

## Core Applied Physics (2.0credits) (コア応用物理学特論)

Course Type	Basic Courses		
Division at course	Master's Course		
Class Format	Lecture		
Course Name	Physical Engineering Graduate		
Starts 1	1 Spring and Autumn Semester		
Lecturer	Yukio TANAKA Professor	YukiKAWAGUCHI Professor	Taishi TAKENOBU Professor
	Hideo KISHIDA Professor	Shao_Liang Zhang Professor	Hiroshi SAWA Professor
	TAKENAKAKoshi Professor	Koh SAITOH Professor	Masaki SASAI Professor
	Satoshi KASHIWAYA Professor		

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### Course Purpose

This course is aimed to learn fundamental issues of applied physics through a series of lectures given by the faculty of the Department of Applied Physics, and to understand the importance of applied physics, related concepts and research trends.

### Prerequisite Subjects

Students should have basic knowledge of classical mechanics, electromagnetism, statistical mechanics and quantum mechanics.

### Course Topics

Course will be organized by a series of presentations given by the faculty of the department of applied physics. Students must submit assignments by the deadline designated by the lecturer.

### Textbook

Textbook and/or related materials will be introduced by the lecturer.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, assignment and/or examination.

### Notes

There are no specific course requirements.

### Contacting Faculty

Questions will be basically accepted in the office hours announced by the lecturer. Students should contact the lecturer through email in advance.

## Core Materials Physics (2.0credits) (コア物質科学特論)

Course Type	Basic Courses		
Division at course	Master's Course		
Class Format	Lecture		
Course Name	Physical Engineering Graduate		
Starts 1	1 Spring and Autumn Semester		
Lecturer	Masashi HASEGAWA Professor	Hiroshi IKUTA Professor	Osamu NAKATSUKA Professor
	Hidefumi ASANO Professor	Katsuyuki MATSUNAGA Professor	Yuuichi MASUBUCHI Professor
	Shunsuke MUTO Professor	Kenji SHIRAISHI Professor	

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### Course Purpose

This course is aimed to learn fundamental issues of applied physics through a series of presentations of the research activities of the Department of Materials Physics, and to understand the importance of applied physics, their related concepts and research trends.

### Prerequisite Subjects

Students should have basic knowledge of classical mechanics, electromagnetism, statistical mechanics and quantum mechanics.

### Course Topics

The course will be organized by a series of presentations given by the faculty of the Department of Materials Physics. Students must submit assignments by the deadline designated by the lecturer.

### Textbook

Textbook and/or related materials will be introduced by the lecturer.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, assignment and/or examination.

### Notes

There are no specific course requirements. Classes will be conducted face-to-face, remotely, or a combination of the two, depending on the situation. Details will be announced via NUCT. Questions to the instructor should be directed to the NUCT "Message" function. The exchange of opinions among students regarding the class should be conducted through the NUCT function "Message".

### Contacting Faculty

Questions will be basically accepted in the office hours announced by the lecturer. Questions will also be accepted through the NUCT function "Message" as described above. The instructor will be announced later by NUCT.

## Physical Engineering Seminar 1A (2.0credits) (物理工学セミナー 1A)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Seminar
Course Name	Physical Engineering Graduate
Starts 1	1 Autumn Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course aims to develop the advanced knowledge and skills of student's research field such as presentation and discussion through group reading research articles, and through debating on the topics. The goal of this course is to apply experimental and calculation skills to their own research themes, to understand physical phenomena and to present the results obtained in their study.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

The course is organized by students and their supervisors in the student's laboratory. One of the members of the group will present a research paper related to his/her research in the master course or will report progress to the group members, and the others will criticize it. The participants of the course are expected to improve their understanding of the topics through this activity.

### Textbook

Research journals selected by students or suggested or provided by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, presentation and discussion.

### Notes

There are no specific course requirements.  
Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be accepted in the course hours.

## Physical Engineering Seminar 1B (2.0credits) (物理工学セミナー 1B)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Seminar
Course Name	Physical Engineering Graduate
Starts 1	1 Spring Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course aims to develop the advanced knowledge and skills of student's research field such as presentation and discussion through group reading research articles, and through debating on the topics. The goal of this course is to apply experimental and calculation skills to their own research themes, to understand physical phenomena and to present the results obtained in their study.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

The course is organized by students and their supervisors in the student's laboratory. One of the members of the group will present a research paper related to his/her research in the master course or will report progress to the group members, and the others will criticize it. The participants of the course are expected to improve their understanding of the topics through this activity.

