Dissertation: Course MED5105P Guidance Notes

The dissertation takes the form of an independent piece of work in which the student selects a relevant topic of interest and carries out a laboratory-based project, a systematic literature review or a clinical data-based investigation in order to produce a report demonstrating in-depth, critical understanding and evaluation of the topic. The dissertation is worth 60 credits.

Aims:

To plan and execute an independent research project, audit or critical review of the literature in the area of clinical pharmacology, to produce a written dissertation and to present and discuss the conclusions of the research.

Intended Learning Outcomes:

By the end of this course students should be able to:

- Critically assess and summarise the literature in the area of the research project,
- Plan and carry out a research project, a systematic review, or an audit,
- Carry out a defined group of practical laboratory and/or clinical skills or, in literature-based projects, the skills of information retrieval and handling,
- Organise and present a research report, critically assessing the limitation of the project and the contribution it makes to current knowledge,
- Analyse and interpret data,
- Communicate data in a systematic and concise manner, and
- Present research project and results in the format of a submission of a paper to a learned peer reviewed journal.

Assessment:

Final written report (6,000 – 8,000 words; 70%)

Preparation and presentation of poster (30%).

Some previous research topics (for illustrative purposes only):

- Pharmacogenomics of antihypertensive response – a genome wide approach
- New H.pylori eradication therapy: a systematic review and meta-analysis
- Predictors of inpatient prescription chart errors at the point of admission to hospital
- Analgesic use and cardiovascular risk
- Urinary proteomics and aspirin resistance
- Gene therapy approaches in vascular disorders
- Do anti-oxidant strategies have a role in future therapies?

Guidelines for Research Project/Dissertation

Introduction

The project contributes 60 credits towards your final mark and you must achieve a D grade or better in the project in order for the degree of MSc to be awarded.

You will be given a number of options for research projects during semester 2. If you have an interest in any specific area or have an idea of the type of project you would like to undertake, please discuss this with Dr Miller or Prof Dawson as early as possible in the year.

Aim

To plan and execute an independent project, audit or critical review of the literature in the area of clinical pharmacology, to produce a written dissertation and to present and discuss the conclusions of the research

Learning Outcomes

By the end of this course students should be able to:

- Critically assess and summarise the literature in the area of the research project, highlighting gaps in knowledge
- Synthesise appropriate research aims and hypotheses
- Plan and execute a research project, a systematic literature review, or an information / data audit,
- Perform a defined group of practical laboratory and/or clinical skills, or, in non-laboratory projects, the skills of information retrieval and handling,
- Appropriately analyse and interpret data
- Organise and present a research report, which communicates data in a systematic and concise manner; critically assesses the strengths and limitations of the project; and discusses the contribution the findings make in the context of existing knowledge.
- Prepare and present a scientific poster, summarising their project.

Note that pursuance of the investigation to a scientifically satisfactory conclusion is not listed among the objectives. Clinical research over such a short time scale is not easy. Project objectives must be realistic within the timescale available. Of course it is much more pleasing for everybody if you are able to achieve a scientifically satisfactory conclusion, but all examiners realise that there may be good reasons, not foreseeable at planning stage, for your being unable to do so in the very brief time available. An inconclusive outcome realistically faced and honestly presented, will not itself count against you. However, failure which appears to be due to a lack of imagination, judgment or diligence is unacceptable.

Role of supervisor

The supervisor's role is:

a) Ensuring, where appropriate, that Ethical Committee and/or Home Office approval has been obtained as necessary, and all licensing requirements and/or safety regulations have been satisfied.

b) Agreeing with the student a project outline and plan of work and ensuring a realistic timetable.

c) Ensuring access to patients, equipment, facilities and consumables, and guiding the student in acquiring all necessary techniques.

d) Encouraging the student to keep adequate experimental records and maintain an accurate laboratory notebook, which can be shown to the examiner if necessary.

e) Helping the student assess their progress in developing their skills and generally advising, directing and encouraging the student.

f) Being alert to the possibility that some change of emphasis, methods or goals may become necessary. Precise advice and prompt assistance is likely to be required in such circumstances.

g) Guiding the student (or, where required, arranging additional expert guidance) in the presentation and interpretation of their results.

