**I MODULE INTRODUCTION**

### 1 Letter of Welcome

School of Public Health (SOPH)

 University of the Western Cape

 Private Bag X17

 Bellville 7535

 South Africa

Dear Student and future Colleague,

Welcome to the module, *Measuring Health and Disease II: Intermediate Epidemiology*.

This module was designed to meet the growing need for an applied course in the measurement of a variety of health indicators and outcomes. Whether you manage a health programme, a health facility, or simply have to interpret health data in the course of your work, this module sets out to increase your capacity to deal with health and illness information. It aims to assist you in applying epidemiological knowledge and skills to a variety of Public Health problems. Although the module addresses many of the topics usually associated with the traditional approach to epidemiology, it embraces a wider perspective on health measurement. It does this by considering the social determinants of health, as well as known biomedical features of public health. The emphasis is on the application of epidemiological concepts and methods to the solution of Public Health problems.

The module is designed as a self-study, or flexible learning format that enables you to work through the course material at your own pace. Flexible learning also allows you to explore the material to whatever depth you prefer, and to skip over parts with which you are already familiar. This involves a variety of different kinds of learning activities, including reading, reflection, observation, research, application and practice.

This Module Information outlines the module aims, learning outcomes and topics that will be covered. It also includes information about your assignment tasks, how they will be assessed, how to contact your lecturer, a schedule and other general information to help you complete the module. The actual assignments will be sent to you later. Please read the assignments carefully and contact your lecturer if you have any concerns or questions.

## Contact Information

All the contact information that you may need is contained in the *SOPH Programme Handbook*. If your contact details have changed in any way, please send the Contact Details Update Form which you will find in that booklet to the Student Administrator straight away.

**Module Delivery Format**

This module is provided via electronic resources and online learning through the UWC online learning platform, known as iKamva. The platform allows you to interact with your fellow students, course convenor and lectures through the discussion forum and other tools. You will therefore not receive any printed material. The Electronic resources supplied to you are:

A prescribed textbook

A Module Guide (Note Sessions 1-3 are on iKamva)

Readings for all the Module sessions

An Epi Info Statistical Database Pack

## Evaluation of the Module

Please give us some feedback on your experience of this module as it was recently revised. Your feedback will be valuable to us in improving it. You are asked to complete an Evaluation Form which will be sent to you.

We hope that you enjoy the module and find it useful in your own efforts to engage with and improve public health.

Keep in touch!

Dr Hanani Tabana

(Course Convenor)

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| **Dr Hanani Tabana** htabana@uwc.ac.zaTel. +27 21 959 9394Fax. +27 21 959 2872Cell. 0731063172 |



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#### 2 INFORMATION ABOUT THIS MODULE

* 1. **Module Aims and Rationale**

The module is designed to advance your skills, knowledge and capacity to:

* Understand epidemiological and statistical concepts;
* Understand important contemporary public health determinants, health outcome measures and their epidemiological application;
* Apply epidemiological and statistical concepts in the context within which you work.

The module explores practical ways to measure levels of health, causes of ill health and promotion of good health and to assess health care outcomes in the course of your work. It aims to equip you with the ability to critically assess the epidemiological information that you will encounter, and use this information to address Public Health problems you have already encountered and those you are likely to encounter in future.

# Module Outline

The Module consists of units divided into study sessions. Each Study Session has at least one main reading or reference text and various learning activities designed to help explore the topics listed below. Study sessions vary in length, taking on average 5–8 hours to complete.

2.3 Intended Learning Outcomes

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| **By the end of this module, you are expected to be able to:** |
| * Recognise prominent global and national trends in health and disease.
* Critically review and interpret epidemiological information.
* Interpret key epidemiological indicators of public health and illness.
* Critique and outline epidemiology research findings.
* Apply descriptive and analytical epidemiology concepts and principles to effective Public Health practice.
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Remember that these outcomes are taught throughout the study sessions and are assessed in the assignments.

**2.4 Texts and References**

The following text is required for this module:

**Bonita, R., Beaglehole, R., Kjellstrom, T. (2006). *Basic Epidemiology*. WHO. (ISBN 978 92 4 1547079).**

As its name suggests it is a very basic textbook with its value being that it provides valuable background information for most of the study sessions. Each of the study sessions have their own readings which are contained in the module reader, therefore the best use of the Bonita textbook is as background reading linked to the relevant study sessions.

We have provided electronic copies of this textbook on your MHD resources on iKamva. . You can download this book, read it on your computer and print relevant pages.

If you would like to purchase a hard copy text, it can be obtained from Van Schaiks bookstore, Cape Town, if you cannot find this book in your area.