### Textbook

Research journals selected by students or suggested or provided by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, presentation and discussion.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be accepted in the course hours.

## Physical Engineering Seminar 1C (2.0credits) (物理工学セミナー 1C)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Seminar
Course Name	Physical Engineering Graduate
Starts 1	2 Autumn Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course aims to develop the advanced knowledge and skills of student's research field such as presentation and discussion through group reading research articles, and through debating on the topics. The goal of this course is to apply experimental and calculation skills to their own research themes, to understand physical phenomena and to present the results obtained in their study.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

The course is organized by students and their supervisors in the student's laboratory. One of the members of the group will present a research paper related to his/her research in the master course or will report progress to the group members, and the others will criticize it. The participants of the course are expected to improve their understanding of the topics through this activity.

### Textbook

Research journals selected by students or suggested or provided by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, presentation and discussion.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be accepted in the course hours.

## Physical Engineering Seminar 1D (2.0credits) (物理工学セミナー 1D)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Seminar
Course Name	Physical Engineering Graduate
Starts 1	2 Spring Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course aims to develop the advanced knowledge and skills of student's research field such as presentation and discussion through group reading research articles, and through debating on the topics. The goal of this course is to apply experimental and calculation skills to their own research themes, to understand physical phenomena and to present the results obtained in their study.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

The course is organized by students and their supervisors in the student's laboratory. One of the members of the group will present a research paper related to his/her research in the master course or will report progress to the group members, and the others will criticize it. The participants of the course are expected to improve their understanding of the topics through this activity.

### Textbook

Research journals selected by students or suggested or provided by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, presentation and discussion.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be accepted in the course hours.

Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Lecture
Course Name	Physical Engineering Graduate
Starts 1	1 Spring and Autumn Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course aims to develop the basic knowledge required for each specialized field and research skills such as presentation and discussion through group reading of selected textbooks and research articles, and through debating on the topics.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

The course is organized mainly by students and their supervisors in the laboratory. One of the members of the group will present a research paper related to his/her research in the graduate course or a selected textbook and the others will criticize it, and through this activity the participants improve their understanding of the topics

### Textbook

Textbooks will be provided by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, presentation and discussion.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be accepted in the course hours.

Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Lecture
Course Name	Physical Engineering Graduate
Starts 1	1 Spring and Autumn Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course aims to develop the basic knowledge required for each specialized field and research skills such as presentation and discussion through group reading of selected textbooks and research articles, and through debating on the topics.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

The course is organized mainly by students and their supervisors in the laboratory. One of the members of the group will present a research paper related to his/her research in the graduate course or a selected textbook and the others will criticize it, and through this activity the participants improve their understanding of the topics

### Textbook

Textbooks will be provided by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, presentation and discussion.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be accepted in the course hours.



## Advanced Applied Physics (2.0credits) (応用物理学特論)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Lecture
Course Name	Physical Engineering Graduate
Starts 1	1 Spring and Autumn Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course provides basics and related topics of applied physics. Students will gain comprehensive knowledge of applied physics through learning research trends of applied physics and an ability to look over the research field. This course also aims to develop student's ability to understand research trend, and future prospects.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

Course topics will be provided by the lecturer. Students must submit assignments by the deadline designated by the lecturer.

### Textbook

Textbook will be introduced by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, assignment and/or examination.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be basically accepted in the office hours announced by the lecturer. Students should contact the lecturer through email in advance.

## Advanced Quantum Physics (2.0credits) (量子物理学特論)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Lecture
Course Name	Physical Engineering Graduate
Starts 1	1 Spring and Autumn Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course provides basics and related topics of quantum physics. Students will gain comprehensive knowledge of quantum physics through learning research trends of quantum physics and an ability to look over the research field. This course also aims to develop student's ability to understand research trend, and future prospects.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

Course topics will be provided by the lecturer. Students must submit assignments by the deadline designated by the lecturer.

### Textbook

Textbook will be introduced by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, assignment and/or examination.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be basically accepted in the office hours announced by the lecturer. Students should contact the lecturer through email in advance.

## Advanced Materials Science (2.0credits) (物質科学特論)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Lecture
Course Name	Physical Engineering Graduate
Starts 1	1 Spring and Autumn Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course provides basics and related topics of materials science. Students will gain comprehensive knowledge of materials science through leaning research trends of materials science and an ability to look over the research field. This course also aims to develop student's ability to understand research trend, and future prospects.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

Course topics will be provided by the lecturer. Students must submit assignments by the deadline designated by the lecturer.

