



# MASTERS IN PUBLIC HEALTH, SPECIALISING IN HEALTH ECONOMICS

2012 Programme



Health Economics Programme Convenor: Dr. Ayako Honda ([Ayako.Honda@uct.za](mailto:Ayako.Honda@uct.za))

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## **INTRODUCTION**

The University of Cape Town (UCT) is South Africa's oldest university. It was founded in 1829 as the South African College, and developed into a university between 1880 and 1900. Today UCT is recognised internationally as Africa's leading research university. With more than 70 specialist units, UCT is home to more than a quarter of South Africa's A-rated scientists. Regarding teaching, particular emphasis is placed on postgraduate studies and around 30% of students are enrolled in postgraduate programmes.

The Health Economics Unit (HEU) was formally established in 1990 as a division of the School of Public Health and Family Medicine in the Faculty of Health Sciences. In recognition of the limited opportunities for postgraduate study in health economics within Africa and the importance of capacity development within this discipline, the HEU offers a Masters in Public Health (MPH) specialising in Health Economics. The curriculum has a developing country focus, and while theoretical components are included, the programme concentrates on the development of practical research skills that are useful to graduates working in African health systems.

## **TARGET AUDIENCE, ENTRY REQUIREMENTS AND APPLICATION GUIDELINES**

The course is designed for graduates in social or health sciences. The entry requirement is at least a second class honours degree in economics, health and social sciences, or equivalent, from an approved university. Fluency in English, both written and spoken, is also required. A demonstration of very good quantitative skills (i.e. good mathematic skills) is also an essential requirement. Medical doctors and other medical graduates must have demonstrated an interest in public health and an interest in economics. As places are limited, the selection will be based primarily on academic merit and professional experience.

Applicants must fill in the standard UCT application form relevant for the year of their proposed study. Forms can be obtained from the programme administrator Ms. Zerina Davis (telephone +27 21 406 6578 or email ([Zerina.Davis@uct.ac.za](mailto:Zerina.Davis@uct.ac.za))). The closing date for receipt of applications for students applying for a place in the 2012 academic year is **September 30, 2011**. Applicants are advised to courier their applications to the HEU as applications that arrive after the deadline will not be considered. Alternatively, applicants can apply for the program on line (<http://applyonline.uct.ac.za>).

Any requests and/or enquiries sent to Ms. Zerina Davis should be copied to the programme convenor Dr. Ayako Honda ([Ayako.Honda@uct.za](mailto:Ayako.Honda@uct.za)).

**This brochure must be read in conjunction with the MPH Programme Brochure ([www.publichealth.uct.ac.za/Students](http://www.publichealth.uct.ac.za/Students)).**

## **COURSE CONTENTS**

The programme is offered on a full-time basis and comprises two semesters of coursework with a further six months for completion of a mini-dissertation, although it is also possible to take the course on a part-time basis. The first semester runs from late January until mid-June, and the second semester starts in early July and ends in November. All students are required to complete a minimum of eight modules: six core modules and two electives. The mini-

dissertation is started once the coursework is successfully completed. Please note that the MPH specialising in health economics is an 18 month full-time programme.

The core modules for the first semester are:

- Quantitative Methods in Health Economics
- Microeconomics for the Health Sector
- Theory and Application of Economic Evaluation in Health Care

The core modules for the second semester include:

- Health Policy and Planning
- The Economics of Health Systems
- Quantitative Research Methods

The electives

Students are required to choose two elective modules from those offered by either (1) the Masters of Public Health program; (2) various departments in the Faculty of Humanities; or (3) other universities (such as University of the Western Cape). It is important for students to confirm the timetable and their eligibility for the elective modules that they have chosen and to obtain approval from the department offering the elective modules. Also, students need to seek approval in advance from the MPH Health Economics programme convenor of their chosen elective courses.

## **THE CORE MODULES IN MORE DETAIL**

### **Quantitative Methods in Health Economics**

The aim of this module is to introduce students to fundamental statistical and econometric techniques as they apply to health economics. At the end of the course, students should have a good understanding of basic statistics and the essentials of econometrics. They should also be able to perform specific mathematical, statistical and econometric operations on health data. Different data sets will be used throughout the duration of the module.

Topics include:

- Descriptive statistics
- Introduction to probability theory and probability distributions
- Estimation: standard errors, variance, confidence intervals
- Hypothesis testing
- Indices and concentration curves
- Regression analysis and modeling
- Diagnostic tests for regression models
- Discrete choice models
- Principal components analysis
- Distribution equity – concentration curves

### **Microeconomics for the Health Sector**

This module aims to enable students to apply the theory and principles of microeconomics to the field of health and health care. The main objective is to develop skills in applying the microeconomic toolkit to analyse country situations with a view to informing health care planning and policy. This includes the analysis of demand, production and cost functions of specific health care services and the economics of health insurance contracts.

