

## 1 ORGANISATIONAL MATTERS

Welcome! I trust that you will find the course in Research Methodology very stimulating. This course is designed to give you exposure to and stimulate your thoughts beyond what you were probably used to. So, join in the adventure to expand your knowledge about the sciences in general, research and the scientific method of acquiring knowledge. The formal contact sessions for **Research Methodology IV (RMY101S)** will be offered **every Tuesday from 16:45 to 18:20** in the Food Factory room 3.



Environmental Health IV	1	2	3	4	5	6	7	8	9	10	11	12	13
	08:30 09:05	09:15 9:50	10:00 10:35	10:45 11:20	11:30 12:05	12:15 12:50	13:00 13:45	13:45 14:20	14:30 15:05	15:15 15:50	16:00 16:35	16:45 17:30	17:45 18:20
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As a lecturer at a tertiary educational institution, I am always willing to assist, should you require academic related assistance. Do not hesitate to contact me via Email or to make an appointment, should you need to discuss anything with me. My contact details are as follows:

Lecturer	Telephone	Room	Building	E-mail
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## 2 RATIONAL FOR THIS MODULE

All professions require from their employees some sort of research skill. It is for this purpose that students will be given an in-depth understanding of research methodology. "...Social research is the systematic observation of social life for the purpose of finding and understanding patterns in what is observed..." (Babbie & Mouton, 2005:xxi). Systematic observation is predominantly done by means of three broad methodological paradigms: quantitative, qualitative and participatory action research. Every research project has basic research logic. In this module you will get an understanding of what this logic entails with regard to the research process, the purpose of research design and how to ensure validity in the research process. Successful application of validity and reliability in a research study is achieved through the correct application of research design and methodology.



### 3 MODULE MAIN OUTCOMES

At the end of this module you will be able to:

- Identify and interpret the nature of scientific inquiry
- Demonstrate and derive at the critical application of research logic
- Critically appraise and formulate appropriate research designs for application during a research study
- Define and interpret the notion of validity to the entire research process
- Produce a research study proposal



### 4 MAIN CONTENT

- The nature of scientific knowledge – the research logic
- Design and types of research design
- Data gathering tools and types of data analyses
- Research Study conceptualization
- Literature review for a research rational and study
- Writing the research proposal

### 5 MODULE STRUCTURE (MAIN CONTENT)

Study theme and study units	Method of instruction	Contact sessions Dates
<b>1. What is social inquiry?</b> 1.1 <i>Importance of terminology (glossary)</i> 1.2 <i>The nature of scientific knowledge</i> 1.3 <i>Methodological paradigms in social research</i>	Contact session, Oral Class Assessment/Test (Importance of terminology – glossary)	8 March, & 15 March
<b>2. Research Design</b> 2.1 <i>Logic of scientific inquiry</i> 2.2 <i>Purposes of research</i> 2.3 <i>Unit of Analysis</i> 2.4 <i>Points of focus</i> 2.5 <i>Time dimension</i> 2.6 <i>How to design a research project</i>	Contact session, Lecture Group Work: Application of ProDEC Model and Validity Framework with analyzing Scientific Journal articles <b>Group Work due date: 19 July</b>	15 March, 5 April, 12 April, 19 April
<b>TEST</b>	<b>Theme 1 &amp; 2</b>	<b>26 April</b>
<b>3. Types of Research Design</b> 3.1 <i>Experiments</i> 3.2 <i>Surveys</i> 3.3 <i>Qualitative Studies</i> 3.4 <i>Participatory Action Research</i> 3.5 <i>Introduction to Evaluation Research</i> 3.6 <i>Unobtrusive Research</i>	Lecture & contact session. Self-study toward assignment	3 May & 10 May

