

# Intensive Graduate Course

Course Title: **Selected topics in physics I** (1 credit)  
Course Code: Fac. of Sci. M:R0209 D:R0210  
Fac. of Sci.& Eng. M:R209 D:R210  
Subtitle: **Phenomenology of Neutrinos**  
Lecturer: Osamu Yasuda (TMU)  
Date & Hours: Oct. 19 (Fri) Periods 2, 3, 4, 5  
Oct. 20 (Sat) Periods 2, 3, 4, 5  
Room: 8-307

Abstract:

An overview of phenomenology of neutrinos will be given in English with the following contents:

1. Theoretical description of neutrino masses
2. Neutrino propagation in vacuum & in matter
3. Information from experiments: Reactor neutrinos
4. Information from experiments: Atmospheric neutrinos
5. Information from experiments: Solar neutrinos
6. Information from experiments: Accelerator neutrinos
7. Information from experiments: High energy cosmic neutrinos
8. Non-standard frameworks of neutrino mixings:  
Sterile neutrinos, non-standard interactions, unitarity violation.

Those who took “Advanced particle physics” (素粒子物理学特論) cannot get a credit from this course because the contents are exactly the same. Registration should be made at the Academic Administration Division of the main office of Faculty of Science **by Oct. 12 (Fri)**.

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