BIOL5371M

ASSIGNMENT 1

You will be assigned a contemporary scientific research article by your tutor and you will create **a flow diagram** which describes the program of work performed to create results in a specific figure in this paper. The paper will be posted on the VLE under the Group you have been assigned and the tutor will inform you which figure you must use.

An example of a flow chart is provided below, but you can use any layout that you feel allows you to provide the information you are trying to set out.

In your flow diagram you should be presenting the **strategic approach** that is required for the experiment including identifying the appropriate controls etc. Do not present very detailed experimental aspects such as volumes of buffers or other reagents or incubation times. Focus upon the materials needed and the principles of the methods required to generate the data.

The flow diagram and accompanying notes should be limited to 3 sides of A4 paper (2 cm margins; text Arial 11pt). That is the font and size used in this document!

If your submission exceeds 3 sides of A4 it will be returned to you for correction and late submission penalties will apply.

Preparation for Coursework Surgery 1

Prior to the coursework surgery you should:

1. Read the assigned article. Identify the key technical issues in the program of work, the approaches used and the solutions developed to generate the data and to overcome any technical difficulties.

2. Analyse the assigned figure and associated experiments – try to understand what hypothesis is being tested.

3. Fill in any gaps in your understanding of the methodology by following the references in the paper and looking at relevant textbooks

4. Explore the provided flow chart example (below) to get the feel for the level of detail required. Precise details of experimental conditions are not necessary.

5. Prepare questions for your tutor related to areas of uncertainty and to ensure that you understand the methodology and the hypothesis and how to go about preparing the flow diagram.

REMEMBER: You are presenting how **YOU** would go about generating the data and **NOT** how the authors did this and **so write is directive style**…..what does this mean, the dictionary definition of directive means "…intended to guide" So write in a way that would direct you or someone else what they needed to do to generate the data presented in the Figure.

During Coursework Surgery 1 your tutor will:

1. Explore your understanding of the paper and the purpose of the particular figure you have been assigned….*so make sure you have read and understand the paper in as much as possible*.

2. Clarify the hypothesis being tested in that figure.

3. Use an example chart (provided on VLE) to illustrate the expected level of detail and format expected

4. Answer your questions and recommend further reading if requested

Following coursework surgery 1, you are must fill in remaining gaps in your understanding by further reading and complete a draft of the flow chart.

Preparation for Coursework Surgery 2

1. Create a draft work flow diagram for the selected figure, annotate it and bring it with you to the tutorial. This is best done using either powerpoint or a pdf of the three pages of your draft. Your tutor should tell you what format they want and also whether you should email them your draft the day before the Coursework surgery.

2. Present your flow diagram during the tutorial (2-3 min, using your powerpoint/pdf slides.

3. Prepare to discuss the issues you would have to overcome in the execution of the workplan and the resources you would use at each stage of the plan. You may be able to purchase some resources e.g. antibody and in other cases you may need to manufacture them as part of the experimental work e.g. mutant genes.

4. Check with your tutor whether the level of detail provided in your annotation is sufficient or too detailed.

During Coursework Surgery 2 your tutor will:

1. Feedback on presentations

2. Briefly check the quality and clarity of the draft flow diagrams produced by students and provide feedback on the level of detail

3. Discuss any remaining technical issues raised by students in connection with any aspect of the research involved

Following coursework surgery 2 you must

- complete the workplan flow diagram with appropriate annotation
- include a final short section that sets out the actual findings/conclusions of the paper
- submit the final version in printed format to the Student Education Office as well as uploading in electronic format via VLE.

A copy of the marking scheme for this assignment is available on the VLE.

Example flow chart and annotation:
The example flow chart on the VLE provides one example of a layout, but many others are possible, use your imagination and the style that fits your presentation. The example is not correctly presented in a directive style to writing. So for example it uses WAS and WERE whereas if you were going to do the experiment you would say WILL BE.