### Textbook

Textbook will be introduced by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, assignment and/or examination.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be basically accepted in the office hours announced by the lecturer. Students should contact the lecturer through email in advance.

## Advanced Electromagnetic Physics (2.0credits) (電磁物理学特論)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Lecture
Course Name	Physical Engineering Graduate
Starts 1	1 Spring and Autumn Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course provides basics and related topics of electromagnetic physics. Students will gain comprehensive knowledge of electromagnetic physics through leaning research trends of electromagnetic physics and an ability to look over the research field. This course also aims to develop student's ability to understand research trend, and future prospects.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

Course topics will be provided by the lecturer. Students must submit assignments by the deadline designated by the lecturer.

### Textbook

Textbook will be introduced by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, assignment and/or examination.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be basically accepted in the office hours announced by the lecturer. Students should contact the lecturer through email in advance.

## Advanced Solid State Physics (2.0credits) (固体物理学特論)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Lecture
Course Name	Physical Engineering Graduate
Starts 1	1 Spring and Autumn Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course provides basics and related topics of solid state physics. Students will gain comprehensive knowledge of solid state physics through learning research trends of solid state physics and an ability to look over the research field. This course also aims to develop student's ability to understand research trend, and future prospects.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

Course topics will be provided by the lecturer. Students must submit assignments by the deadline designated by the lecturer.

### Textbook

Textbook will be introduced by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, assignment and/or examination.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be basically accepted in the office hours announced by the lecturer. Students should contact the lecturer through email in advance.

## Advanced Semiconductor Physics (2.0credits) (半導体物理学特論)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Lecture
Course Name	Physical Engineering Graduate
Starts 1	1 Spring and Autumn Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course provides basics and related topics of semiconductor physics. Students will gain comprehensive knowledge of semiconductor physics through learning research trends of semiconductor physics and an ability to look over the research field. This course also aims to develop student's ability to understand research trend, and future prospects.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

Course topics will be provided by the lecturer. Students must submit assignments by the deadline designated by the lecturer.

### Textbook

Textbook will be introduced by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, assignment and/or examination.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be basically accepted in the office hours announced by the lecturer. Students should contact the lecturer through email in advance.

## Advanced Condensed Matter Physics (2.0credits) (物性物理学特論)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Lecture
Course Name	Physical Engineering Graduate
Starts 1	1 Spring and Autumn Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course provides basics and related topics of condensed matter physics. Students will gain comprehensive knowledge of condensed matter physics through leaning research trends of condensed matter physics and an ability to look over the research field. This course also aims to develop students' ability to understand research trends and future prospects.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

Course topics will be provided by the lecturer. Students must submit assignments by the deadline designated by the lecturer.

### Textbook

Textbook will be introduced by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, assignment and/or examination.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be basically accepted in the office hours announced by the lecturer. Students should contact the lecturer through email in advance.

## Advanced Materials Physics (2.0credits) (材料物理学特論)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Lecture
Course Name	Physical Engineering Graduate
Starts 1	1 Spring and Autumn Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course provides basics and related topics of materials physics. Students will gain comprehensive knowledge of materials physics through leaning research trends of materials physics and an ability to look over the research field. This course also aims to develop student's ability to understand research trend, and future prospects.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

Course topics will be provided by the lecturer. Students must submit assignments by the deadline designated by the lecturer.

### Textbook

Textbook will be introduced by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, assignment and/or examination.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be basically accepted in the office hours announced by the lecturer. Students should contact the lecturer through email in advance.



## Advanced Mathematical Physics (2.0credits) (数理物理学特論)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Lecture
Course Name	Physical Engineering Graduate
Starts 1	1 Spring and Autumn Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course provides basics and related topics of mathematical physics. Students will gain comprehensive knowledge of mathematical physics through leaning research trends of mathematical physics and an ability to look over the research field. This course also aims to develop student's ability to understand research trend, and future prospects.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

Course topics will be provided by the lecturer. Students must submit assignments by the deadline designated by the lecturer.

### Textbook

Textbook will be introduced by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, assignment and/or examination.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be basically accepted in the office hours announced by the lecturer. Students should contact the lecturer through email in advance.

