weekly tasks assigned.

For the latter semester, we are planning to learn how to analyze statistical data. Through this course, I hope the students will develop into the kinds of people who are able to use data to delve into the inherent nature of a problem.

Lecturer: Fumito Kyota, Part-time lecturer
Day & Time: Every Thursday, 1-2 periods



Note: This course is offered in the Japanese language.

ACTIVITY REPORT

1

Interactions with Participants in the "Summer Program in English 2016"

July 22 (Fri), 2016
Room 605 (PBTS Room), Graduate School of Humanities & Sciences Building

The "Summer Program in English 2016", held every summer by Ochanomizu University, never fails to attract numerous students from partner universities. This year, there were 40 international students from 12 universities in 10 different countries, who attended classes and workshops over a period of two weeks.

Dr E. Foley, Project Associate Professor from the Study Commons gave a lecture of natural science.

We invited the Summer Program participants to the PBTS Room, where our students introduced the Leading Program and gave presentations on their PBTS research in English. They also offered an origami workshop to promote exchange between the Leading Program students and the Summer Program participants.



Origami workshop

2

Second Joint Exchange Meeting for Leading Program Students

August 5 (Fri), 2016
Waseda University

A joint exchange meeting was held by 42 students among Ochanomizu University, Waseda University, Keio University, and the University of Tokyo.

A workshop titled, "Methods for Exploiting the Potential of Teams" was offered with the objective of promoting exchange among Leading Program students and nurturing their leadership abilities. An invited lecturer explained the coaching methods that leaders can use to unlock the potential of their team members. Then, the students formed groups and practiced what they had learned. While maintaining a friendly atmosphere, the students engaged in robust discussions.

Afterward, 90 percent of the students stated that they found the workshop helpful and that it provided an opportunity to interact with students from a variety of different fields. It was agreed to continue such programs to promote active exchange with students among those universities.



Group discussions

3

Participation in the "Japan-China University Forum & Fair in China"

May 6-8, 2016 (Beijing, China)
May 9-10, 2016 (Jinan, Shandong Province, China)

The "Japan-China University Forum and Fair in China 2016" was held in Beijing and Jinan, China. As a representative of Ochanomizu University, five members of our program including two students participated.

The Forum entitled, "Aiming for the World's Top Level Universities: Balancing Higher Education and Research Development" promoted academic relations between Japan and China. Then, the biggest educational fair in China was held with participants of 350 universities and educational organization from over 30 countries. Our students gave presentation to promote Ochanomizu University as an appealing option for exchange students by using easy-to-follow slides. They explained the characteristics of the university and the features of our Leading Program with description by the perspective of students. Our Chinese student talked about her own experiences at Ochanomizu University.

The event served as a good opportunity to let people know about the Leading Program, which provides students with an English-language learning environment.



The booth



Presentations given by students

4

Instructive Seminars by Overseas Guests

Dr. Jaime Fernandez-Baca (Oak Ridge National Laboratory, U.S.A.)
June 3 (Fri), 2016

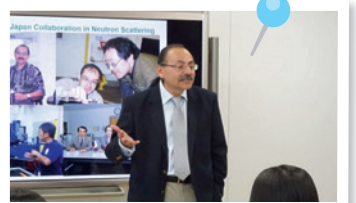
A seminar was held by Dr. Jaime Fernandez-Baca of the Oak Ridge National Laboratory in the US. He talked about what research is like at a large-scale research institute in the United States and introduced the activities being conducted at his own laboratory.

Dr. Ying-Duo Gao (Merck&Co., Inc., U.S.A.)
June 30 (Thu), 2016

Dr. Ying-Duo Gao, who acquired her doctorate at Ochanomizu University, gave a seminar with the title, "Computer-Aided Drug Design in Drug Discovery." The seminar was followed by a discussion session among students hosted by our program students.

Ms. Nguyen Thi Doan Trang, M.Sc. (HCMC Univ. of Natural Resources & Environment, Vietnam)
August 19 (Fri), 2016

A talk was given under the title, "A Brief Introduction to Municipal Solid Waste Management in Ho Chi Minh City, Vietnam," which introduced the environmental issues that modern Vietnam is currently facing.



5

Advisory Board of the Leading Graduate School Program

August 24 (Wed), 2016
Executive Meeting Room in the Main Building, Room 605 of the Graduate School of Humanities & Sciences Building

The Advisory Board is comprised of experts from outside of the university, and has been established for the purpose of enabling the Leading Program to receive guidance on a broad range of issues.