<b>Study theme and study units</b>	<b>Method of instruction</b>	<b>Contact sessions Dates</b>
<b>4. Rational for research study</b> 4.1 Literature Review 4.2 Mind mapping & conceptualization <b>4.3 Smart search in 60 min</b> 4.4 Academic writing	Lecture, Contact session, Empirical Research Design Formulation <b>Smart search in 60 min practicum</b>	19 July & 2 August
<b>5. Data Gathering Tools</b> 5.1 Questionnaire design 5.2 Interviewing techniques	Lecture, Contact session <u>Assignment: Designing a questionnaire</u>	9 August
<b>6. Data Analysis Types</b>	Lecture, Contact session. <u>Assignment: Data analysis of data from questionnaire or interview assignment</u>	16 August
<b>7. Research Proposal Writing</b>	Lecture, Contact session <u>Assignment: Writing a research proposal</u>	23 August
<b>TEST</b>	<b>Theme 3, 4 - 6</b>	<b>30 August</b>
<b>8. Research Proposal (phase 1 – rationale &amp; literature review)</b>	Lecture, Contact session <u>Presenting phase 1 in class</u>	13 September
<b>9. Research Proposal (phase 2 design &amp; data gathering)</b>	Lecture, Contact session <u>Presenting phase 2 in class 4 Oct</u>	20 September, 27 September, 4 October
<b>10. Research Proposal Presentations</b>	Presentations to the Research Committee – 20% towards your final mark	11 October 18 October 25 October
<b>Research Proposal Submission</b>	<b>Replacing your FISCA exam – 40% towards final mark</b>	<b>1 November</b>



## Study theme 1: What is Social Inquiry?

### Specific outcomes:

#### The student will:

- Examine and discuss the nature and forms of human knowledge
- Define and interpret the three contexts/worlds in which knowledge functions
- Examine and discuss the three dominant methodological approaches to social research
- List and define the main terminology in social research

### Study units:

- 1.1 Importance of terminology (glossary)
- 1.2 The nature of scientific knowledge
- 1.3 Methodological paradigms in social research

### Readings:

- 1.1 Importance of terminology (glossary)
  - UniSearch. n.d. The Buzzword Series Scientific research methods. Basic concepts you need to know to understand scientific research literature. Cape Town.
  - Babbie, E. & Mouton, J. 2005. The Practice of Social Research. Cape Town: Oxford. **Glossary pp.640-648.**
- 1.2 The nature of scientific knowledge
  - Babbie, E. & Mouton, J. 2005. The Practice of Social Research. Cape Town: Oxford. **Chapter 1 pp.3-17.**
- 1.3 Methodological paradigms in social research
  - Babbie, E. & Mouton, J. 2005. The Practice of Social Research. Cape Town: Oxford. **Chapter 3 pp.47-68.**

### Oral Class Assessment/Test on Terminology in Scientific Research (Study Unit 1.1)



## Study theme 2: Research Design

### Specific outcomes:

#### Students will:

- Examine and discuss the logic of scientific inquiry
- Interpret and explain the purposes of research
- Formulate a proper problem statement which incorporates both the research purpose and a clear identified unit of analysis
- Examine and classify appropriate designs when designing a research project

### Study units:

- 2.1 The logic of scientific inquiry
- 2.2 Purposes of research (research principles)
- 2.3 Units of analysis
- 2.4 Points of focus
- 2.5 Time dimension
- 2.6 How to design a research project
- 2.7 Maximizing validity



### Readings:

Babbie, E. & Mouton, J. 2005. The Practice of Social Research. Cape Town: Oxford.

#### Chapter 4

Mouton, J. 2001. How to succeed in your Master's and Doctoral studies. Pretoria: Van Schaik.

#### Chapter 9

### Group Work – Scientific Journal Article Validity Assessment

1. Clearly articulate in a typed 8-10 page paper (1.5 spaced text – 11 font size) the two journal articles that was handed to you in class.
  - The cover/title page (incl. Name, student no. topic & assessment matrix) and the reference pages do not count as part of the 8-10 pages of text
  - Make sure that you understand and are able to define and describe each of the sources of error in Mouton's validity framework.
2. Read through the 2 journal articles and identify the research purpose, the research statement, question or hypothesis as well as the unit of analysis for each study AS WELL AS the possible sources of error that was or was not countered for.
3. Make sure that you give motivations/reasons and/or explanations for your choices/selection of the research purpose, statement, question/hypothesis as well as the unit of analysis, and sources of error or the countering thereof with regard to the validity framework

**Assessment criteria:**

- Students show an understanding with regard to the logic of the research process
- Students are able to identify, compare, analyze and elaborate on the ProDEC Model
- Ability of the students to apply their theoretical knowledge in social research thus far in order to identify and/or maximize validity in social research
- Content is logically structured with clear motivations/descriptions and/or elaborations for each of the above.
- Students present the assignment with a degree of originality
- The content is presented in a neat and structured format.
- Relevant sources are cited and indicated with the correct Harvard method.

