


ASSESSMENT HANDOUT

PUT TITLE OF MODULE HERE



MODULE CODE	CCS1310
MODULE TITLE	Computer Systems Architectures
PROGRAMME	BSc (Hons) in Computer Science
DEPARTMENT	Computer Science
CREDITS	10
STAGE OF STUDY	1 st
SEMESTER/SESSION	Fall 2021-22
RE-ASSESSABLE	Yes
COMPENSATABLE	Yes
LOCATION	Thessaloniki
STAFF	Konstantinos Dimopoulos
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STAFF OFFICE	6 th floor Leontos Sofou bld.
ACCREDITATION	The programme is accredited by the British Computer Society (BCS) 

ASSESSMENT NUMBER	1
CONTRIBUTION	40% of the module final mark
ASSESSMENT TITLE	Design of a digital clock
ASSESSMENT TYPE	Project
HAND-OUT DATE	27/11/2021
SUBMISSION DATE	15/01/2022
FEEDBACK DATE	29/01/2022

LEARNING OUTCOMES
Upon completion of this piece of assessment, a student will be able to:
LO1 describe the structure, i.e. internal organization, of computer systems;
LO2 explain the role and operation of fundamental hardware components/modules;
LO4 perform arithmetic conversions between basic numbering systems; and
LO5 simplify logic functions and implement them with simple logic gates;

ASSESSMENT CRITERIA
<ul style="list-style-type: none"> Completeness of the specified requirements [40%] Correctness of the digital circuit [20%] Reporting the process of your circuit design [20%] Proper report formatting, structure, and references [20%]

DETAILED DESCRIPTION

You and another from your class are required to design a digital circuit for a digital clock. You should simulate the digital circuit at CircuitVerse (www.circuitverse.org). The clock should display the time (in hh:mm format) using Hex-Displays. In addition to telling the time the following requirements should be followed:

- It should be possible to **change the format** of the time from 12-hour to 24-hour and back. In case of 12-hour format, there should be an indicator it is PM or AM.
- It should be possible to **set the time** (in whatever format it is displayed) by changing the hours and minutes.
- It should be possible to **set the time of an alarm** (in whatever format it is displayed) by changing the hours and minutes that the alarm should go off. Once the time reaches the alarm time, an indication should be made (visual no sound) that shows that the **alarm is ringing**. This should remain in for a few minutes or until an alarm off button is pressed. There should be an **option of have the alarm on or off**. Extra credit for having a **snooze feature**.

SUBMISSION

Students are expected to submit:

- A report (submitted at Turnitin) describing their work (the designed circuits and how they came up with them).
- A simulation (submitted at CircuitVerse) of the digital circuit.

NOTE

This piece of assessment should be completed and submitted by the student (or group of students in group work) without assistance from or communication with another person either external or fellow student (outside the group). All sentences or passages cited in the assignment from other people's work should be specifically acknowledged by complete and accurate reference to the author, work and page(s). Failure to abide by the above regulation constitutes use of unfair means (collusion, plagiarism etc.) and will result in a fail mark for this work. It might also invoke disciplinary actions. It is at the instructor's discretion to conduct an oral examination, which will result in the award of the final grade for that particular piece of assessment.

TURN IT IN REQUIREMENT

This piece of assessment is required to be submitted to **turnitin** plagiarism detection software at:

www.turnitin.com

at a date no later than the submission date. This is an absolute requirement for releasing a mark. Brief instructions on how you can set up your profile and submit your work can be found at:

<https://help.turnitin.com/feedback-studio/turnitin-website/student/student-category.htm> (text)

<https://youtu.be/AC3GB-FOMvY> (video)

You are going to require:

CLASS ID:	32608623	ENROLLMENT PASSWORD:	CSA_CT
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If you have any problems in submitting your work, please contact the course administrator or the module leader.