Course Outline

Pengujian Perangkat Lunak

Week 1, Session 1

Semester Gasal 21/22

Institut Teknologi Del
Jl. Sisingamangaraja
Sitoluama, Laguboti 22381
Toba – SUMUT
http://www.pidel.org

Lecturer : AMS dan Dian
Teaching Assistant: TBD
- 1143101–
- Sem Gasal 2021/2022 -

New issue

- Dosen Praktisi: Dian Hutasoit
- Akan masuk beberapa minggu

Course Description

- Software Development Fundamentals :
  - introduces the role/importance of software testing
  - presents the concept of testing process
- Software Validation and Verification
  - describes testing strategies from different perspectives
  - discusses different levels of testing
  - applies testing strategy to real program

Course Objective

This course is intended to students ability to:

- Understand the role of software tester
- Understand the relationship between software testing and software quality assurance
- Understanding the testing process and the classification of testing strategies
- Experience and apply various test case generation methods and testing techniques

Support Resource Materials

- Keyword Reference:
  - software testing, black-box testing, white-box testing, JUnit testing, regression testing, software configuration management, quality assurance
- Whitepapers, Book Chapters, Journals
  - Posted/uploaded onto **CIS**

– **Tools:**
  - **Selenium**
  - **Junit**
  - **Robot Framework**
  - **Cucumber**

Method of Presentation

- Lectures - 1 credit (1 hour per week): deliver course materials
- Lab work - 1 credit (2 hours per week): do the practical exercises for testing software, discuss about the assignment, quiz, and presentation of the assignment

Assessment

Task	**Weight**
Quiz (almost every week)	20 %
Mid Exam	30 %
Final exam	30 %
Assignment/Project/Lab Works	20 %

Details of Assessment

- **Quiz and Practial works:** small exercises to make sure students catch up the course materials

- **Mid** and **Final Exams**: consist of questions related to the course materials. The questions are designed to evaluate the knowledge/understanding about the course materials, and to assess whether students have achieved the course objectives.

- **Assignment**: there will be two assignments, the first one is individual and the second one is a group assignment. The assignment tasks are designed so that students could demonstrate their understanding of some testing strategies and their ability to apply the strategies on some applications

Schedule (Week 1 – 6)

Week	Lecture	Tutorial/Lab	Tutorial/Lab
1	Introduction to the course	Intro to software testing and QA, Review student knowledge about testing (as has been introduced in previous semesters)	Intro to software testing and QA, Exercise to software testing
2	Basic Testing	Tutorial exercises related to the lecture	Lab works about basic testing
3	Black Box Testing	Tutorial exercises related to the lecture	Lab works about Black Box Testing
4	White Box Testing	Tutorial exercises of White Box Testing	Tutorial exercises of White Box Testing
5	White Box Testing	Tutorial exercises of White Box Testing	
6	White Box Testing	Tutorial exercises of White Box Testing	White Box Testing

Schedule (Week 9 – 15)

Week	Lecture	Tutorial	Labs
7	Fault-Based Testing	Fault-Based Testing	Fault-Based Testing
9	Regression Testing	Regression Testing	Regression Testing
10	OO Testing and Agile Testing	Testing in OO and Agile Softare Development	OO and Agile
11	JUnit	Junit practical	Junit practical
12	Selenium	Selenium practical	**Quiz 2 (practical test about selenium)**
13	TDD, BDD, ATDD	TDD, BDD, ATDD	Robot Framework and Cucumber
14	Software Testing in Practical	Applying Testing	STD

Course Policies & Rules

- Prepare yourself
- Attendance & Lateness:
  - Attendance is mandatory
  - All students must arrive on time
- **Academic Dishonesty Policy:**
  - Plagiarism:
    - Misrepresentation of work as the student's own will not be tolerated → zero grade

Course Policies & Rules (cont'd)

- Assignment Submission:
  - Read the instruction
  - Submit on time; late submission will result in the loss of 10 points of your work
- Class Participation:
  - Grades for **class participation** will reflect the lecturer's perception of student quality and quantity of inputs to class discussion (e.g., answer to end-of-chapter discussion questions, read/discuss supplemental readings) and during lectures and any group sessions.

References

- Pressman R.S., "Software Engineering, a Practitioner's approach", Mc Graw Hill International Edition, 5-th edition, 2001
- Perry William E, ‘Effective methods for Software Testing’, John Wiley & Sons, 2000
- Kit Edward, ‘Software Testing In The Real World’, Pearson Education (Singapore Pte. Ltd.), Indian branch, 2000
- Kaner C, Falk J, Nguyen H.Q : "Testing Computer Software", Wiley Computer Publishing, 2001
- Nguyen H.Q. "Testing Web Application", Wiley Computer Publishing, 2001
- IEEE, **IEEE standards on Software Testing**, IEEE, 20

Thank You ☺