Undergraduate Research Internship

The internship programme at Rhodes Department of Chemistry has been introduced to give undergraduate students the experience of working in a real-life environment with in a laboratory, as opposed to practical labs that have well worked experimental conditions. It has formalised and incorporated into our third year practical programme where it forms part of the second semester practical course assessment.

Project outline:

Selection of projects

Students will be matched with a project which falls within their preferred area (wherever possible) and within the times which they are available. They are to choose between inorganic, physical, analytical and organic chemistry, and they should indicate the days on which they are available for research as well as the semester in which they would prefer to do their research.

Students are to make their preferences known to Prof Watkins by **Friday 23rd February 2018.** Places are available on a first come first served basis *so do not delay*! A simple e-mail with "Internship" in the title, addressed to g.watkins@ru.ac.za. and containing your preferences is all that is required. Alternatively, fill in your semester choice on the list that will go around during lectures.

Supervision

Each student is to be matched with a post-graduate/staff member (each post graduate who supervises is to report progress to their supervisor periodically). The match will be made on a first come, first served basis with students being given a couple of days at the beginning of the year to select their research group and semester. The student and their supervisor are to discuss the project according to the guidelines provided. This discussion should happen during the first two weeks of term 1 or 3.

Research topic

All projects should fall within the supervisor's expertise, and should be approved by the staff member before starting. The actual project should be discussed with the student at the first meeting. This discussion should cover the following points:

Objectives (not too many! The project should be achievable within the time period including time for write up)

Procedures

Laboratory requirements (equipments, glassware, chemicals, safety)

Schedule (this may need to be flexible but should include lab time, meetings times, and deadlines)

A reading list (this may be brief, but it is important to get the students into the habit of reading in order to inform research)

A record of the first meeting (outlining the answers to the above points) should be filed with Prof Watkins and with the staff member in charge of the lab within the first three weeks of the semester in which the research takes place. It is essential that the students are exposed to the safety aspects of lab work as well as proper record keeping.

Scheduling and deadlines

The project is to be run in **either the first or second semester**, depending on the availability of the student and supervisor. Actual times are to be flexible but should not amount to more than the equivalent of 4 hours a week

over 13 weeks (52 hours). During this time the student should develop some measure of independence, but should not be left alone in the lab.

> **The student and their supervisor must agree to deadlines within the project for completion of the practical component, the written component and the oral component.** The only external deadline is the hand in of the marks to the coordinator (Prof Watkins) by the beginning of swot week.

It is recommended that students attend the group meetings of the research group to which they are affiliated.

Assessment

A final report is required (45%).

This should be assessed by the post graduate student and moderated by their supervisor, and the marks are due in on the first day of swot week for the semester in which the research was completed.

Oral presentation 45%

The intern is also expected to prepare an **oral to be presented to their research group** towards the end of semester. This may be on the whole project or on a part of it, depending on when they are fitted into the research group programme.

Performance in laboratory (10%)

The third component of the assessment is a *subjective assessment of the student's performance* in the laboratory. This should cover issues of commitment (reliability, record keeping, and cleanliness) and initiative, as well as good lab practice.

The student should be made aware of these expectations at the beginning of the project.

A cocktail evening at the end of the year has always been a highlight of the third year programme and we plan to retain this practice. Details will follow in due course.