For this first meeting of 2016, the board gave a report on the program, visited the educational facilities, and heard individual opinions.



Advisory Board



Visit to the seminar room

Introduction of the New Students Part2

- 1 Your major
- 2 Your interests in this program
- 3 Your dreams for the future



Shoko Okada

Course: Computer Science, Division of Advanced Sciences
Hometown: Aichi prefecture
Hobby: watching American TV shows and listening to western music

- 1 My field is **Optimization**. If you see Amazon's website, it recommends which products would best suit you. I study about recommendation systems like Amazon's system. My subject is 'How to recommend English texts to each person'. I consider the mathematical formula to recommend, and make the algorithms and programs.
- 2 I enjoy communicating with people from different fields here. I hope I will be inspired by the people and have amazing ideas. I would like to contribute to my team by using my optimization skills. I am interested in healthcare field as well.
- 3 My dream is to have my own opinions with enough knowledge. At the same time, I would like to be **an open-minded person who can listen to other people's opinion**. Also, I hope I can work overseas.



Miki Tomeoku

Course: Human Developmental Sciences, Division of Life Science
Hometown: Tokyo prefecture
Hobby: baking breads, creative knitting, quilting, embroidery, and sign language

- 1 Research and Development of **Cane for Use to Alleviate Osteoarthritic Pain and to Improve Walking Endurance**.
- 2 I hope to **improve my skills in academic English to more effectively collaborate in performing Science and Engineering research**. I want to make the most of this opportunity to learn different viewpoints and ways of thinking from students with diverse backgrounds and academic disciplines. I think that all of the team members can make meaningful contributions utilizing their specialized knowledge and experiences. I hope to cultivate a global viewpoint through the rich environment provided by the Study Commons.
- 3 I would like to **develop the ability to foster creative innovation**. Ten years after completing my Ph.D., I would like to become a person who can support other students' future career paths.



Miki Yonemura

Course: Physics, Division of Advanced Sciences
Hometown: Kumamoto prefecture
Hobby: snowboarding and sudoku

- 1 I am doing **research in the field of particle physics**. Particle physics takes place at the smallest scale of human perception. It is very mysterious and mathematical in nature.
- 2 I joined this minor program to **improve my English communication skills**, which I believe will be important for my research in the future. I feel interacting with students from different disciplines helps us to stimulate each other to new understanding.
- 3 I want to be **open to different points of view, and to use my mind to accept new ideas in my own way**. I think it's interesting that I can find inspiration for my work in everyday life and conversation with others.



STUDY COMMONS



Edward Thomas Foley,
Project Associate Professor
Main research field: Nanoscale Science and Engineering

Q. What was your birthplace like?

I was born in Chicago, Illinois, and grew up in Oak Park, a suburb on Chicago's west side. The home and studio of Frank



Lloyd Wright, a famous American architect, was across the street from my elementary school. I have seven brothers and sisters, and all of them are my very best friends. I grew up during the Civil Rights Movement and the Vietnam War, when Martin Luther King and Robert Kennedy were assassinated. I was deeply influenced by the writings of King and Gandhi. I went to Oak Park River Forest High School, where I did little homework, but I learned a great deal from my teachers, most of whom had PhDs. After high school, I served in the Marine Corps for four years, working to maintain a tracking radar for an anti-aircraft missile system. I learned first-hand about the most advanced military technologies man has created, and decided to use my gifts to help better the lives of men, rather than kill them.

Q. How did you become interested in science?

My father was a physician and, from an early age, I would ask him questions about the world. He taught me human anatomy and physiology, and he had a beautiful telescope, and showed me the moons of Jupiter and the rings of Saturn. As an undergraduate, I studied physics at Northern Illinois University and worked at Fermilab with veteran experimental physicists to refine muon detectors for the DØ project. I developed an interest in biomedical electronics and neural prosthetics,



I served in the Marine Corps

and transferred to the University of Illinois at Urbana-Champaign, where I began a broadly interdisciplinary program in electrical engineering. After the invention of the scanning tunneling microscope by Binnig and Rohrer, I entered graduate study to investigate integrating microelectronics and biological systems on a molecular level. My career has been devoted to developing the instrumentation, facilities, and expertise for investigating, and educating students in, the nanoscale characterization and manipulation of materials and biological systems.