Topics include:

- Definition, scope and role of microeconomics in the health sector
- The market for health care and the public sector
- Individual and household demand for health and health care
- Household-level analysis: the medical poverty trap and related issues
- Need, agency theory and supplier-induced demand
- Taxation, health and health care
- Models of the market for medical goods and pharmaceuticals
- Health care production and cost functions
- Efficiency in health care provision
- Health insurance contracts and incentive effects
- Sustainable community health financing

### **Health Policy and Planning**

This course introduces participants both to the field of policy analysis in the health sector and to critical issues in health policy.

Policy analysis focuses on understanding the political and social forces that influence why and how policies are (or, sometimes, are not) initiated, formulated, negotiated, communicated, implemented and evaluated, drawing on political science and public administration perspectives. This includes action to prevent policy decisions being taken. Another issue is whether or not, and why, research and other evidence is used in decision-making.

The topics covered in this course include:

- What is health policy and why do we need it?
- Analysing policy change experiences
- What influences policy change?
- Understanding actors and power in the policy process
- Doing and using stakeholder analysis
- Using policy analysis for advocacy
- Getting research into policy and practice
- Agenda setting
- Policy formulation and planning
- Bottom up theories of implementation
- Scaling up innovation
- Street level bureaucracy

### **The Economics of Health Systems**

Health systems, which comprise all organisations, institutions and resources devoted to producing actions whose primary intent is to improve health, are located within a county's

macroeconomic, public policy and social environment, which is further surrounded by the global economy and environment. Health systems provide three main functions: governance, financing and service delivery, all of which closely interact. The Economics of Health Systems module looks at health systems from broader economic perspective. Given that other modules (such as Health Policy and Planning) cover issues around governance and certain aspects of service delivery functions, this module places emphasis on the financing functions of health systems and other related issues.

Topics include:

- Introduction: Health systems, contexts and complexity, health, health care and determinants of health
- Financing health systems: Overview of the functions of health care financing, globalisation and health
- Strengthening domestic financing and risk pooling
- Purchasing health care services
- Health care financing in Sub-Saharan Africa – overview and case studies
- Universal coverage
- Financing the institutional framework for the health system – paying the public sector health workforce
- Access to health care
- Social determinants of health
- Public and private provision of health care
- Globalisation and health: WTO and health care
- National health accounts
- Financing and benefit incidence

### **Theory and Application of Economic Evaluation in Health Care**

This module aims to enable students to understand and apply current methods in the economic evaluation in health care. The main objectives are to gain insights into the economic theory underlying economic evaluation in health care, to develop skills in designing and conducting cost-effectiveness, cost-utility, and cost-benefit analyses, and to use these skills to inform policy formulation and implementation processes. At the end of this module, the students should also have an understanding of the importance of modelling in economic evaluation.

The module will enable students to develop skills by combining taught sessions with practical case studies of the application of economic evaluation to developing country interventions. Methodological and practical issues surrounding each evaluation technique will be critically explored.

Topics include:

- Introduction to economic evaluation
- Costing in economic evaluation
- Discounting and annuitisation
- Outcome measurement and valuation
- Cost-effectiveness, cost-utility, and cost-benefit analyses
- Decision making
- Uncertainty in economic evaluation

- Modelling in economic evaluation
- Ethical issues in economic evaluation
- Role of economic evaluation in health care

### **Quantitative Research Methods**

The aim of this module is to provide students with the technical skills required to write research proposals and to undertake research projects requiring quantitative methods. It also aims to enable students to cooperate as a group in protocol development.

Topics include:

- The research protocol; ethics
- Literature review – defining the question
- Overview of study design
- Population and sampling; sample size calculation
- Measurement: questionnaires; validity and reliability
- Data management and analysis
- Reporting, presentation and writing up

### **EXIT COMPETENCIES OF OUR GRADUATES**

On completion of the Masters programme, students should be able to:

- Undertake analyses of health sector policies
- Design and conduct econometric analyses
- Develop plans and budgets for health care services and programmes
- Design and evaluate the economic viability of alternative health financing schemes, as well as access and quality assurance monitoring mechanisms
- Measure inequalities in health care resource expenditure, access and capacity to benefit
- Design and conduct economic evaluations of alternative prevention, treatment and delivery options for specific health problems

### **ATTENDANCE**

Students should inform the module convenor if they are going to be absent for more than one session in a block or in the individual session. **Anyone missing the initial block of a module (40% plus of the teaching time) may not join that module afterwards.** Students missing sessions must make their own arrangements to obtain material they have missed.

### **ASSESSMENT**

Students will be assessed through assignments (approximately two per module, undertaken during the course of the semester), written examinations and a mini-dissertation. First semester exams are written in June and second semester exams in late October or early November. Students will be required to write a mini-dissertation applying theoretical and practical health economics skills to a health sector problem. Protocol and methodology development is undertaken during coursework and fieldwork is normally done in the student's home country. The dissertation should be completed within six months of successful completion of coursework.

The final mark awarded to the student is an average of the overall mark obtained on the coursework and the overall mark obtained for the mini-dissertation. Within the coursework component, each module counts equally. Within each module, exams and assignments count for 50% of the module mark. However, it is necessary to obtain at least a 45% sub-minimum for both the examination and assignments (taken as a whole) to be awarded the credit for the module.