**Assessment criteria matrix:**

<b>CRITERIA</b>	<b>MARK</b>	<b>TOTAL</b>
Understanding the ProDEC Model		40
Logical structuring of validity issues within each article		40
Degree of originality by the group		5
Referencing of literature		15
<b>TOTAL</b>		<b>100</b>

## Study theme 3: Types of Research Design

### Specific outcomes:

#### The student will:

- Define and examine the description, classification and research purpose for each of the empirical research design types
- List and outline the strengths, limitations and main sources of error for each of the design types
- Apply the logic of enquiry for choosing the correct type of research design for a research project.

### Study Units:

- 3.1. Experiments
- 3.2. Surveys
- 3.3. Qualitative studies (participant observation studies, case studies)
- 3.4. Participatory Action Research
- 3.5. Evaluation Research (process evaluation, outcome evaluation, empowerment evaluation)
- 3.6. Unobtrusive Research (secondary data analysis, content analysis)

### Readings:

Babbie, E. & Mouton, J. 2005. The Practice of Social Research. Cape Town: Oxford.

#### Chapters 8-13

Mouton, J. 2001. How to succeed in your Master's and Doctoral studies. Pretoria: Van Schaik.

#### Chapter 10



## Study theme 4: Rationale for Research Study

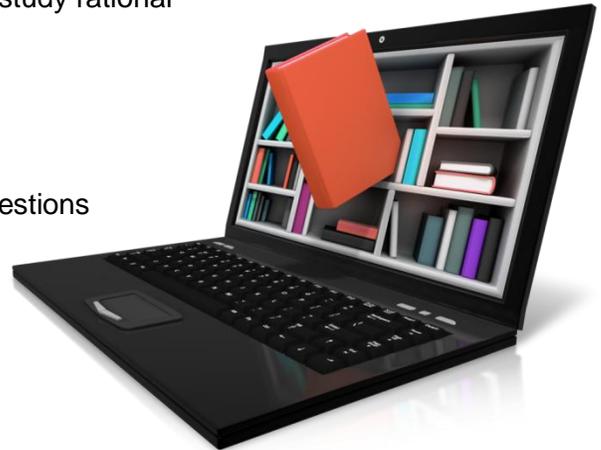
### Specific outcomes:

#### The student will:

- Apply the four steps of transforming research ideas into research problems
- Construct and propose a conceptual framework for a research study
- Apply literature research techniques for research study rational
- Construct a rational for a research study

### Study Units:

- 4.1 Development of the rationale for a study
- 4.2 Transforming research ideas into research questions
- 4.3 Literature Review
- 4.4 Mind mapping & conceptualization
- 4.5 Smart search in 60 minutes
- 4.6 Academic writing



### Readings:

Madsen, D. 1992. Successful Dissertations and Theses. San Francisco: Jossey-Bass Publishers.

#### Chapter 4

Brause, R.S. 2000. Writing Your Doctoral Dissertation. Invisible Rules for Success. London: Falmer Press.

#### Chapter 10

### Task 1: - Mind map & 40 Journal Articles

- Develop a research study mind map
- Search for 40 Journal Articles that are topic specific

### Task 2 – Rationale for a Research Study

- Write a rational for a research on a topic relevant to your profession.
- Make use of the rational formats that was discussed and handed out in class
- The rational must be 4-6 pages typed with 1.5 line spacing
- Correct referencing must be applied (Harvard) in essay.

### Checklist criteria: (Jan Whittle in Zuber-Skerritt et al. (1998:121) 3<sup>rd</sup> Manual

- Content is logically structured with clear definitions for terms/concepts.
- Arguments are logically structured with regard to the influence of these terms/concepts in modern society.
- The assignments show evidence of the application of intellectual and analytical thought processes.
- The content is presented in a neat and structured format.
- Relevant sources are cited and indicated with the correct Harvard method.