Contact details: Van Schaiks, Rondebosch/Bellville, Cape Town:

+27 21 689 4112; Fax: +27 21 686 3404

You will also be expected to pursue relevant current literature and additional resource material as required for your assignment tasks. The librarian at UWC or a local academic library can help you locate relevant materials. Follow the instructions in the *SOPH Programme Handbook* to arrange a letter of permission to access other University libraries. The Internet will, however, probably be you key source of literature, if you are far from an academic library.

These websites may be useful to you:

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| CDC  | http://www.cdc.gov |
| WHO | http://www.who.int |
| Statistics South Africa | http://www.statssa.gov.za |
| Health Systems Trust | http://www.hst.org.za |
| World Wide Web Virtual Library: Epidemiology | http://www.epibiostat.ucsf.edu/epidem/epidem.htm |
| Dictionary of Epidemiology  | http://www.kings.cam.ac.uk/~js229/glossary.html |
| Supercourse: Epidemiology, internet & global health | http://www.pitt.edu/~super1/ |

2.5 Your Resource Materials for this Module

You have been given a USB flash drive containing the module guide, Epi Info database and readings.

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2.6 Module Evaluation

At the end of the module, you will be sent a Module Evaluation Form. Please complete it and return it to the Academic Co-ordinator at the School of Public Health. This feedback will assist us in revising the module, planning future modules and providing students with appropriate support.

**3 ASSESSMENT**

3.1 Information about Assessment

There are TWO compulsory assignments in the module. You must submit both, on deadline. You will receive assignment deadlines from the SOPH Student Administrator; consider it your responsibility to ensure that you know the deadlines when the semester starts. In addition, there are two compulsory discussion forums that you will participate in on iKamva.

The assessments are weighted as follows:

**Assignment 1**  - 45%

**Assignment 2** - 50%

Discussion forums (1 & 2) - 5%

**To pass the module:**

* You are required to pass both assignments with a minimum of 50%.
* You must have a minimum aggregate of 50% for the module.
* You may repeat Assignment 1 once, if you get below 50%.
* If you do not pass assignment 1 after the second attempt, then you must repeat the module.
* For assignment 2 you may and are encouraged to send in a draft assignment
* You may not repeat assignment two
* If you do not pass assignment 2 at the first attempt, then you must repeat the module

**3.2 More about the Draft for Assignment 2**

For assignment two you may (and are encouraged to) send in a draft assignment, which your lecturer will review and comment on. You may then address those comments and thereby improve your final assignment.

Many of the concepts in this module are difficult. The draft gives your lecturer an opportunity to check your progress and understanding of the module

content and give you feedback BEFORE you have to hand in a final version. If only one version of Assignment 2 is submitted prior to the final assignment deadline, this version will be taken as the final version for the purposes of marks submitted to the university. We encourage you to use this opportunity to enhance your learning as part of a continuous assessment process.

3.3 Submitting Assignments

These guidelines must be followed exactly every time you submit an assignment. Getting this wrong wastes our time, and we WILL return the assignment to you to correct.

* You may send assignments by email, fax or post. (Email and fax save time). Keep a copy of everything you have sent. If you post, use fast mail or courier.
* Send assignments to the Student Administrators, **not** the lecturer.
* When you submit your assignment, you will receive acknowledgement that it has been received. If you don’t, check that it has been received.
* Type your assignment on A4 paper, in 1,5 line spacing, in 12 pt Times New Roman, and leave normal margins for the lecturer’s comments.
* Handwritten assignments will not be accepted.
* Keep to the recommended length. Excessively long assignments may be penalised.
* Number ALL pages.
* Include the Assignment Cover Sheet (completed *fully*) as the first page of the assignment, i.e. the cover sheet and the assignment must be one document.
* Always put your name on every file you send, and label the file correctly, using these instructions as a guideline if submitting by e-mail:
	+ - Your Name (Surname, Initial) e.g. **Mambwe R**
		- Module abbreviation (see Programme Handbook for Core module abbreviations). Use CAPITALS, e.g. **MHD II**
		- Assignment number, e.g. 1 or 2, and Draft or Final
		- The year, i.e. 2009 *e.g.* **Mambwe R, MHD II Asn 1 Final 2014; or Mambwe R, MHD II Asn 1 Draft 2014***.*

**SOPH Address to which assignments MUST be sent:**

**E-mail:**  **soph-asn@uwc.ac.za**

3.4 Assignment Deadlines

* Assignments must be submitted by the due date, *preferably by e-mail*, but fax or post are accepted if dated on or before the due date.
* You will receive assignment deadlines from the Student Administrator

PLEASE NOTE: Late submission of assignments is not allowed and assignments submitted late will not be marked

**Assignment Extensions**

Under special circumstances, extensions may be granted. Even so, the extension will not normally be longer than two weeks. To request an extension, contact the Student Administrator (not the lecturer or Module Convenor) as soon as a problem arises. No extensions will be given for Draft Assignments.

