

Preparation for COMP 1531 Final Exam

CONTENT NOT EXAMINED

- HTML/CSS and Flask.
- You will not be required to write any FLASK Applications

EXAMINED LECTURE CONTENT

The following content from the Lectures are examinable

For Weeks 01 and week 06 on software engineering and software development methodologies

- Refer to the summary slides attached: Summary of Week 01 and Week 04 Lectures
- Know how to write simple functions in python

Week 02

- Requirements Engineering

Week 03

- Art of Creating User Stories
- Domain Modelling using OO Design

Week 04

- OO Programming with Python
- Lecture Demo on TDD and exceptions
- *A knowledge of how to write classes in Python, define constructors, create instances is required. No IO, pickle. (A detailed Python cheat sheet will also be provided to students)*

Week 05

- Software Testing, Exception Handling and TDD
- Writing test-cases using PyTest. (You only need to be aware of PyTest. Unittest will not be examined (Slides 15-17 not examined))
- Lecture Demo on TDD and Exception Handling
- Lecture Demo on Coding for Association, Aggregation and Composition

Week 06

- Refer to the summary slides Weeks_01_06 for agile software development methodologies
- Introduction to WWW and Web Architecture (**only slides 1-14**)
- No HTML 5/CSS, Flask, Python Function Decorators
- *(You will not have any questions on HTML, CSS, or Flask)*

Week 07

- Effective Software Design

Week 08

- Introduction to ER

Week 09

- ER and Relational Model
- ORM (*Slides 82,83 - Not examined*)

Week 10

- Software Architecture (*In relation to architecture views, you will not be required to draw a component or deployment diagram in the exam. Just knowledge of what these diagrams are used for is adequate.*)
- Revision of Classes and ERD

EXAMINED TUT/LAB CONTENT

Preparation for Design Questions

In the lectures and tutorials, using the online shopping system and restaurant case-studies, we have shown you how to write user-stories, model class diagram, write test-cases. Become familiar with this process, so that you are confident, given a case-study you are able develop user-stories, use-case diagram, class diagram and ER model.

You must be able to:

- Do requirements analysis of a case-study and draw a use-case diagram
- Draw CRC cards and develop a conceptual class diagram (with appropriate access modifiers) and methods
- Analyse a case-study and draw an ER model and map the ER model to a relational model

Relevant labs to make you familiar with the above: Labs from weeks 03, 04_05, 08_09

Relevant tutorials to prepare you for both software engineering (theoretical and practical questions) are listed below:

The following tutorial and lab content will **NOT be examined**

1. Tutorial 07: Part 2 – Develop web applications using Flask
2. Week 07_08 Lab – Building front-end for car rental system
3. Tutorial 08: Part 1 – More features on Flask
4. Any lab exercises related to calculating factorial of a number, Fibonacci sequence or similar exercises.

PYTHON PROGRAMMING:

You will not be given python programming exercises such as calculating the factorial of a number, Fibonacci sequence or any similar exercises complete in the lab etc, however you will be required to do some implementation in Python as part of:

- translation of a conceptual class diagram to implementation (be familiar how to write code for inheritance, abstract classes) OR
- writing test-cases OR
- applying code refactoring and design principles

Hence, it is a good idea to be familiar with general Python programming concepts on how to define control-structure, string manipulation, defining lists etc. A **Python Cheat Sheet** which will include all necessary programming syntax will also be provided to you in the exam.

GROUP PROJECT CONTENT

- You will need to be familiar with the agile development practices undertaken in your group project, such as development of software in iterations, significance of use of source control, project tracking etc.
- You will not be asked questions related to the coding aspects of your group project.
- You will need to be familiar with git syntax