### **MASTERS DISSERTATION**

The Masters dissertation accounts for 50% of the final assessment for the Masters degree in the Health Economics track. Candidates are required to complete a Masters dissertation based on their own research in an area related to health economics. The HEU will allocate a supervisor to candidates based on their area of interest. The Masters dissertation will be marked by two examiners external to the university.

### **TEACHING METHODS**

A combination of the following methods of instruction will be used:

- Lectures
- Group review of relevant published studies
- Group exercises and role-playing
- Brain storming sessions
- Structured seminar discussions
- Group design of research protocols, primary data collection, and computer-based analyses
- Tutorials
- Involvement in ongoing HEU projects

The programme will demand active student participation during lectures and intensive individual reading of health economics, policy and related literature.

### **TEACHING STAFF**

Staff of the HEU alongside visiting lecturers from international academic institutions will teach the core health economics modules. The HEU is widely recognised as the leading research and training institution in the field of health economics in Africa. Our academic staff members are:

- **Prof. Di McIntyre**, BCom, Honours in Economics (Cape Town), MA in Economics (Cape Town), PhD (Cape Town)
- **Prof. Lucy Gilson**, BA (Hons) Oxford, MA (East Anglia), PhD (London)
- **Dr. Edina Sinanovic**, BSc in Economics (Zagreb), MCom in Health Economics (Cape Town), PhD in Health Economics (London)
- **A/Prof. Susan Cleary**, BA (Rhodes), Honours in Economics (Cape Town), MA in Economics (Cape Town), PhD (Cape Town)
- **Dr Ayako Honda**, BA in Sociology (Tokyo), MSc in International Health (Tokyo), PhD in Health Economics (London)

- **Ms. Veloshee Govender**, BCom, Honours in Economics (Durban), MCom in Health Economics (Cape Town), MPH International Health (Boston)
- **Mr. John Ataguba**, BSc Hons in Economics (Nigeria), MPH in Health Economics (Cape Town)
- **Dr Olufunke Alaba**, BSc in Economics (Ado-Ekiti), MSc in Economics (Ibadan), PhD (Ibadan)

## FINANCIAL ASSISTANCE AND COSTS

Potential funding sources are donor organisations, and multilateral institutions, listed below. A small number of scholarships are made available to international students. See the HEU website for more details about bursaries and funding opportunities:

<http://heu-uct.org.za/courses/degrees-and-diplomas/funding-opportunities/>

### Funding sources:

#### UNIVERSITY OF CAPE TOWN

- Funding for postgraduate students in economics at UCT  
[www.commerce.uct.ac.za/Economics/Programmes/postgraduate\\_programmes/Funding/funding.asp](http://www.commerce.uct.ac.za/Economics/Programmes/postgraduate_programmes/Funding/funding.asp)
- General Postgraduate degree funding at UCT  
[www.pgfo.uct.ac.za/apply/funding/postgraduate/applications/](http://www.pgfo.uct.ac.za/apply/funding/postgraduate/applications/)
- Ushepia  
[www.ushepia.uct.ac.za/bg.htm](http://www.ushepia.uct.ac.za/bg.htm)

#### FOUNDATIONS & COUNCILS

- (MRC) Medical Research Council  
[www.mrc.ac.za/](http://www.mrc.ac.za/)
- Wellcome Trust  
[www.wellcome.ac.uk/index.htm](http://www.wellcome.ac.uk/index.htm)

#### DONORS & MULTILATERALS

- (CIDA) Community and Individual Development Association  
[www.cida.co.za/](http://www.cida.co.za/)
- (DANIDA ) Danish International Development Assistance  
<http://www.um.dk/en>
- (DFID UK) Department for International Development  
[www.dfid.gov.uk/](http://www.dfid.gov.uk/)
- GTZ  
[www.gtz.de/en/](http://www.gtz.de/en/)
- (IDRC) International Development Research Centre  
[www.idrc.ca/en/](http://www.idrc.ca/en/)
- (USAID) United States Agency for International Development  
[www.usaid.gov](http://www.usaid.gov)
- (WHO) World Health Organisation  
[www.who.int](http://www.who.int)

- World Bank  
[www.worldbank.org](http://www.worldbank.org)

### **Programme costs**

Please check the UCT website for fees information (<http://www.uct.ac.za/apply/fees/structure/>).

### **STUDY PERMITS**

Foreign students must obtain a study visa before coming to South Africa. The cost of obtaining a visa is the responsibility of the applicant. Consult your nearest South African embassy about the study permit application procedure. Please note that such applications take considerable time to process and students should apply for study permits shortly after they receive their letters of admission. The date by which you must arrive in Cape Town for MPH Orientation will be stipulated in your letter of admission (usually around 15-20 January). Please note that anyone missing the initial block of a module may not be able to take that module. It is therefore critical that students arrive in Cape Town in time to attend lectures. When applying for financial assistance to donor organisations in your country, please also budget for a refundable financial deposit of US \$600 charged by the South African government for potential repatriation expenses. Please contact the International Academic Programmes Office (IAPO) at UCT (<http://www.uct.ac.za/about/iapo/overview/welcome/>) if any assistance is required in relation to study permits.

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