

Graduate School of Science  
Osaka Metropolitan University  
Classes List

《Master's Course》

- Department of Mathematics
- Department of Physics
- Department of Chemistry
- Department of Biology
- Department of Geosciences
- Department of Biological Chemistry

《Doctoral Course》

- Department of Mathematics
- Department of Physics
- Department of Chemistry
- Department of Biology
- Department of Geosciences
- Department of Biological Chemistry

# Classes (Master's Course)

## Department of Mathematics

Introduction to Mathematics A

Introduction to Mathematics B

Advanced Algebra A

Advanced Algebra B

Advanced Algebra C

Advanced Algebra D

Representation Theory A

Representation Theory B

Advanced Geometry A

Advanced Geometry B

Advanced Geometry C

Advanced Geometry D

Topology A

Topology B

Advanced Analysis A

Advanced Analysis B

Advanced Analysis C

Advanced Analysis D

Functional Equations A

Functional Equations B

Complex Analysis

Statistical Analysis A

Statistical Analysis B

Statistical Analysis C

Difference Equations

Mathematical Logic

Financial Mathematics

Coding Theory

Applied Mathematical Science

Ordinary Differential Equations

Stochastic Processes

Mathematical Sciences A

Mathematical Sciences B

Mathematical Sciences C

Selected Topics in Mathematical Structures A

Selected Topics in Mathematical Structures B

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Selected Topics in Geometric Structures A  
Selected Topics in Geometric Structures B  
Selected Topics in Analysis A  
Selected Topics in Analysis B  
Selected Topics in Mathematical Statistics  
Selected Topics in Probability Theory  
Selected Topics in Applied Mathematics  
Exercises in Probability and Statistics 1  
Exercises in Probability and Statistics 2  
Exercises in Mathematical Structures 1  
Exercises in Mathematical Structures 2  
Exercises in Mathematical Analysis 1  
Exercises in Mathematical Analysis 2  
Exercises in Geometric Structures 1  
Exercises in Geometric Structures 2  
International Research 1  
International Research 2  
Graduate Research 1A  
Graduate Research 1B  
Graduate Research 2A  
Graduate Research 2B

# Classes (Master's Course)

## Department of Physics

Graduate Seminar 1A  
Graduate Seminar 1B  
Graduate Seminar 2A  
Graduate Seminar 2B  
Graduate Research 1A  
Graduate Research 1B  
Graduate Research 2A  
Graduate Research 2B  
Quantum Field Theory  
Fluid Mechanics for Astrophysics  
Relativistic Theory of Gravitation 1  
Nuclear Physics 1  
High Energy Physics 1  
Cosmic Ray Physics A  
Experimental Physics of Cosmic-rays and Elementary Particles A  
Experimental Physics of Cosmic-rays and Elementary Particles B  
Astrophysics  
Condensed Matter Physics 1  
Low Temperature Physics  
Low Temperature Solid State Physics  
Mathematical Physics A  
Mathematical Physics C  
Quantum Field Theory and String Theory 1  
Computational Science  
Advanced Lecture on Astronomy 1  
Space and Planetary Science  
Magnetism 1  
Theory of Condensed Matter 1  
Advanced Lecture on Optical Properties of Condensed Matter 1  
Theory of Elementary Particles  
Relativistic Theory of Gravitation 2  
Relativistic Astrophysics  
Nuclear Physics 2  
High Energy Physics 2  
Cosmic Ray Physics 2  
Experimental Physics of Gravitational Waves

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Condensed Matter Physics 2  
Quantum Statistical Physics A  
Quantum Statistical Physics B  
Optical Properties of Condensed Matter  
Atomic Physics  
Mathematical Physics B  
Mathematical Physics D  
Quantum Field Theory and String Theory 2  
Advanced Lecture on Astronomy 2  
Structure of Solid  
Magnetism 2  
Theory of Condensed Matter 2  
Advanced Lecture on Optical Properties of Condensed Matter 2  
Bio-photophysics  
Selected Topics in Fundamental Physics A  
Selected Topics in Fundamental Physics B  
Selected Topics in Astro and High Energy Physics A  
Selected Topics in Astro and High Energy Physics B  
Selected Topics in Particle Physics A  
Selected Topics in Particle Physics B  
Selected Topics in Solid State Physics A  
Selected Topics in Solid State Physics B  
Selected Topics in Condensed Matter Physics A  
Selected Topics in Condensed Matter Physics B  
Selected Topics in Mathematical Physics A  
Selected Topics in Mathematical Physics B  
Advanced Lecture on Physics 1A  
Advanced Lecture on Physics 1B  
Advanced Lecture on Physics 1C  
Advanced Lecture on Physics 1D  
Advanced Lecture on Physics 1E  
Advanced Lecture on Physics 1F  
International Advanced Research Course 1  
International Advanced Research Course 2

