Project Studies in Electronics and Information Engineering Course in 2023-2024

1. Making a muscle counter　（OkabeTeam）

OGASAWARA Fuka , KAGISAKI Soma, SAKAGUCHI Sota, SAKANISHI Suzunosuke

TSURUGI Ryosuke, HODATSU Konomu

We are a group of people who are interested in sensors and we like to be physically active as well. During our past discussions, we gradually came to the common opinion that we wanted a device that automatically counts our reps during strength training exercises.
Therefore, we have been making a muscle counter that can use sensors to help people efficiently perform strength training exercises.

2. A team that is in charge of creating experimental sets
（OkabeTeam）

NAKASYOU Tsubasa, MURAYAMA Ikumi

We are a team that is in charge of creating experimental sets. Recently, the communication system has been transitioning to fiber optics, enabling faster information transmission in society. We have developed an experimental set for conducting optical communication experiments, with the aim of benefiting our future junior colleagues.

3. Game creation using Game Maker　（Kitamoto Team）

ISHIZAKI Kota, KAWABATA Maharo, KOSAKA Hirotaka, TAKADA Itsuki

We have created a 2D game using Game Maker, a type of game engine that specializes in 2D game creation and is easy to use. We have chosen game creation as our theme because we wanted to have new students learn about the layout of the information labs whilst having fun. We also wanted to try our hand at creating a game. Furthermore, we have created this game so that we can have a hands-on approach when learning about the qualities of the information course.

4. Game creation using Unreal Engine　（Ueno Team ）

OKUNO Bunta , SANO Yoji , NAKANO Masato , NISHI Yumika , YAMATO Kunihide

We created a 3D game using the Unreal Engine. We chose the theme of 3D game development because we wanted to create an environment where people can learn about sustainable development goals, including concepts such as the 3Rs for environmental improvement, in a fun way through the medium of games. Unreal Engine has allowed us to reinforce our vision of using games as a platform to educate and entertain users about important global issues.

5. Production of Braille keyboard　（Kitamoto team）

HIRAYAMA Haru, OKURA Tatsuya, TAKEDA Yusuke, NISHITA Kaede, HAYASHI Syuya

We created a program that uses the Lego EV3's color sensor.This color sensor can read color blocks and make sounds that correspond to certain colors.The goal was to place color blocks on a caterpillar track which should play a song.The program was written in Python.

6. Microcomputer Car Rally (Basic Class)　（Kobayashi Team）

IKEDA Kuuri, KAKIUCHI Momo, MAEDA Masaki, YAMASHITA Ryujin

Microcomputer car rally is a type of robot competition. In which robots equipped with microcomputers run autonomously. And on a course and compete for the best time.
We competed in Basic Class. In this category, cars must have a fixed number of batteries, circuit boards and servos. We did our best to finish the race.

7. A Study of Microcomputer Car CAMERA Class　（Kobayashi Team）

SAKAI Souru, SHIMADA Keigo, MATSUI Kaisei, MIZUKAMI Shunsuke

In the microcomputer car rally, autonomous robots are equipped with microcomputers. They drive automatically by reading the white lines on the course and then compete for the best time. In the camera class, in which we are competing, the car will see the course as a two-dimensional image. It will then convert it into necessary information, allowing the car to be able to determine the layout of the course. This allows it to automatically operate the car. We have worked on assembling the car body as well as improving the program, with the aim of competing in the national competition.

8. We created use web to learning support system　（Saitou Team）

KAMEDA Yousuke, SAGAWA Sho, FUJIMOTO Keita, MOTOYAMA Souta, YAMATO Keiji

We created a website for students to help them revise for information tests. Our goal is to use knowledge gained in the information sector and aims to improve students learning efficiency and web production skills.

9. Study of system development related to industrial robots　（Saitou Team）

KUSUNOKI Tomoki, TANAKA Houma, MORITA Takaomi, YAMAUCHI Futa, YOSHIDA Taiyo

We wanted to make a manual so that people can control industrial robots more easily. We used more pictures of the operating screen, compared to other existing manuals, and we wrote the operation procedure in more detail. Unfortunately, we only have one robot. therefore, we have made a training software in Excel.　By using this, we can teach each other while other people are using the robot. We believe that we can lay the base foundations so that anyone can control robots more easily　through this study.