## Study theme 6: Data Gathering Tools

### Specific outcomes:

#### The student will:

- Classify and discuss the types of questions for questionnaire design
- Interpret and explain questions for measuring behaviour, knowledge and attitudes
- Design and implement a questionnaire
- Classify, discuss and apply the variety of Qualitative Interviews
- Interpret and formulate Responsive Interviewing
- Analyse and design Qualitative interviews
- Demonstrate qualitative data analysis knowledge and skills



### Study units:

- 5.1. The Social Context of question asking
- 5.2. Asking nonthreatening & threatening questions about behaviour
- 5.3. Asking and Recording open- and close-ended questions
- 5.4. Measuring Attitudes
- 5.5. Questionnaires from Start to Finish
- 5.6. Listening, hearing and sharing social experiences
- 5.7. Interview design
- 5.8. Structuring the interview
- 5.9. Designing main questions and probes
- 5.10. Interview first phase of analysis, analyzing coded data & presenting the results

### Readings:

Sudman, S. Bradburn, N.M. & Wansink, B. 2004. Asking Questions: The Definitiv Guide to Questionnaire Design: For Market Research, Politic Polls, and Social and Health Questionnaires. United Kingdom: Jossey-Bass.

Ruben, H.J. & Ruben, I.S. 2005. Qualitative Interviewing: The Art of Hearing Data. 2<sup>nd</sup> Edit. London: Sage.

## Study theme 6: Analysis of Data

### Specific outcomes:

#### The student will:

- Classify and apply the process of transcribing data for the purpose of data capturing
- Explain elementary data analysis
- Identify and discuss the elaboration model for the fundamental logic of multivariate analysis
- Define and discuss simple statistics frequently used in social research
- Describe the methods of converting social science data into a machine-readable form

### Study Units:

- 6.1 Quantifying data
- 6.2 Elementary Analysis
- 6.3 Social Statistics
- 6.4 Qualitative data analysis

### Readings:

Babbie, E. & Mouton, J. 2005. The Practice of Social Research. Cape Town: Oxford.

#### Chapters 14-18

### Self-study activities:

- Download demo versions of ATLAS.ti and NUD.IST4 from the CAQDAS networking project's website and install and practice with these.



## Study theme 7: Writing the Research Proposal

### Specific outcomes:

#### The student will:

- Identify and describe the requirements for writing a research proposal
- Apply the four steps of transforming research ideas into research problems
- Critically evaluate a research proposal
- Apply this knowledge to write his/her own research proposal

### Study Units:

- 7.1 Parts of the research proposal
- 7.2 Development of the rationale for a study
- 7.3 Transforming research ideas into research questions
- 7.4 Selecting the appropriate design
- 7.5 Formal aspects of the research proposal



### Readings:

Madsen, D. 1992. Successful Dissertations and Theses. San Francisco: Jossey-Bass Publishers. Chapter 4

Brause, R.S. 2000. Writing Your Doctoral Dissertation. Invisible Rules for Success. London: Falmer Press. Chapter 10

Unknown. Writing the Research Proposal Chapter 6

### Assignment: Research Proposal

- Write a research proposal for a research study on a topic relevant to your profession
- Make use of the proposal formats that was discussed and handed out in class
- The proposal must be 10-12 pages typed with 1.5 line spacing
- Correct referencing must be applied (Harvard) in essay.

### Assessment criteria: (Jan Whittle in Zuber-Skerritt et al. (1998:121) 3<sup>rd</sup> Manual

- Content is logically structured with clear definitions of each theory.
- Arguments are logically structured with regard to the influence of these theories on modern day society.
- The assignments show evidence of the application of intellectual and analytical thought processes.
- The content is presented in a neat and structured format.
- Relevant sources are cited and indicated with the correct Harvard method.

### Assessment criteria checklist:

See thesis proposal checklist hand-out in class

CRITERIA	MARK	TOTAL
Literature Review		25
Design & Motivation		30
Data gathering & Analysis (Methodology)		20
Title, conceptualization & definitions		10
Correct referencing of literature		15
<b>TOTAL</b>		<b>100</b>

