UNIVERSITY OF GLAMORGAN
Assessment Cover Sheet and Feedback Form
2011/12

Module Code: SY3S01	**Module Title:** Operating systems	**Lecturer:** Gaius Mulley
Assignment no: 2	**No of pages:**	**Maximum word count:** 2000

Assignment Title: LuK: Timers and scheduler
Tasks outlined on page 2

SECTION A: RECORD OF SUBMISSION

Record of Submission and Plagiarism Declaration

I declare that this assignment is my own work and that the sources of
information and material I have used (including the internet) have been
fully identified and properly acknowledged as required in the referencing
guidelines provided.

You are required to acknowledge that you have read the above statement by writing your
student number(s) above.

Number:

Details of Submission

Note that all work handed in after the submission date and within 5 working days will be capped
at 40%. No marks will be awarded if the assignment is submitted after the late submission date
unless mitigating circumstances are applied for and accepted.

- IT IS YOUR RESPONSIBILITY TO KEEP A RECORD OF ALL WORK SUBMITTED.
- An electronic copy of your work should be submitted via Blackboard.
- However your submitted electronic copy of your coursework **must** be in the **pdf** format as
  all other document formats **will** be ignored by the lecturer. One method to generate a **pdf**
  version is to open up a `MS Word` document in `OpenOffice` and export as **pdf**.
- Work should also be submitted to the member of academic staff responsible for setting
  your work.
- Work not submitted to the lecturer responsible may, **exceptionally**, be submitted (on the
  submission date) to the reception of the Faculty of Advanced Technology, which is on the
  2nd floor of G block (Room G221) where a receipt will be issued.

Mitigating Circumstances: if there are any exceptional circumstances which may have
affected your ability to undertake or submit this assignment, make sure you contact the Faculty
Advice Shop on 01443 482540 (G221).

Assessment Title: LuK: Timers and scheduler

This assignment requires you to implement a timer module within the microkernel. The timer module will use the process synchronisation primitives found in the Executive. Currently the Executive is non preemptive, however with the addition of your timer module the microkernel executive will become preemptive.

You will need to download the microkernel ⟨`http://floppsie.comp.glam.ac.uk/ download/luk/student-luk-1.0.8.tar.gz`⟩ and unpack, compile and build it in exactly the same way as the laboratory exercises undertaken over the last few weeks. There will be extensive help given during tutorial/laboratory times throughout the duration of the coursework.

(i) finish implementing the timer module and show that it is working by using an appropriate test module (provided). You need to complete three functions: `ArmTimer`, `Sleep` and `Timer`.

(ii) Once you have implemented the `Timer` function, you should now improve the scheduler in any way you think appropriate.

(iii) Document your new TimerHandler module and explain the interrelationship of code to the data structures. Also provide a high level pseudo code commentary for TimerHandler. Explain how the scheduler in the Executive interfaces to the TimerHandler.

Section B: Marking & Assessment

The assignment will be marked out of 100%

The assignment contributes to 25% of the total module marks

This assignment is non bonded

It is estimated that you should spend approximately 25 hours on this coursework

Date Set: 17 01 2012   Submission Date: 23 04 2012   Feedback Date: 04 05 2012

Learning Outcomes	
This assignment addresses the following learning outcomes of the module: Understand the structure and facilities of a modern operating system, their strengths, weaknesses and likely future developments. Apply operating systems understanding to make effective use of programming interfaces.	

Hours of Work	Number of Hours	
1. Number of hours of work that this assignment should take:	25	
2. Please indicate the number of hours actually taken:		
Marking Scheme	**Marks Available**	**Marks Awarded**
Implementation (i)	30	
Scheduler (ii)	30	
Documentation (iii)	40	

ASSESSMENT CRITERIA

Performance Level	Criteria
Fail (<40%)	A fail grade will be awarded for an answer which contains major errors and shows little understanding of the issues involved
Third (40%-49%)	A pass grade will be awarded for an answer which addresses the majority of points with few errors or omissions.
2:2 (50%-59%)	An average grade will be awarded for answers which contain no major errors or omissions.
2:1 (60%-69%)	A higher mark can be achieved if the work contains no major errors and also contains an analytical answer.
First (70%+)	A high grade will be awarded for work which includes the earlier criteria and contains a high quality analysis of issues from a range of source materials and makes some original contribution on the subject.

Section C: Markers Feedback

Lecturer's comments:

Areas to concentrate on next time:

Report structure   Research   Content   Team work

Referencing   Presentation

Lecturer's signature:	Date:	Mark awarded:

All marks are subject to confirmation by the Board of Examiners