**3.5 General Assignment Instructions**

##### ASSIGNMENTS FOR *MEASURING HEALTH & DISEASE II*

#  Assignment 1 – Assessing your Understanding of Epidemiological principles

# (Weighted at 45% of the module total)

Assignment 1 requires you to study up to the end of Unit 3 and to answer a set of questions based on these Study Sessions. The aim of Assignment 1 is to ensure that you have grasped the conceptual vocabulary of epidemiology, without which you will not be able to address Public Health problems adequately. You will be given a 2 week period to complete this assignment.

Assignment 1 has been designed to assess your understanding of the many concepts involved in this module: it is rather like a test, but is conducted open-book style. In Assignment 1, you are expected to respond to questions drawn from the module which are arranged in two sections. Section A consists of long essay questions while section B contains short questions and multiple choice questions. You will be given a TWO WEEK period to complete the assignment starting from the date that it is sent to you. There will be no extensions on the two week completion period, and it really should only take you several hours. The sooner you complete this part of the module, the sooner you can move on to Assignment 2 which requires considerable time to complete. A tutorial letter will be sent out about Assignment 1 detailing the process and Assessment Criteria. Your preparation should be to work through the Module Guide and readings from Unit 1 up to and including Unit 3 to gain a thorough understanding of its contents. Be sure to do the Tasks to ensure that you understand what you are studying.

**Assignment 2 - Assessing your Application of Epidemiological principles**

**Details of assignment 2 will be sent to you after the due date of assignment 1**

**(Weighted at 50% of the module total)**

Assignment 2 consists of an epidemiological report and short questions. By working from Unit 4 through to the end of the module, you will be supported in completing the assignment. The epidemiological report in assignment 2 requires you to apply what you have learnt to understanding and analysing a set of data which covers a specific health problem. The epidemiological report is multi-faceted, requiring manipulation and analysis of the dataset provided using Epi Info, a discussion of your findings, and some recommendations. In other words, you will be writing a report pretending you are an epidemiologist facing a particular problem in your region.

Neither assignment can be completed at the last minute and both require you to carefully work your way through the study sessions.

### 3.6 ASSIGNMENT COVER SHEET

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**School of Public Health – University of the Western Cape**

An Assignment Cover Sheet should be attached to every assignment. Please fill in all details clearly and staple this form to the front of your assignment. Alternatively, please fax it as the first page of your assignment, or develop a cover sheet like this one to e-mail with your assignment.

**Full name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Address:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Postal code:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student number:

Module name: *Measuring Health & Disease II*

Module code: SPH 856

Convenor: Dr Hanani Tabana

If faxed, state the total number of pages sent including this page: …………………………………..

### Student’s comments to lecturer

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**Declaration by student**

I understand what plagiarism is. This assignment is my own work, and all sources of information have been acknowledged. I have taken care to cite/reference all sources as set out in the *SOPH Academic Handbook*.

***Note that plagiarism (cheating; copying) is serious offence and anyone engaged in it will incur grievous penalties, the worst of which would be possible expulsion from the university.***

**Signed by the student:**…………………………………………………………………………………………………...**.**

The tutor’s comments are on the reverse of this form

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**Office Use**

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| --- | --- | --- | --- |
| Date received | Assessment/Grade | Tutor | Recorded & dispatched |

## 4 Study Schedule

It is estimated that a 15 credit module like this one requires approximately 200 hours of student work. This translates into approximately 8 hours a week for about 19 weeks. This is a time-demanding module, and requires consistent work. It is anticipated that you should complete at least one study session per week. A study schedule has been put together for you- see below. It is recommended that you follow it, but feel free to set your own goals for when you plan to complete each study session. Put a copy of your study schedule in an obvious place, e.g. above your work table, and refer to it daily, adjusting it if you slip behind or race ahead!

