Module Outline (MSc by Research)

Module code	SR-5101			
Module Title	Advanced Research Skills 1			
Degree/Diploma	Master of Science by Research			
Type of Module	Core			
Modular Credits	4	**Total student Workload**	10	hours/week
		Contact hours	2	hours/week
Prerequisite	None			
Anti-requisite	SR-6101			

Aims

To provide new graduate students involved in research in the sciences with the skills and resources needed for successful research. These include adherence to the health and safety requirements of the university, ethical and professional obligations of researchers, use of bibliographic, analytical, computing and statistical tools in scientific research, developing academic writing skills, articulating and discussing the results of their research as well as patenting and commercialising their research outcomes.

Learning Outcomes

On successful completion of this module, a student will be expected to be able to:

Lower order :	10%	- integrate into the research agenda the key issues in safe laboratory practice, research ethics and best practice standards in scientific research; - identify and recognise available tools and resources in the university that are useful for research
Middle order :	10%	- conduct laboratory or other research work in a professional manner that meets ethical requirements, best practice standards as well as health and safety requirements; - apply and use available tools and resources
Higher order:	80%	- practise analytical, computing and statistical skills to generate meaningful results from experimental data; - design and apply experimental or theoretical approaches to address research objectives and critically evaluate research outcomes; - write a short review article and give a seminar on a chosen or assigned topic

Module Contents

- Essential practices for successful research including health and safety requirements (specific to the student's research area), research ethics and integrity in scientific research
- Research planning, design and proposal writing (specific to the student's research area)
- Data evaluation and analysis (for experimental scientists)
- Writing of papers for publication (specific to the student's research area)
- Scientific presentations and seminars
- Patenting and commercialisation of research

Assessment	Formative assessment	Weekly research update submitted to thesis supervisors
	Summative assessment	Examination: 0%
		Coursework: 100% - 1 Research plan proposal (20%) - 1 Short review article (50%) - 1 Oral Presentation (30%)