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| Course Name [科目名] | Mechanical System Engineering Laboratory II |
| Instructor Name [教員] | Nishizawa, Bei, Saito, Sato, Nishida, Iwami, Ueda |
| Course Structure [授業形態] | Experiment (Laboratory Work) and Laboratory Tour |
| Term, Meeting Days, Time and  Location  [開講時期、時間、場所] | Fall semester in 2015, 90min/class x 3class/week, |
| Course Credits [単位数] | 1 |
| Course Overview [概要] | Thermodynamics and Fluid dynamics are core subjects on Mechanical Engineering. These have developed though many experiments. In this course, students will learn the experimental method on thermo-fluid dynamics and perform several experiments. Furthermore they will visit thermo-fluid dynamics laboratory so as to have an experience with the most-advanced research on the field and obtain knowledge about the measurement and controlling techniques. |
| Course Key Words [キーワード] | Experiment, thermodynamics, fluid dynamics |
| Academic Goal [目標] | Obtain the skill to perform experiments  Learn how to write scientific report |
| Course Schedule [授業内容] | week1: Introduction  week2:Measurement of temperature of fluid: thermocouple (experiment)  week3: Flow in a circular tube: laminar flow and turbulent flow (experiment)  week4: Plasma-fluid control: technology for space engines (lab. tour)  week5: Characterization of mechanical bearing (experiment)  week6:Performance evaluation of air conditioner  week7: MEMS (lab. tour)  week8: thermo-acoustic refrigerator : heat pump driven by acoustic wave (experiment)  \* schedule will be rearranged by student grouping. Laboratory can be changed by the condition |
| Textbooks, References,  and Supplementary Materials  [テキスト、参考書、その他] |  |
| Grading Philosophy  (Percentage / Criteria / Methodology)  [成績評価の方法] | Report and interview about each week(60%)  Contribution in each experiment and tour (40%) |
| Other  (i.e. Expectations on Classroom  Conduct and Decorum etc.)  [その他] |  |