**STUDY SCHEDULE FOR MEASURING HEALTH AND DISEASE II**

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| **SPH 856- MEASURING HEALTH AND DISEASE II MODULE STUDY SCHEDULE 2016** |
| This schedule has been prepared to guide and pace you through the module. Note that you are expected to work through each online session, activities and the related readings on iKamva. The schedule below guides you on which activities and assignments should be submitted when, and how they will be assessed. You may adjust/revise this suggested schedule to suit you. |
| **Session Content** | **Activities** | **Week** | **Dates** | **Assessment (s)** | **Notes** |
| **ORIENTATION** | * Familiarise yourself with the module material on iKamva
* Introduce yourself on the blog
* Familiarise yourself with the summer school material on iKamva in preparation for summer school (8 – 12 February)
 | **0** | 1-7 February |  |  |
| **UNIT 1: INTRODUCTION TO MEASURING HEALTH AND DISEASE**  | **1** | 8- 14 February  |  | Study Unit 1 on iKamva (See iKamva guidelines if needed)  |
| **Session 1**: Introduction to quantitative measurement in public health  |  |  | Summer school week  |
| **Session 2:** Introduction to Epidemiology  |  |  |  |
| **Session 3:** Introduction to Statistics  |  | **2** | 15 -21 February |  |  |
| **Session 4:**Introduction to Causality in Epidemiology  |  | **2** | 15 -21 February  | Submit Task 2 essay |  |
| **Session Content** | **Activities** | **Week** | **Dates** | **Assessment (s)** | **Notes** |
| **UNIT 2: MEASURING THE DISTRIBUTION OF HEALTH AND DISEASE** | 3 | 22-28 February |  | Work through Unit 2 on iKamva |
| **Session 1:** Descriptive Epidemiology  |  |  |  |
| **Session 2:** Describing populations  |  |  |  |
| **Session 3:**Descriptive Statistics |  | 4 | 29 February – 6 March |  |  |
| **Session 4:** Study Population and Sampling |  | 5 | 7- 13 March |  |  |
| **Session 5:** Confidence Intervals for descriptive measures  |  |  |  |
| **DISCUSSION FORUM 1** |  | 6 | 14 - 20 March | 5% towards final mark (this mark is for both Discussion forums 1 and 2) |  |
| **UNIT 3: EPIDEMIOLOGIC STUDY DESIGNS**  | 7 | 21- 27 March |  | Study Unit 3 on iKamva |
| **Session 1:** Cross-sectional Descriptive Studies |  |  |  |
| **Session 2:** Case Series  |  |  |  |
| **Session 3:** Prospective Cohort Studies  |  |  |  |
| **Session 4:** Retrospective Cohort Studies  |  | 7 | 21- 27 March |  |  |
| **Session Content** | **Activities** | **Week** | **Dates** | **Assessment (s)** | **Notes** |
| **Session 5:** Cross-sectional Analytical |  | 8 | 28 March- 3 April |  |  |
| **Session 6:** Case Control Studies  |  |  |  |
| **Session 7:** Ecological Studies  |  |  |  |
| **Session 8:** Randomised Controlled Trials (RCTs) |  |  |  |
| **ASSIGNMENT 1**  | **Work on assignment 1** | 9 | 4 April  |  | You need to have completed Units 1-3 for this assignment |
| **ASSIGNMENT 1**  | **ASSIGNMENT 1: due 17 April**  | 10 | 17 April  | 45% towards final mark |  |
| **UNIT 4: LINKING EXPOSURE TO DISEASE** | 11 | 18– 24 April |  |  |
| **Session 1:** Sampling Methods  |  | 11 | 18– 24 April |  |  |
| **Session 2:** Sample Size Calculation |  |  |  |
| **Session 3:** Analytical Epidemiology |  |  |  |
| **Session 4:**Hypothesis testing |  |  |  |
| **Session Content** | **Activities** | **Week** | **Dates** | **Assessment (s)** | **Notes** |
| **Session 5**: Relationships between two variables |  | 12 | 25 April – 1 May |  |  |
| **Session 6**: Comparing two groups |  |  |  |
| **Session 7**: Comparing more than two Groups |  |  |  |
| **DISCUSSION FORUM 2** |  | 13 | 2- 8 May | 5% towards final mark (this mark is for both Discussion forums 1 and 2) | Discussion on previous sessions and any difficulties encountered in assignment 1 |
| **UNIT 5: ASSOCIATION, CAUSATION, EFFECT MODIFICATION AND VALIDITY** | 14 | 9 -15 May |  |  |
| **Session 1:** Association and Causation |  |  |  |
| **Session 2:** Effect modification |  |  |  |
| **Session 3:** Generalisability of epidemiological inference  |   |  |  |
| **ASSIGNMENT 2** | **Work on assignment 2** | 15 | 16 May |  | You need to have completed Units 1-5 for this assignment |
| **UNIT 6: SPECIAL TOPICS** | 16 | 23-29 May |  |  |
| **Session 1:** Environmental, Occupational and Social Epidemiology |  |  |  |
| **Session Content** | **Activities** | **Week** | **Dates** | **Assessment (s)** | **Notes** |
| **Session 2:** Demographic Transition and Epidemiological Transition  |  |  |  |  |  |
| **Session 3:** Screening  |  |  |  |
| **Session 4:** Critiquing epidemiological studies |  |  |  |
| **Session 5:** Surveillance  |  |  |  |
| **ASSIGNMENT 2 draft** | **Assignment 2 Draft submission** | 16 | 29 May |  |  |
|  | **Assignment 2 revision** | 17 | 5 June |  | Revise your assignment following feedback |
| **ASSIGNMENT 2 Final**  | **Assignment 2 submission** | 18 | 19 June | 50% |  |
| **MODULE EVALUATION** |  | 19 | 19 June |  | To be completed and submitted with assignment 2 |