

Theory of chassis structure

Syllabus Number

1L203

Basic Major Subjects

Elective Requisites 2
credit

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1. Course Description

In this course, you will gain a basic understanding of the principles and functions required to design automotive transmission, suspension, steering, and wheel alignment. In addition, you will deepen your understanding of structure and functions through practical training. In this course, you will acquire knowledge and techniques on Diploma Policy 2,4,5.

2. Course Objectives

- Students can understand the principles of car chassis components and explain their functions.
- Students can solve the issues required for car development, through group work.

3. Grading Policy

Grades will be evaluated by intermediate assignment (60%), final assignment (40%).

4. Textbook and Reference

Reference

Japan Automobile Maintenance Promotion Association Federation Automobile mechanic training course third grade (Chassis version) Ministry of Land, Infrastructure and Transport Supervision

5. Requirements(Assignments)

We will take attendance every time. Attendance of 2/3 or more is required to acquire the unit of lecture.

6. Note

How to purchase reference books will be explained in the 1st lecture.

7. Schedule

- [1] Basics of chassis performance 1: Engineering of running, turning, and stopping
- [2] Basics of chassis performance 2: Engineering of running, turning, and stopping
- [3] Power transmission device 1 : Method and principle of transmitting power by changing torque and rotation speed
- [4] Power transmission device 2 : Practice of function and structure
- [5] Intermediate assignment : Performance design of the power transmission
- [6] Suspension system 1 : Method and principle of absorbing shock and vibration of vehicle body
- [7] Suspension system 2 : Practice of function and structure
- [8] Steering system 1 : Method and principle of changing steering direction by transmitting steering force / torque
- [9] Steering system 2 : Practice of function and structure
- [10] Intermediate assignment : Performance design of suspension system and steering system
- [11] Wheel alignment 1 : Principle of going straight performance and the turning performance
- [12] Wheel alignment 2 : Practice of function and structure
- [13] Braking device 1 : Method and principle of deceleration / stop
- [14] Braking device 2 : Practice of function and structure
- [15] Final assignment, summary