## Applied Physics International Special Lecture A (1.0credits) (応用物理学国際特別講義A)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Lecture
Course Name	Physical Engineering Graduate
Starts 1	1 Spring and Autumn Semester
Lecturer	Part-time Faculty

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### Course Purpose

The purpose of the course is to learn about the latest trends in physics research. The lecture will be given by university professors, research scientists in physics, who are active internationally.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

Course topics will be provided by the lecturer. Students must submit assignments by the deadline designated by the lecturer.

### Textbook

Textbook will be introduced by the lecturer.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, assignment and/or examination.

### Notes

This lecture course is not conducted every year. Before the registration, contact the program officer in the Department of Applied Physics.

### Contacting Faculty

Questions will be basically accepted in the office hours announced by the lecturer.

## Applied Physics International Special Lecture B (1.0credits) (応用物理学国際特別講義B)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Lecture
Course Name	Physical Engineering Graduate
Starts 1	1 Spring and Autumn Semester
Lecturer	Part-time Faculty

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### Course Purpose

The purpose of the course is to learn about the latest trends in physics research. The lecture will be given by university professors, research scientists in physics, who are active internationally.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

Course topics will be provided by the lecturer. Students must submit assignments by the deadline designated by the lecturer.

### Textbook

Textbook will be introduced by the lecturer.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, assignment and/or examination.

### Notes

This lecture course is not conducted every year. Before the registration, contact the program officer in the Department of Applied Physics.

### Contacting Faculty

Questions will be basically accepted in the office hours announced by the lecturer.

## Materials Physics International Special Lecture A (1.0credits) (物質科学国際特別講義A)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Lecture
Course Name	Physical Engineering Graduate
Starts 1	1 Spring and Autumn Semester
Lecturer	Part-time Faculty

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### Course Purpose

The purpose of the course is to learn about the latest research trends in materials science. The lecture will be given by university professors, research scientists in material science, who are active internationally.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

Course topics will be provided by the lecturer. Students must submit assignments by the deadline designated by the lecturer.

### Textbook

Textbook will be introduced by the lecturer.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, assignment and/or examination.

### Notes

This lecture course is not conducted every year. Before the registration, contact the program officer in the Department of Applied Physics.

### Contacting Faculty

Questions will be basically accepted in the office hours announced by the lecturer.

## Materials Physics International Special Lecture B (1.0credits) (物質科学国際特別講義B)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Lecture
Course Name	Physical Engineering Graduate
Starts 1	1 Spring and Autumn Semester
Lecturer	Part-time Faculty

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### Course Purpose

The purpose of the course is to learn about the latest research trends in materials science. The lecture will be given by university professors, research scientists in material science, who are active internationally.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

Course topics will be provided by the lecturer. Students must submit assignments by the deadline designated by the lecturer.

### Textbook

Textbook will be introduced by the lecturer.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, assignment and/or examination.

### Notes

This lecture course is not conducted every year. Before the registration, contact the program officer in the Department of Applied Physics.

### Contacting Faculty

Questions will be basically accepted in the office hours announced by the lecturer.

## Experiments and Exercises in Physical Engineering (4.0credits) (物理工学特別実験及び演習)

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Course Type	Specialized Courses
Division at course	Master's Course
Class Format	Experiment and Exercise
Course Name	Physical Engineering Graduate
Starts 1	1 Spring and Autumn Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course aims to develop the practical knowledge required for theoretical and experimental research activities of the student's field such as operation of instruments, computer simulations, data analysis and interpretation, etc. Students will build a basic foundation of research activity and gain applied skills to perform a research project of each student.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

This course will be organized by the followings.- Building a research plan- Execution of the research plan- Analysis of the results- Presentation, discussion and debating based on the results- Planning the future subjects

### Textbook

Textbook will be introduced by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be accepted in the course hours.

Introduction to Academic Communication (1.0credits) (コミュニケーション学)

Course Type	Comprehensive engineering courses		
Division at course	Master's Course		
Class Format	Lecture		
Course Name	Molecular and Macromolecular Chemistry	Materials Chemistry	Biomolecular Engineering
	Applied Physics	Materials Physics	Materials Design Innovation Engineering
	Materials Process Engineering	Chemical Systems Engineering	Electrical Engineering
	Electronics	Information and Communication Engineering	Mechanical Systems Engineering
	Micro-Nano Mechanical Science and Engineering	Aerospace Engineering	Department of Energy Engineering
	Department of Applied Energy	Civil and Environmental Engineering	Graduate Chemistry
	Automotive Engineering	Automotive Engineering	Civil and Environmental Engineering Graduate
	Physical Engineering Graduate		
Starts 1	1 Autumn Semester	1 Autumn Semester	1 Autumn Semester
	1 Autumn Semester	1 Autumn Semester	1 Autumn Semester
	1 Autumn Semester	1 Autumn Semester	1 Autumn Semester
	1 Autumn Semester	1 Autumn Semester	1 Autumn Semester
	1 Autumn Semester	1 Autumn Semester	1 Autumn Semester
	1 Autumn Semester	1 Autumn Semester	1 Autumn Semester
	1 Autumn Semester	1 Autumn Semester	1 Autumn Semester
	1 Autumn Semester		
Lecturer	ReikoFURUYA Associate Professor		