# Classes (Master's Course)

## Department of Chemistry

Research Proposal Seminar

Graduate Research in Chemistry 1A

Graduate Research in Chemistry 1B

Graduate Research in Chemistry 2A

Graduate Research in Chemistry 2B

Graduate Seminar in Chemistry 1A

Graduate Seminar in Chemistry 1B

Graduate Seminar in Chemistry 2A

Graduate Seminar in Chemistry 2B

Advanced Quantum Chemistry A

Advanced Quantum Chemistry B

Advanced Physical Chemistry A

Advanced Physical Chemistry B

Advanced Inorganic Chemistry A

Advanced Inorganic Chemistry B

Advanced Organometallic Chemistry

Advanced Organic Chemistry

Advanced Functional Molecular Chemistry A

Advanced Functional Molecular Chemistry B

Advanced Topics in Chemistry A

Advanced Topics in Chemistry B

Advanced Topics in Chemistry C

Advanced Topics in Chemistry D

Advanced Topics in Chemistry E

Advanced Topics in Chemistry F

Advanced Topics in Chemistry G

Advanced Topics in Chemistry H

Graduate Research Overseas 1

Graduate Research Overseas 2

# Classes (Master's Course)

## Department of Biology

Advanced Functional and Analytical Biology A  
Advanced Functional and Analytical Biology B  
Advanced Functional and Analytical Biology C  
Advanced Functional and Analytical Biology D  
Advanced Functional and Analytical Biology E  
Advanced Functional and Analytical Biology F  
Advanced Functional and Analytical Biology G  
Advanced Functional and Analytical Biology H  
Exercises in Functional and Analytical Biology 1A  
Exercises in Functional and Analytical Biology 1B  
Exercises in Functional and Analytical Biology 2A  
Exercises in Functional and Analytical Biology 2B  
Selected Topics in Functional and Analytical Biology A  
Selected Topics in Functional and Analytical Biology B  
Advanced Molecular Biofunctions A  
Advanced Molecular Biofunctions B  
Advanced Molecular Biofunctions C  
Advanced Molecular Biofunctions D  
Advanced Molecular Biofunctions E  
Advanced Molecular Biofunctions F  
Exercises in Molecular Biofunctions 1A  
Exercises in Molecular Biofunctions 1B  
Exercises in Molecular Biofunctions 2A  
Exercises in Molecular Biofunctions 2B  
Selected Topics in Molecular Biofunctions A  
Selected Topics in Molecular Biofunctions B  
Advanced Functional Biology of Natural History A  
Advanced Functional Biology of Natural History B  
Advanced Functional Biology of Natural History C  
Advanced Functional Biology of Natural History D  
Advanced Functional Biology of Natural History E  
Advanced Functional Biology of Natural History F  
Advanced Functional Biology of Natural History G  
Advanced Functional Biology of Natural History H  
Advanced Functional Biology of Natural History I  
Advanced Functional Biology of Natural History J

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Exercises in Functional Biology of Natural History 1A  
Exercises in Functional Biology of Natural History 1B  
Exercises in Functional Biology of Natural History 2A  
Exercises in Functional Biology of Natural History 2B  
Selected Topics in Functional Biology of Natural History A  
Selected Topics in Functional Biology of Natural History B  
Graduate Research Overseas 1  
Graduate Research Overseas 2  
Graduate Research in Biology 1A  
Graduate Research in Biology 1B  
Graduate Research in Biology 2A  
Graduate Research in Biology 2B



