



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

**PAPER FOR GAYNOR'S
STUDENTS**

NAME: *Nick Ryan*

COURSE: *Software programming*
Electronic & Electrical
engineering

LOCATION: SWANSEA

LLEOLIAD: ABERTAWE

LEVEL 4

LEVEL 4

**EXAMINATION PERIOD
MAY 2019**

**CYFNOD ARHOLIADAU
MAY 2019**

**MODULE CODE: ACCA4017
SOFTWARE DEVELOPMENT**

TIME: 2 HOURS

NOTE: IN-CLASS TEST, WED MAY 15th 2019 AM

Equipment or materials required – Computers with Visual Studio installed

Adnoddau neu ddefnyddiau sydd eu hangen – Cyfrifiraduron gyda Visual Studio

This is an open-book test, you may consult notes and/or Moodle.

ANSWER ALL QUESTIONS

Question 1 – write on the paper.

Question 2, 3 and 4 – write your programs using Visual Studio and upload your answers to Moodle at the end of the test.

1. a) Which variable type would be most suitable to store each of the following values?

3.142

Float ✓

123

int ✓

Jim

~~char~~ ⁴String ^{1/2} ✓

79.6

Float ✓

a

char ✓

-34.52

Float ✓

5 1/2 ✓

[1 mark each - 6 marks total]

1 b) What errors are present in the following program to calculate the area of a triangle?

```
#include <stdio.h>
```

```
void main()
```

```
{
```

```
int base,height;
```

```
float total
```

```
printf("Enter base: ");
```

```
scanf("%d", base);
```

```
printf("Enter height: ");
```

```
scanf("%d, height);
```

```
total=0.5*base*height;
```

```
printf("The area of the triangle is %f");
```

```
}
```

~~printf("Enter base: ");~~
~~scanf("%d", &base);~~ ✓
~~scanf("%d, height);~~ ✓

2

~~printf("The area of the triangle is %f");~~ ✓

[5 marks]

1 c) How many iterations do the following loops have?

i) for (i=0;i<12;i++)
{
printf("%d",i);
}

13 ✓

ii) for (i=1;i<6;i=i+1)
{
printf("%d",i);
}

6 ✓

[4 marks]

1. d) What is the value of the integer variable total after the following code is executed?

```
total=1;
for (x=0; x<7; x++)
{
    total=total+x;
    if(x==4)
    {
        total=0;
    }
}
```

15

[3 marks]

1 e) Given the following program:

```
#include <stdio.h>

void main()
{
    int x;
    int *mypoint;
    x=9;
    mypoint=&x;
}
```

i) Write the code you would use to print the contents of x on the screen using the pointer mypoint:

printf("%d", *mypoint); [1 mark]

ii) Write the code you would use to print the memory address of x:

printf("%p", &x); [1 mark]

[20 marks total for Question 1]