

# Mechanical Engineering Seminar

Syllabus Number

1J205

Special Subjects

Elective 1 credit

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## 1. Course Description

Professors of mechanical engineering department in this university and specialists outside the university select themes and present research trends and advanced technology in wide field of mechanical engineering. Besides, plant tour of manufacturing company will be planned in this seminar.

## 2. Course Objectives

Students will learn about advanced technology and research trends in wide field of mechanical engineering. And they understand many subjects they study in university, are used practically in actual industry. The purpose of this seminar is that this understanding will trigger their thinking about their own career.

## 3. Grading Policy

Students will be requested to submit a report on each theme (concrete contents will be instructed by each faculty in charge). Evaluation will be based on the content of the report (60%), attitude towards the lesson (25%) and report on plant tour (15%). If attendance is less than 2/3, students will be disqualified. Confirm the content of the submitted report and make comments and supplementary explanations in classes etc. that each faculty is in charge.

## 4. Textbook and Reference

Textbook

Nothing special. We will distribute the materials at the time of class as necessary.

## 5. Requirements(Assignments)

As a preparation, please check relevant the information beforehand about each theme in libraries, the Internet etc. (about 1.5 hours). After each lesson, students should review using distribution materials and notes etc. and prepare a report on the assignment given (about 1.5 hours).

## 6. Note

It is a seminar for a total of 8 occasions held (weekdays and hours are fixed except for tours) throughout the year, including plant tours. The following contents of each lessons are temporary placements based on the theme carried out in the 2020 mechanical seminar. We will notify you about the theme, order, date and time of operation in 2021 at the beginning of the semester by posting or guidance. Group discussions on subjects related to lecture contents will be conducted by instructor's instructions as appropriate during the class, and the content of the discussion will be described in a report to be submitted after class.

## 7. Schedule

- [1] Diesel engine exhaust gas and reduction of nanoparticles / Iron making and environment & energy
- [2] Utilization of quality engineering / Automotive Technology aiming for a Sustainable Society
- [3] Passive walking robot and walking support machine / Technologies that make up autonomous driving
- [4] To Design a Quiet Car / What is metal fatigue?
- [5] Collision safety of car / Casting method with a disappearance model
- [6] (Company and plant tour)
- [7] New circumstances of metal processing / Sharpening of the cutting edge ridge of a single crystal diamond tool by ion plasma
- [8] (Special lecture by outside instructor)
- [9]
- [10]
- [11]
- [12]
- [13]
- [14]
- [15]