It is hoped that, in normal circumstances, your supervisor will see you at least once a week to carry out these functions. If you have any major problems that cannot be resolved by your supervisor, please contact Dr Miller or Prof Dawson as soon as possible.

Responsibilities

It is your responsibility to ensure that your supervisor is aware of the deadlines you have to meet or presentations you have to make. It is important to remember that project supervision is only a small part of your supervisor’s day to day work and that it is unreasonable to expect them to comment on your work at short notice, particularly with respect to submission of your project. Remember that it is your responsibility to ensure that the project is completed, written up and submitted on time.

Financial

Unless you have been expressly told otherwise, all reasonable costs of your project work itself will be funded. Your Supervisor will receive information from the Programme Administrator advising them how to ensure project funds are made available to them.

You are responsible for the costs of literature photocopying, word processing/typing and of preparing all original graphs and illustrations. The only exception will be where photographic or similar expenses were part of the basic project work and the illustrations are covered by that costing. The printing of your poster will be carried out by the programme. Details on this will follow.

Ethical

It is the responsibility of the supervisor, to ensure that appropriate ethics and / or home office approval is obtained. As ethics committees often meet monthly it is important that a submission is made at the earliest opportunity to allow for feedback and amendments.

General Guideline for Producing the Research Project Dissertation

The general guideline is that the students should follow as nearly as possible the processes that a medical scientist would follow in presenting their work for publication.

General

You will be given instructions nearer the time regarding submission of your Dissertation. The papers should be typed, double or 1.5 spaced on white A4 paper using a font such as Arial. Font size 12 should be used for the main text. One electronic copy should be submitted via Moodle. Pages should be numbered sequentially and have your matriculation number as a header. Papers should *normally* have the format: Introduction, Methods, Results, Discussion, References, Tables and Figures. Different types of projects may lead to variations of these headings – this is ok. Specific software will be used to identify evidence of plagiarism and to check the paper specifications.

Paper Specifications

The dissertations should be submitted in the form of an original research or review paper for an appropriate scientific journal, including an outline of literature search strategy if appropriate.

Length

As there are different types of projects that students may undertake, a fairly wide range of acceptable word counts is given. The final submission should lie within the range of 6,000 – 8,000 words (*excluding the abstract, references, figure legends and acknowledgements*).

Title page

Title: this should be as informative as possible. It should not contain any abbreviations.

Matriculation number should be included in title page.

Abstract

A summary of the work should be included as an abstract. This does not contribute to the word count). This should be one page maximum

Project Feedback

A statement / declaration acknowledging the extent of the support given by others, e.g. supervisor, laboratory technicians, etc., in obtaining the results must be submitted along with the project. It should identify any factors unforeseen at the outset which affected the project.

Introduction

This should be comprehensible to the general reader and should contain a clear statement of the reason for doing the work, but should not include either the findings or the conclusions. A very brief résumé of the current state of knowledge may be helpful so that the paper is intelligible to the non-specialist reader. This is particularly important in highly specialized fields.

Methods

The aim should be to give sufficient information in the text or by reference to permit the work to be repeated without the need to communicate with the author.

Results

This section should not include material appropriate to the Discussion section.

Discussion

This should not contain results and should be pertinent to the data presented.

References

References should be presented in line with a standard, recognised system / convention (e.g. the Harvard system). It is important whichever referencing convention is used is accurate, clear and consistent.

Figures and Tables

Each figure and table should be typed separately from the text with a separate sheet for each. References to Figures and Tables should be in Arabic numerals, e.g. Figure 3, and they should be numbered in order of appearance. In general, the same data should not be presented in both a Figure and a Table.

All tables should have a title at the top. All figures should have a descriptive figure legend below. Figure legends should include all relevant information for the reader to be able to make sense of the figure without referring to the main text.

The University of Glasgow is a recipient of an institutional Bronze Award from Athena SWAN. The Athena SWAN Awards recognise success in developing employment practices to further and support the careers of women in science, technology, engineering, maths and medicine in higher education. In the spirit of this, all requests to match students with a supervisor of a specific gender will be considered by the programme team.