# Classes (Master's Course)

## Department of Geosciences

Graduate Research in Geosciences 1A

Graduate Research in Geosciences 1B

Graduate Research in Geosciences 2A

Graduate Research in Geosciences 2B

Exercises in Environmental Geosciences 1A

Exercises in Environmental Geosciences 1B

Exercises in Environmental Geosciences 2A

Exercises in Environmental Geosciences 2B

Exercises in Earth Evolution Sciences 1A

Exercises in Earth Evolution Sciences 1B

Exercises in Earth Evolution Sciences 2A

Exercises in Earth Evolution Sciences 2B

Advanced Natural History of Quaternary A

Advanced Natural History of Quaternary B

Advanced Geophysics A

Advanced Geophysics B

Advanced Geoinformatics A

Advanced Geoinformatics B

Advanced Natural Hazards Geoscience A

Advanced Natural Hazards Geoscience B

Advanced Natural Hazards Geoscience C

Advanced Mineralogy A

Advanced Mineralogy B

Advanced Petrology A

Advanced Petrology B

Advanced Geohistory A

Advanced Geohistory B

Advanced Earth Sciences□

Selected Topics in Environmental Geosciences A

Selected Topics in Environmental Geosciences B

Selected Topics in Earth Evolution Sciences A

Selected Topics in Earth Evolution Sciences B

International Advanced Research Course for Master's Thesis in Geosciences 1□

International Advanced Research Course for Master's Thesis in Geosciences 2□

# Classes (Master's Course)

## Department of Biological Chemistry

Research Proposal Seminar 1

Graduate Seminar 1A

Graduate Seminar 1B

Graduate Seminar 2A

Graduate Seminar 2B

Graduate Research 1A

Graduate Research 1B

Graduate Research 2A

Graduate Research 2B

Computational Biological Chemistry

Chemical Biology

Structural Biological Chemistry

Biochemical Pathology

Biology of Environmental Stress Response

Cell Biology

Biotechnology

Plant Physiology

Advanced Topics in Biological Chemistry A

Advanced Topics in Biological Chemistry B

Advanced Topics in Biological Chemistry C

Advanced Topics in Biological Chemistry D

International Research Program 1

# Classes (Doctoral Course)

## Department of Mathematics

Seminar in Mathematical Structures A

Seminar in Mathematical Structures B

Seminar in Geometric Structures A

Seminar in Geometric Structures B

Seminar in Mathematical Analysis A

Seminar in Mathematical Analysis B

Seminar in Probability and Statistics

International Research 3

International Research 4

International Research 5

Graduate Research 3A

Graduate Research 3B

Graduate Research 4A

Graduate Research 4B

Graduate Research 5A

Graduate Research 5B

# Classes (Doctoral Course)

## Department of Physics

Graduate Seminar 3A

Graduate Seminar 3B

Graduate Seminar 4A

Graduate Seminar 4B

Graduate Seminar 5A

Graduate Seminar 5B

Graduate Research 3A

Graduate Research 3B

Graduate Research 4A

Graduate Research 4B

Graduate Research 5A

Graduate Research 5B

Advanced Lecture on Physics 2A

Advanced Lecture on Physics 2B

Advanced Lecture on Physics 2C

Advanced Lecture on Physics 2D

Advanced Lecture on Physics 2E

Advanced Lecture on Physics 2F

International Advanced Research Course 3

International Advanced Research Course 4

International Advanced Research Course 5

# Classes (Doctoral Course)

## Department of Chemistry

Research Proposal Defense

Graduate Research in Chemistry 3A

Graduate Research in Chemistry 3B

Graduate Research in Chemistry 4A

Graduate Research in Chemistry 4B

Graduate Research in Chemistry 5A

Graduate Research in Chemistry 5B

Graduate Seminar in Chemistry 3A

Graduate Seminar in Chemistry 3B

Graduate Seminar in Chemistry 4A

Graduate Seminar in Chemistry 4B

Graduate Seminar in Chemistry 5A

Graduate Seminar in Chemistry 5B

Graduate Research Overseas 3

Graduate Research Overseas 4

Graduate Research Overseas 5

# Classes (Doctoral Course)

## Department of Biology

Graduate Research Seminars in Functional and Analytical Biology  
Graduate Research Seminars in Molecular Biofunctions  
Graduate Research Seminars in Functional Biology of Natural History  
Special Exercises in Functional and Analytical Biology  
Special Exercises in Molecular Biofunctions  
Special Exercises in Functional Biology of Natural History  
Graduate Research Overseas 3  
Graduate Research Overseas 4  
Graduate Research Overseas 5  
Graduate Research in Biology 3A  
Graduate Research in Biology 3B  
Graduate Research in Biology 4A  
Graduate Research in Biology 4B  
Graduate Research in Biology 5A  
Graduate Research in Biology 5B

# Classes (Doctoral Course)

## Department of Geosciences

Graduate Research in Geosciences 3A

Graduate Research in Geosciences 3B

Graduate Research in Geosciences 4A

Graduate Research in Geosciences 4B

Graduate Research in Geosciences 5A

Graduate Research in Geosciences 5B

Seminar in Environmental Geosciences A□

Seminar in Environmental Geosciences B□

Seminar in Earth Evolution Sciences A

Seminar in Earth Evolution Sciences B

Graduate Research Overseas 3

Graduate Research Overseas 4

Graduate Research Overseas 5

# Classes (Doctoral Course)

## Department of Biological Chemistry

Research Proposal Seminar 2

Graduate Seminar 3A

Graduate Seminar 3B

Graduate Seminar 4A

Graduate Seminar 4B

Graduate Seminar 5A

Graduate Seminar 5B

Graduate Research 3A

Graduate Research 3B

Graduate Research 4A

Graduate Research 4B

Graduate Research 5A

Graduate Research 5B

Advanced Topics in Biological Chemistry E

Advanced Topics in Biological Chemistry F

Advanced Topics in Biological Chemistry G

Advanced Topics in Biological Chemistry H

International Research Program 2