**Course Purpose**

Students will learn presentation skills for academic purposes, which may include giving academic presentations.

Japanese students are expected to present in English and international students in Japanese in the seventh or eighth class meeting.

By taking this class, students are expected to be able to do the following:

- Give a solid presentation with confidence and without hesitation
- Grasp the characteristics of successful presentations
- Use techniques learned in class in their own presentation

**Prerequisite Subjects**

English language classes for Japanese students

Japanese language classes for international students

**Course Topics**

- (1) Ways to convey messages in presentation
- (2) The language of a presentation
- (3) Tips for making effective slides
- (4) Observation and analysis of video-taped presentation by a past student
- (5) Paper vs presentation
- (6) Preparation for individual presentation

(7) Individual presentations I

(8) Individual presentations

This course requires students to work outside of the classes for individual presentation.

#### Textbook

Handouts will be distributed in class

#### Additional Reading

1The Japan Times

2:

#### Grade Assessment

Individual presentation: 50%

Active class participation: 50%

Grades: A+: 100%-95%, A: 94%-80%, B: 79%-70%, C: 69%-65%, C-: 64%-60%, F: 59%-0%

Grading will be decided based on the ability to give an effective academic presentation.

#### Notes

There are no requirements for taking this class.

#### Contacting Faculty

Questions will be answered before class, in class, after class or by e-mail.



**Advanced Lectures on Scientific English (1.0credits) (科学技術英語特論)**

Course Type	Comprehensive engineering courses		
Division at course	Master's Course		
Class Format	Lecture		
Course Name	Molecular and Macromolecular Chemistry	Materials Chemistry	Biomolecular Engineering
	Applied Physics	Materials Physics	Materials Design Innovation Engineering
	Materials Process Engineering	Chemical Systems Engineering	Electrical Engineering
	Electronics	Information and Communication Engineering	Mechanical Systems Engineering
	Micro-Nano Mechanical Science and Engineering	Aerospace Engineering	Department of Energy Engineering
	Department of Applied Energy	Civil and Environmental Engineering	Automotive Engineering
	Automotive Engineering	Civil and Environmental Engineering Graduate	Physical Engineering Graduate
Starts 1	1 Autumn Semester	1 Autumn Semester	1 Autumn Semester
	1 Autumn Semester	1 Autumn Semester	1 Autumn Semester
	1 Autumn Semester	1 Autumn Semester	1 Autumn Semester
	1 Autumn Semester	1 Autumn Semester	1 Autumn Semester
	1 Autumn Semester	1 Autumn Semester	1 Autumn Semester
	1 Autumn Semester	1 Autumn Semester	1 Autumn Semester
	1 Autumn Semester	1 Autumn Semester	1 Autumn Semester
Lecturer	Part-time Faculty		

**Course Purpose**

This is a course to acquire basic skills to summarize research as a paper in English. By the end of the course, students will be able to ...

- explain the basic structure of science and technology research paper
- list essential components of each section of research paper
- type short multiple-paragraph essays with appropriate punctuation
- orally express logically structured opinion

**Prerequisite Subjects**

Various subjects relating to English

**Course Topics**

1. Basics of academic writing in English (1)
2. Basic structure of science & technology research paper (1)
3. Writing (1), feedback and opinion exchange
4. Basics of academic writing in English (2)
5. Basic structure of science & technology research paper (2)
6. Writing (2), feedback and opinion exchange
7. Basic structure of science & technology research paper (3)
8. Writing (3), feedback and opinion exchange

Students are expected to spend a few hours each week reviewing key points of the lecture and working on the writing assignment.

**Textbook**

None. Students will receive handouts in each class session.

### Additional Reading

Glasman-Deal, H. (2010). Science Research Writing For Non-Native Speakers of English. Imperial College Press.

Swales, J.M. & Feak, C.B. (2012). Academic Writing for Graduate Students. The University of Michigan Press.

