What are some important aspects to consider while taking this class?

The best way to learn is to do

A bottom-up approach to learning is to start with something you know and then abstract it

For this class to be successful, you will need to get help from your fellow students and/or give help to your fellow students

Risk-taking while exploring design decisions builds a creative mind

Valvano and Yerraballi want you to try until you succeed

An effective team size is 2 or 3 students

All of the above correct

Submit

Some problems have options such as save, reset, hints, or show answer. These options follow the Submit button.

Show Answer

Correct (1/1 point)

Review

Definitions

2/2 points (graded)

Please match the following terms with the letter of their appropriate definitions.

|  |  |
| --- | --- |
| Latency    correct | A. A guarantee to meet all deadlines |
| Evolution    correct | B. Amount of information transferred or processed per time |
| Real time    correct | C. Time delay from request to service |
| Bandwidth    correct | D. Incremental change to improve performance, features and reliability |
| Operating system    correct | E. Software layer between the application software and the hardware |

Submit

Some problems have options such as save, reset, hints, or show answer. These options follow the Submit button.

Show Answer

Correct (2/2 points)

Review

Regular versus Real-time OS

1/1 point (graded)

Which type of OS is simpler than the other?

Regular OS

RTOS correct

Which type of OS is fairness more important than timeliness?

Regular OS correct

RTOS

Which type of OS is average bandwidth more important than upper and low limits of bandwidth?

Regular OS correct

RTOS

Which type of OS requires one to know all the hardware components?

Regular OS

RTOS correct

Which type of OS handles plug and play? In other words a new hardware device can be added and the OS figures out how to use it.

Regular OS correct

RTOS

Submit

Some problems have options such as save, reset, hints, or show answer. These options follow the Submit button.

Show Answer

Correct (1/1 point)

Review

Flash ROM

1/1 point (graded)

How many bytes in a kibibyte?  correct

1024 Loading

How many kibibytes of Flash ROM are in the MSP432 and TM4C123?  correct

256 Loading

How many kibibytes of RAM are in the MSP432?  correct

64 Loading

How many I/O pins are there on the TM4C123?  correct

43 Loading

Submit

Some problems have options such as save, reset, hints, or show answer. These options follow the Submit button.

Show Answer

Correct (1/1 point)

Review

Push/Pop order on the stack

1/1 point (graded)

Assume register R0 is initially contains 0, R1 is initially contains 1, and R2 is initially contains 2. These instructions are executed

PUSH {R0,R1,R2}

POP {R1,R2,R0}

What is in R0 after this software is executed?  correct

0 Loading

Submit

Some problems have options such as save, reset, hints, or show answer. These options follow the Submit button.

Show Answer

Correct (1/1 point)

Review

Serial I/O

1/1 point (graded)

Which of the following I/O devices is serial?

UART

SSI or SPI

I2C

CAN

Ethernet

All of the above correct

Submit

Some problems have options such as save, reset, hints, or show answer. These options follow the Submit button.

Show Answer

Correct (1/1 point)

Review

LCD interface

1/1 point (graded)

Which of the following I/O devices does the LCD in this lab use?

UART

SSI or SPI

I2C

PWM

ADC

None of the above correct

Submit

Some problems have options such as save, reset, hints, or show answer. These options follow the Submit button.

Show Answer

Correct (1/1 point)

Review

Accessing memory from assembly language

1/1 point (graded)

Let **Data** be a 32-bit global variable. Consider these assembly instructions:

**LDR R0,=Data**

What is the effect of executing these instructions?

R0 has the contents of the **Data**

R0 has the address of the current instruction

R0 has the address of the variable **Data** correct

None of the above

Submit

Some problems have options such as save, reset, hints, or show answer. These options follow the Submit button.

Show Answer

Correct (1/1 point)

Review

ARM Architecture Procedure Call Standard

1/1 point (graded)

Which of the following is an AAPCS rule?

The stack must be balanced

The first input parameter, if it exists, is passed in R0 correct

The output parameter, if it exists, is returned in R1

The stack must be aligned to 4 bytes (word-aligned)

When one function calls another, the return address is pushed on the stack

**Answer**

Correct:

The second, third and fourth input parameters would be passed in R1, R2, R3 respectively

Submit

Some problems have options such as save, reset, hints, or show answer. These options follow the Submit button.

Show Answer

Correct (1/1 point)

Review

Debugging Terms

2/2 points (graded)

Please match the following terms with the letter of their appropriate definitions.

|  |  |
| --- | --- |
| Black-box testing    correct | A. A measure of the degree of perturbation caused in program performance by the debugging instrument itself |
| Logic analyzer    correct | B. Measures voltage amplitude versus time |
| Intrusiveness    correct | C. Observe the inputs and outputs without looking inside |
| Oscilloscope    correct | D. Multiple channel digital storage device |
| Dump    correct | E. Record strategic information into arrays |