

# 01 Course Overview

*Introduction to OOA OOD and UML*

*2022 Spring*

College of Information Science and Engineering

Ritsumeikan University

Yu YAN

# Outline

- Course Policy
- Course Introduction
- Exercise 01

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# Acronyms

## Introduction to

*OOA* *OOD* and *UML*

→ Unified-Modeling Language

→ Object-Oriented Design

→ Object-Oriented Analysis

# Course Objectives

- The goal of this course is to provide you with a **basic understanding of OOA and OOD**, which are **very powerful methodologies** for modern engineering fields, including efficient software development
  - This knowledge will be extremely useful for understanding important stages of **system design**, systematic and analytical system development, testing and re-usability
- The course clarifies the following questions:
  - How to create programs using OO techniques ?
  - What is needed prior to program coding ?
  - How to conduct OO analysis and design ?
  - What techniques are needed to maintain long life and re-usability in software ?
  - How to use UML for OO design ?

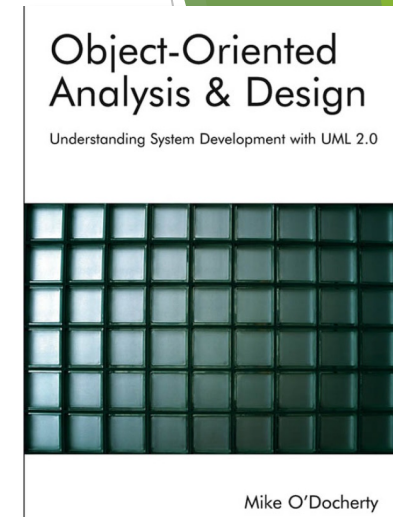
# Features of the Course

- Although skills in programming are not required, some topics will be illustrated by simple pieces of codes of OO languages (**Java, C++, C#**)
- Diagrams will be given in **UML** style
- The course knowledge is useful for your future Engineering PBL classes and real project development

# Reference Books

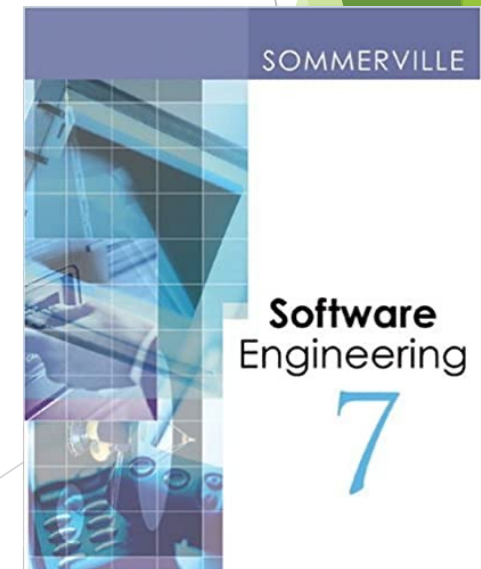
➤ Object-Oriented Analysis and Design:  
Understand System Development with  
UML 2.0 (1st Edition)

- ✓ Authors: Mike O'Docherty
- ✓ Publishers: Willey



➤ Software Engineering (7th Edition)

- ✓ Authors: Ian Sommerville
- ✓ Publishers: Addison Wesley



# UML: a Practical Tool

- UML is a useful tool for learning OOA and OOD.
- The current standard version (*UML 2.0*) is used for software diagram building
- UML does not require coding skills
- UML is a visual tool



# UML Software (1)

- ASTAH: <https://astah.net/>
  - Astah UML: Free for students.
  - Astah Professional, Astah SysML and Astah GSN: **Covered by The Astah Faculty License (Our department purchased)**
- Watch Demo Video of Astah Professional:  
<https://astah.net/products/astah-professional/>

# UML Software (2)

➤ Download ASTAH Professional:

<https://astah.net/downloads/>

A screenshot of the ASTAH Professional website. The header features the 'astah' logo in pink and 'professional' in black. Below the header, a paragraph states: 'Our premier product is designed to help you create UML, ER Diagram, Flowchart, and DFD ... and much more!'. Underneath this is a link 'System Requirements' followed by a right-pointing arrow. At the bottom of the section is a blue button with the word 'Download' in white.

astah professional

Our premier product is designed to help you create UML, ER Diagram, Flowchart, and DFD  
... and much more!