Wallwork, A. (2013). English for Academic Research: Grammar, Usage and Style. Springer.

Wallwork, A. (2016). English for Writing Research Papers. Springer.

### Grade Assessment

Submitting three short writing assignments that show understanding of research paper structure with appropriate punctuation is required for a passing grade. Speaking English contributing to discussion and opinion exchange, as well as raising questions in class, is strongly encouraged.

### Notes

There are no prerequisites.

### Contacting Faculty

Email address to be announced in the first class

## Physical Engineering 2A (2.0credits) (物理工学セミナー2A)

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Course Type	Specialized Courses
Division at course	Doctor's Course
Class Format	Seminar
Course Name	Physical Engineering Graduate
Starts 1	1 Autumn Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course aims to develop the advanced knowledge of student's research field and research skills such as presentation and discussion through group reading research articles, and through debating on the topics.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

The course is organized by students and their supervisors in a laboratory. One of the members of the group will present a research paper related to his/her research in the doctoral course or will report progress to the group members, and the others will criticize it. The participants of the course are expected to improve their understanding of the topics through this activity.

### Textbook

Research journals selected by students or suggested by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, presentation and discussion.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be accepted in the course hours.

## Physical Engineering 2B (2.0credits) (物理工学セミナー2B)

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Course Type	Specialized Courses
Division at course	Doctor's Course
Class Format	Seminar
Course Name	Physical Engineering Graduate
Starts 1	1 Spring Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course aims to develop the advanced knowledge of student's research field and research skills such as presentation and discussion through group reading research articles, and through debating on the topics.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

The course is organized by students and their supervisors in a laboratory. One of the members of the group will present a research paper related to his/her research in the doctoral course or will report progress to the group members, and the others will criticize it. The participants of the course are expected to improve their understanding of the topics through this activity.

### Textbook

Research journals selected by students or suggested by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, presentation and discussion.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be accepted in the course hours.

## Physical Engineering 2C (2.0credits) (物理工学セミナー2C)

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Course Type	Specialized Courses
Division at course	Doctor's Course
Class Format	Seminar
Course Name	Physical Engineering Graduate
Starts 1	2 Autumn Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course aims to develop the advanced knowledge of student's research field and research skills such as presentation and discussion through group reading research articles, and through debating on the topics.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

The course is organized by students and their supervisors in a laboratory. One of the members of the group will present a research paper related to his/her research in the doctoral course or will report progress to the group members, and the others will criticize it. The participants of the course are expected to improve their understanding of the topics through this activity.

### Textbook

Research journals selected by students or suggested by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, presentation and discussion.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be accepted in the course hours.

## Physical Engineering 2D (2.0credits) (物理工学セミナー2D)

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Course Type	Specialized Courses
Division at course	Doctor's Course
Class Format	Seminar
Course Name	Physical Engineering Graduate
Starts 1	2 Spring Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course aims to develop the advanced knowledge of student's research field and research skills such as presentation and discussion through group reading research articles, and through debating on the topics.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

The course is organized by students and their supervisors in a laboratory. One of the members of the group will present a research paper related to his/her research in the doctoral course or will report progress to the group members, and the others will criticize it. The participants of the course are expected to improve their understanding of the topics through this activity.

### Textbook

Research journals selected by students or suggested by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, presentation and discussion.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be accepted in the course hours.

## Physical Engineering 2E (2.0credits) (物理工学セミナー2E)

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Course Type	Specialized Courses
Division at course	Doctor's Course
Class Format	Seminar
Course Name	Physical Engineering Graduate
Starts 1	3 Autumn Semester
Lecturer	Faculty of Physical Engineering

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### Course Purpose

This course aims to develop the advanced knowledge of student's research field and research skills such as presentation and discussion through group reading research articles, and through debating on the topics.

### Prerequisite Subjects

All the courses provided in the undergraduate program are supposed to be acquired.

### Course Topics

The course is organized by students and their supervisors in a laboratory. One of the members of the group will present a research paper related to his/her research in the doctoral course or will report progress to the group members, and the others will criticize it. The participants of the course are expected to improve their understanding of the topics through this activity.

### Textbook

Research journals selected by students or suggested by the supervisor.

### Additional Reading

References will be introduced as needed.

### Grade Assessment

Grading will be based on the participation, presentation and discussion.

### Notes

There are no specific course requirements. Announcements may be delivered via NUCT.

### Contacting Faculty

Questions will be accepted in the course hours.