



## King Fahd University of Petroleum & Minerals

### College of Computing and Mathematics

Information and Computer Science Department

#### **SWE 326: Software Testing**

Course Project (15 %)

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#### Objective

To develop an understanding of software testing through hands-on experience. The project is about testing a Java-based car cruise control system application.

#### Project Operational Guidelines

- Use the **Master Test Plan template** to document all phases.
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#### Phase 1: Static Code Analysis

[15 Marks]

**Due Date: April 28, 2025**

This phase aims to apply static code analysis to the cruise control project.

##### **Deliverables:**

- Conduct a manual code inspection of the project code and record all your findings in a finding report.
- Choose and apply a free Java-based static code analysis to the project source code (an Eclipse-based tool is preferred). **Provide screenshots showing the produced report(s).**  
You can choose from the list below:

[http://en.wikipedia.org/wiki/List\\_of\\_tools\\_for\\_static\\_code\\_analysis#Java](http://en.wikipedia.org/wiki/List_of_tools_for_static_code_analysis#Java)

<http://marketplace.eclipse.org/>

The findings of this phase should be documented within the master test plan (provided).

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#### Phase 2: System Testing

[35 Marks]

**Due Date: April 28, 2025**

This phase aims to conduct the cruise control project's system testing (black-box testing).

##### **Deliverables:**

- **Step 2-1:** Develop the system test plan based on the set of requirements (provided).
- **Step 2-2:** Report on the system test execution (**template is provided within the Master Test Plan**)

The findings of this phase should be documented within the master test plan (provided).

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**Phase 3: Unit Testing****[50 Marks]****Due Date: May 11, 2025**

This phase aims to develop and execute a unit test plan (using Junit and code coverage tools).

**Deliverables:**

- **Step 3-1:** Design the unit test cases (integrated within the Master Test Plan)
- **Step 3-2:** Execute and report the Unit test plan execution report (integrated within the Master Test Plan)
- **Step 3-3:** Screenshots showing the execution results and achieved coverage (using EclEmma software). [www.eclemma.org/](http://www.eclemma.org/)

**The findings of this phase should be documented within the master test plan (provided).**

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**Final Submission****Due Date: May 11, 2025**

The final submission will consist of all project phase documents merged as one single project report (correctly formatted)