**System Requirements** →

**Download**

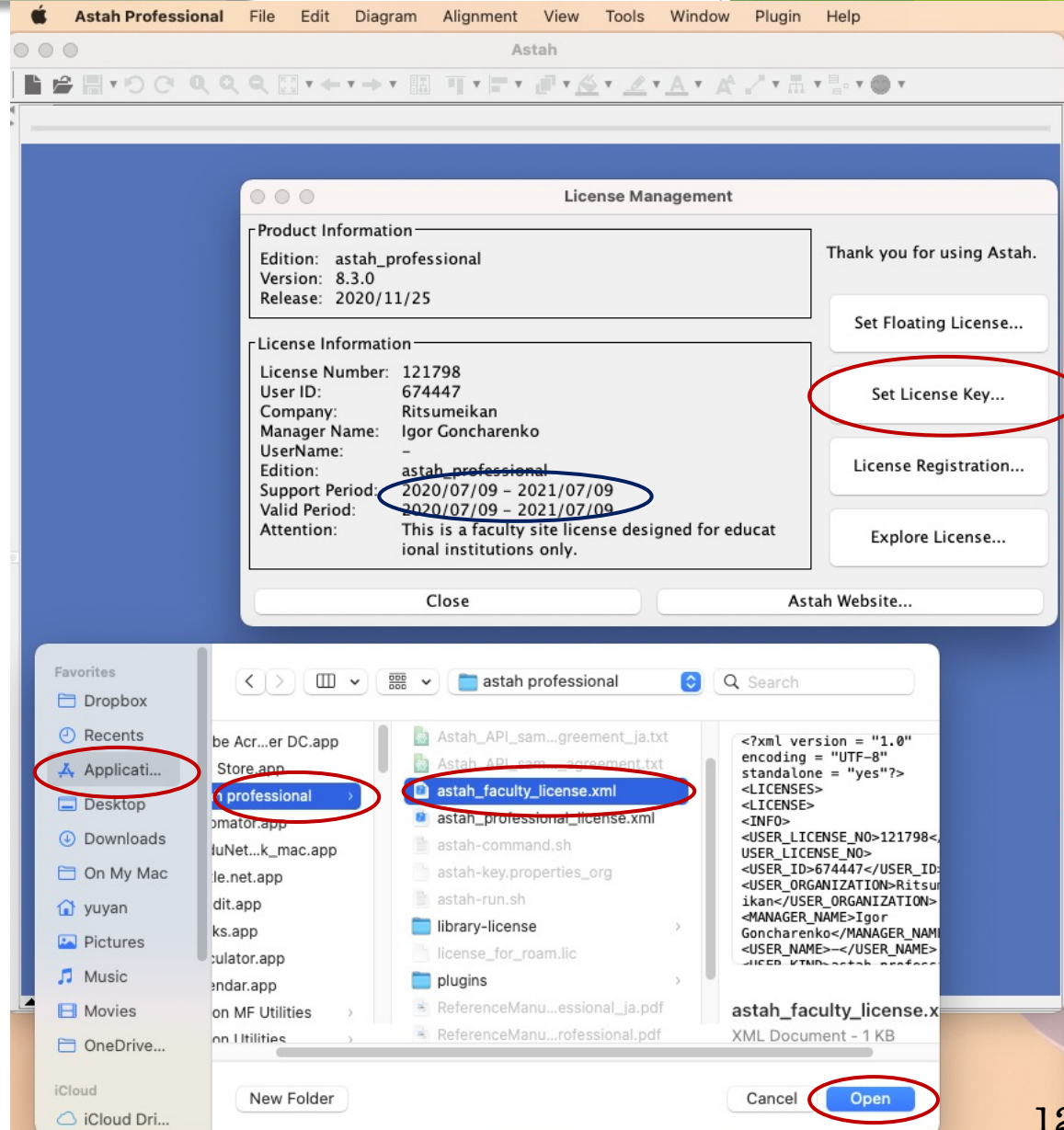
# UML Software (3)

- Set up The Astah faculty license for Astah Professional:
  - Download the file *“astah\_faculty\_license.xml”* from the “Resources” of our course page on Manaba +R
  - Copy and paste the file in the same directory as “Astah Professional” application:

*“Finder ->/Applications/astah professional/” (macOS)*
  - Open “Astah Professional” application -> Find “help” menu -> Choose “License..”.

# UML Software (4)

- Set License Key ->
- Find the directory that the license file is located ->  
 “Finder -  
 >/Applications/astah  
 professional/astah\_faculty\_li  
 cense.xml” (macOS)
- Click the “open” button.
- This license will expired on 2021/07/09. However, our department will update the license You may need to set your license again at that time.



# Outline

- Course Policies
- Course Introduction
- **Exercise 01**

# Exercise 01

- Deadline: **2022/04/14 (Thurs.) 9:00**
- Please submit your answer file to “Exercise 01” under “Assignments” tab in Manaba +R
- Please put all of the answers in one “.pdf” file. The file name will be “**UML\_Ex01\_Your name.pdf**”
- The maximum points for “Exercise 01” will be **3**
- If you put a wrong file name or wrong file format, your assignment will not be evaluated. Please be careful!

# Tasks

➤ Please finish the following task:

- ✓ **Task #01:** Download, install and active **Astah Professional** in your computer. You need to show me screenshots showing you already installed and active the software. **You must use your university email to download.** (1 point)
- ✓ **Task #02:** Use the following “Call Number” to report your attendance on Manaba +R for today’s class by **today 18:00.** (1 point)
- ✓ **Task #03:** Join the Slack Channel named “uml\_fy2022” by **2023/04/14 9:00** and type your name (The simple name that you would like to be called by us) in the Channel. (1 point)

**Call Number: 6235795**