AMSE1003 Software Engineering – Assignment

1. Objectives

This assignment provides students with the opportunity to learn and apply the following skills;

- Produce a project plan and schedule.
- Produce system requirements specification.
- Produce test cases.
- Application of good screen design principles to design quality system interfaces.
- Ability to work in a team

2. Assessment

The learning outcomes assessed are:

CLO 2: Apply software engineering practices, project planning and tracking, and configuration management to a given problem. (C3, PLO2).

CLO 3: Present solution to a given problem with regards to software engineering practices, project planning and configuration management. (A2, PLO5).

Contribution of marks to coursework:

- The assignment deliverables* contributes **80%** to the coursework component (under CLO2) as follows:

Parts	**Marks**
Assignment report - Part 1	30
Assignment report - Part 2	25
Assignment report - Part 3	25
Total	**80**

- Presentation contributes **20%** to the coursework component (under CLO3).

  Refer to the Assignment Rubrics for details.

3. Assignment Tasks for Report Part 1, 2, and 3

Students are required to study and analyse an existing system (daily operations that are done manually) of an organisation. With the use of various tools and software development methodologies, you are required to produce the relevant system planning, analysis and design documentation for a new software system (to replace the existing system) for the organisation. The documentation should include:

Part 1

- **<u>Problems of existing system</u>**.
  Identify one organisation or company that still runs their process/business manually. Describe the chosen organisation/company (name, location, what they do) and discuss **FOUR (4) or FIVE (5)** [depending the number of members in the group] major **problems of the manual** process. **[10 marks]**

- **<u>Software quality attributes of the project.</u>** Suggest and explain **FOUR (4)** software quality attributes for the new proposed system. You may make any relevant assumptions to support your answer. **[10 marks]**

- **Software Process Model.** Recommend and explain an appropriate software process model for the proposed system. Justify your suggestion. You may make relevant assumptions to support your suggestion. **[10 marks]**

Part 2

- **Project Plan and Schedule.** Create the task allocation list and Gantt Chart for developing the proposed system. **[10 marks]**

- **Software Requirements Specification.** State the functional requirements and non-functional requirements for the proposed system. **[10 marks]**

- **An architectural design**. Recommend and design **ONE (1)** suitable System Organization Model. Explain the suggested model and justification of suggestion. You may make relevant assumptions to support your suggestion. **[5 marks]**

Part 3

- **Test cases.** Prepare test cases for black box testing based on the functional requirements identified. **[15 marks]**

- **Software Configuration Management.** Install Git, initialize a local repository, add and commit your assignment files, then push them to a remote repository (e.g., GitHub). Submit the link to your repository and provide a short description on how Git helped you track changes or manage different versions of your work. **[10 marks]**

4. Assignment Schedule

Week	Practical Task	Deliverable
1	Briefing on practical assignment Problems of existing system.	Week 1's task(s)
2	Software quality attributes	Week 2's task(s)
3	Software process model.	Week 4's task(s)
4		
5	Start on Project Plan and Schedule	Week 5's task(s)
6	Start on Project Plan and Schedule	Week 7's task(s)
7	Software Requirements Specification	
8	An architectural design	Week 8's task(s)
9	An architectural design	Week 9's task(s)
10	Test cases.	Week 10's task(s)
11	SCM	Week 11's task(s)
12	Assignment Report Submission, **Friday 11.59pm**	Week 12's task(s)
13	**Presentation**	Week 13's task(s)
14	Assignment-Feedback	

5. Oral Presentation

Student is required to do presentation of the assignment tasks during the practical classes as stated in Section 4: Assignment Schedule. Oral presentation MUST include MS PowerPoint slides.

6. The Final Assignment Report Format

The final assignment report for all Parts should contain the following items:
(a) Cover sheet (Appendix - FORM 1)
(b) Plagiarism statement with student signatures (Appendix - FORM 2)
(c) Table of Contents
(d) Body of answers – Part 1, 2, and 3
(e) Reference section (Students are required to use Harvard Referencing System format)
(f) Appendices (if any)

The report must be type-written using **MS-Word /Google Doc** and convert it to **PDF**. You are recommended to format your report according to the following specification:

Media	Students are required to submit a **softcopy** - well written and properly formatted report. Softcopy to be submitted to the Google Classroom assignment which include all work/deliverables for Assignment Part 1, Part 2 and Part 3 report.
Font Size	A body text of font ***size 12*** is required while for headings and subheadings a larger font size must be used.
Font Style	Use ***Times New Roman*** for body text. Main headings and sub-headings should be clearly stated using suitable font styles (e.g. Arial).
Line Spacing	Typed material should be ***1.5-line spaced***.
Alignment	Use ***Justify*** for alignment.
Headers and Footers	Appropriate footers and headers should be used to enhance clarity and presentation.
Page Numbering	Ensure that all pages (except cover page) are numbered.
Paper Size	Use ***A4*** paper (29.7cm x 21cm).

Table 1: Written Report Format

7. Late Submission

All assignments should be submitted by the stated due date as Section 4.
Late submission of the assignment will be handled according to the Guideline for Late Submission of Coursework available at **TAR UMT's Intranet Examinations and Credit Accumulation Undergraduate Guideline.**

PART B : LATE SUBMISSION OF COURSEWORK INFORMATION

Please check/tick one of the information below :

	Late submission of 1 - 3 days after deadline of submission: minus 10 marks
	Late submission of 4 - 7 days after deadline of submission: minus 20 marks
	Late submission of > 7 days after deadline of submission: 0 mark

In certain circumstances, a student may be allowed to submit the assignment late with valid reason. S/he must inform **at least one week before** the assignment is due. The lecturer will evaluate whether the circumstance warrants submitting the assignment late, but **no guarantee** that the students will not be penalized.

As a general rule, no extension of time will be granted. The assignment question and its due dates are normally disclosed in advance to students in order that they will be able to manage their time according to different course study progress and complete this assignment on time.

8. Google Classroom Plagiarism/Originality Checking

Students are required to submit their reports to the Google Classroom, check their work against a database containing other student reports, websites, and any other media sources using Plagiarism Checking in Google Classroom. The matching contents of your report returned shall NOT be more than 20%.

9. Academic Integrity and Plagiarism

Students are required to redo the entire assignment (depending on the seriousness of inaccuracy of the answer or the result returned from Plagiarism Checking in Google classroom is more than 20%) if the contents of any part of the assignment does not comply with the requirements of the assignment as requested by the respective lecturer.

Before submitting your assignment, please make sure that you have complied with **TAR UMT Plagiarism Policy**. Any cheating, attempt to cheat, plagiarism, collusion and any other attempts to gain an unfair advantage in assessment will cause the students concerned to be penalized.

IMPORTANT: Students found to be dishonest are liable to disciplinary action.

Appendix

FORM 1

FACULTY OF COMPUTING AND INFORMATION TECHNOLOGY

Diploma in Software Engineering

Programme: _____ (Group: _____)

Assignment

AMCS1004 SOFTWARE ENGINEERING

Name (Block Letters)	Registration No.	Signature	Marks
1.			
2.			
3.			
4.			
5.			

Lecturer's Name:

Date of Submission: _____

FORM 2

FACULTY OF COMPUTING AND INFORMATION TECHNOLOGY

Plagiarism Statement and Guideline for Late Submission of Coursework

Read, complete, and sign this statement to be submitted with the written report.

We confirm that the submitted works are all our own work and are in our own words.

Name (Block Letters)	Registration No.	Signature	Date
1.			
2.			
3.			
4.			
5.			