

# RES 130 Fundamentals of Information Technology

3rd and 4th quarters, Freshman

<b>Instructor</b>	INOUE HIROYUKI
<b>Style of Class</b>	Lecture
<b>Number of Credits</b>	2
<b>Day and Period</b>	Friday, period 2

## Course Description

This lecture course further advances students' knowledge base established in the course "Basic Computing" and equip them with computer skills essential for their learning in their undergraduate programs, familiarizing them with how to handle and process data, use and create various types of content and transmit information using a computer. Students will learn about information processing techniques using a spreadsheet, how to give presentations using a variety of media and internet technologies centered around websites. More specifically, the course will familiarize students with data processing and simple statistical techniques on Excel, how to handle image and movie files, how to use them in PowerPoint presentations, other presentation techniques using a computer, and finally, internet technologies with a focus on websites.

## Course Objectives

Students will:

- (1) be able to process data and put them into an appropriate form using a spreadsheet program,
- (2) be able to extract necessary information out of data using a spreadsheet program,
- (3) be able to create and edit image files,
- (4) be able to handle media files including movie files,
- (5) be able to create presentation materials using media files, and
- (6) understand internet technologies centered around websites.

## Prerequisites

Basic Computing

## Class Materials

Class materials will be provided as handouts.

## Course Method

Each class will comprise a lecture part and a practice part using a PC. The instructor will lecture on the topic, and students will understand the topic through practicing on a PC. Practice assignments will be given to students, which should be completed either within or outside class.

## Evaluation/Assessment

Students will be required to submit assignments.

## Grading

- 40% Assignments
- 60% Term-end examination

## Course Schedule

### Week 1: Basic operations of Excel and data sorting

Review the knowledge about Excel from "Basic Computing," go through basic operations and create data to be used in the course.

### Week 2: Data extraction (setting criteria and using a filter)

Learn how to extract records using the filter function on Excel, understand how to set the extraction criteria and practice data extraction with precise conditions.

**Week 3: Summarizing data using database functions**

Learn how to summarize data with specified conditions using Excel database functions.

**Week 4: Using data analysis tools and creating a frequency distribution table/histogram**

Learn how to use analysis tools on Excel and statistical operations involving the creation of a frequency distribution table or histogram.

**Week 5: Scatter plot and cross-tabulation (pivot table)**

Create a scatter plot on Excel and understand data correlation. Learn how to create a cross-tabulation table using the pivot table function.

**Weeks 6 and 7: Macro operations**

Learn operations using macros on Excel. Learn how to automate operations by recording and running macros on Excel and how to create user functions.

**Weeks 8 and 9: Handling image files**

Learn about image file formats such as bitmap, GIF, JPEG and PNG and understand how images are handled on computers and compressed with file compression technologies. Create an image file, convert it into a different image format and try simple image processing techniques on it.

**Week 10: Handling movie files**

Learn how to handle movie files. Learn how to incorporate a movie onto a PowerPoint file and edit it on PowerPoint.

**Week 11: Creating a presentation material using media files**

Learn about how to create a presentation material with embedded images and movies and a presentation material linked with other files.

**Week 12: Creating a webpage (HTML)**

Understand how to create a webpage. After instructions focusing on HTML, students will try making a webpage.

**Week 13: Creating a webpage (CSS and Javascript)**

Understand how to create a webpage. In this session, students will learn how to create styles using CSS and the basics of Javascript and try using them.

**Week 14: Copyright issues concerning web pages and risks on the web**

Students will be lectured on copyright issues and privacy risks, with a focus on cases on the web, to understand appropriate ways to handle information in publishing information on the web.

**Week 15: Review and summary**

Review the course to prepare for the term-end examination.

**Preparation and Follow-up**

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Preparation: Read through the class materials which will be provided in advance and have an approximate overview of operations.

Follow-up: Review the class and repeat practicing the techniques with the data used in class or other relevant data. Assignments given in class should be completed outside class.