Student's Report

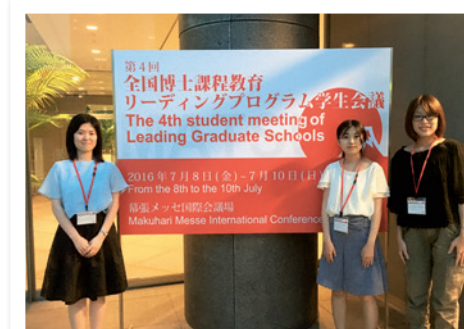
The 4th Student Meeting of Leading Graduate Schools

July 8 (Fri)-10 (Sun)
Makuhari Messe International Conference Hall

We participated in the 4th Student Meeting of Leading Graduate Schools, where three hundred students joined from the Leading Programs in Japan. On the first day, Mr. Yoshihiko Hatanaka (CEO, Astellas Pharma Inc.) gave a lecture entitled, "Responsibility and thoughts to the next generation," and talked about the idea of "Take risk and minimize risk." We came to notice the importance of not only challenging but also building steps toward the goal with crisis management.

On the second day, we had an idea-generating workshop, where students tried produce "funnovation" (=funny+ innovation) through funny ideas based on random words. Among a variety of opinions, we were able to summarize an article of funnovation story by receiving advice from company participants. It was a great opportunity for us to get inspired by active students from other Programs and foreign countries.

Reported by Misato Takahashi, Miyu Kusumoto, Mio Kubota and Miki Yonemura



■ Activities Reports

June 3, 2016	Seminar by Dr. Jaime Fernandez-Baca
June-July, 2016	Essential Ethics for Global Leaders
June 30, 2016	Seminar by Dr. Ying-Duo Gao
July 8-10, 2016	The 4th Student Meeting of Leading Graduate Schools
July 10&16, 2016	Exhibition at the 2016 College Guidance Fair for International Students (Tokyo, Osaka)
July 22, 2016	Students visit of "Summer Program in English 2016"
July 25-30, 2016	Essential Culture and Arts for Global Leaders
August 5, 2016	Second Joint Exchange Meeting for Leading Program Students
August 19, 2016	Seminar by Ms. Nguyen Thi Doan Trang
August 24, 2016	Advisory Board of the Leading Graduate School Program
August 26, 2016	Safety Management Seminar (Global Internship I & II)
August 26&28, 2016	Study in Japan Fair 2016 (Chiang Mai, Bangkok)
August-September, 2016	Special Practice in Global Science & Technology I to VI
September 5, 2016	Selection examination for Academic Year 2016 October
September 21, 2016	pQE (periodic Qualifying Examination)



■ Information on offered lectures for Academic Year 2016 second semester

October 4, 2016	Essential Engineering and Technology for Global Leaders I
October 5, 2016	Essential Physics for Global Leaders I
October 5, 2016	Essential Bioinformatics for Global Leaders I
October 6, 2016	Essential Chemistry for Global Leaders II
October 6, 2016	Practical Use of Information Technology II

■ Scheduled activities

November 11&12, 2016	Forum 2016, Program for Leading Graduate Schools
December 21, 2016	Information session for prospective students for Academic Year 2017 April
February 22, 2017	Selection examination for Academic Year 2017 April (tentative)
March 7, 2017	International Symposium (tentative)
March 15, 2017	pQE (periodic Qualifying Examination)

■ Report on implementation of Global Internship I & II

August, 2016-February, 2017	RIKEN, Kobe Branch (Kobe, Japan) (Global Internship II)
August, 2016-February, 2017	Tokyo Engineering Consultants CO., LTD. (Tokyo, Japan) (Global Internship II)
September, 2016-December, 2016	Northeastern University (United States) (Global Internship II)
September, 2016-November, 2016	Barcelona Supercomputing Center (Spain) (Global Internship I)
September, 2016-November, 2016	Institute of Mathematics Polish Academy of Sciences, Banach Center (Poland) (Global Internship I)
September, 2016-December, 2016	LANXESS AG (Germany) (Global Internship I)

Editor's notes

For overseas students participating in the Summer Program, their summer in Japan was one full of challenges. Now, the fragrance of orange-colored olive trees permeates our campus. We hope our overseas exchange students will return to Japan another time to experience its four distinct seasons.

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