University of Pretoria Yearbook 2020

MSc Epidemiology (10253324)

Minimum duration of study	2 years
Total credits	180
NQF level	09

Admission requirements

- A four-year bachelor's degree is required or an honours degree.
- In the case of a three-year bachelor's degree also applicable practical (work) experience as prescribed by the University plus any other additional work deemed necessary by the head of department:
- With the proviso that the head of department will have the discretion to decide whether the prerequisite qualification or the qualification plus work experience would be acceptable for admission to the proposed field of study.

Additional requirements

All MSc students must register for, and attend (TNM 802) Applied research methodology 802 satisfactorily. (Exemption may be granted if the module has already been passed for the BScHons degree.) However, MSc(Pharamacology) students must register for FAR 872 instead of TNM 802.

Also consult General Regulations.

Other programme-specific information

Please note: The choice of elective modules has to be approved by the supervisor.

Subject to the stipulations of the General Regulations, the Chairperson of the School may, in consultation with the relevant head of department, approve a fixed limited extension of the period on the grounds of extraordinary circumstances.

Examinations and pass requirements

i. The minimum pass mark for a module is 50%.
ii. The prescribed modules must be passed independently of each other.
iii. Second examinations in the modules are arranged by the relevant head of department, within a period of time specified by him or her.
iv. No second examinations will be granted in modules in which less than 40% has been obtained. Instead, the module must be repeated in its entirety.
v. Only with the approval of the Chairperson of the School, on the recommendation of the relevant head of department, will a student be allowed to continue his or her studies after having failed two modules (or the

same module twice).

Research information

Research protocol
After registration, a student is required to submit a complete research protocol regarding the proposed dissertation to the Academic Advisory Committee and if necessary, also to the Ethics Committee for approval.

Dissertation
A dissertation on an approved research project must be passed in addition to the coursework. The stipulations of the General Regulations regarding the preparation and submission, the technical editing and the résumé of the dissertation apply.
A systematic literature review (Cochrane type) on an approved subject, which is undertaken in such a manner that bias in minimised, may be presented as an alternative to the dissertation for awarding the MSc degree, provided that the module CLI 870 Principles of clinical epidemiology has been successfully completed. It requires, inter alia, a research protocol with clearly formulated objectives and methods. Inclusion and exclusion methods for the study must be determined. Where applicable, the data must be summarised (meta analysis), with applicable statistical methods.

Pass with distinction

The average mark of the modules, weighted in respect of the number of credits acquired for each individual module, will be the final mark (%) of the coursework.

The degree is conferred with distinction on a student who obtains an average mark of at least 75% in the coursework, as well as a final mark of at least 75% for the dissertation.

Curriculum: Year 1

Minimum credits: 180

Fundamental modules

Scientific writing 873 (HMS 873)

Module credits	0.00
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Learning in public health 873 (PHM 873)

Module credits	0.00
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Module content

This is the first (one-week) module at the beginning of the year focusing on learning. At the end of this week, you will have a much better understanding of what you actually want to achieve in public health and what you need to learn to get there. You will probably also have changed your views on learning: from individual surface learning and memorization, to valuing deep learning often in a group context. Finally, you will have achieved the ability to use the ever-increasing knowledge in health, philosophy, and ethics that are generated on the internet to your own best advantage.

Applied research methodology 802 (TNM 802)

Module credits	0.00
Language of tuition	Module is presented in English
Department	Health Sciences Deans Office
Period of presentation	Year

Module content

*Attendance module only.

Core modules

Biostatistics 1 874 (BOS 874)

Module credits	10.00
Prerequisites	No prerequisites.
Language of tuition	Module is presented in English
Department	School of Health System and Public Health

Period of presentation	Year

Biostatistics 2 875 (BOS 875)

Module credits	10.00
Prerequisites	No prerequisites.
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Mini-dissertation: Epidemiology 890 (EPI 890)

Module credits	100.00
Prerequisites	No prerequisites.
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Epidemiology 2 870 (EPM 870)

Module credits	10.00
Prerequisites	HME 870, BOS 870 and BOS 871
Contact time	lectures and practicals
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Module content

Advanced epidemiological concepts and topics building upon learning that has taken place in the introductory epidemiology modules; further study design (including randomised control trials and observational studies); proposal writing; advanced examination of bias, confounding and effect modification; Stratification and standardisation of rates; further selected special biostatistical methods.

Epidemiology 1 874 (HME 874)

Module credits	10.00
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Module content

The principles of epidemiology including applied epidemiology (e.g. infectious disease epidemiology, clinical epidemiology and operational research). The use of EpiData software for questionnaire design and data collection.

Elective modules

Survival analysis 873 (BOS 873)

Module credits	5.00
Prerequisites	BOS 871
Contact time	1 practical per week, 3 discussion classes per week, 3 seminars per week
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Principles: Chronic disease epidemiology 870 (CDE 870)

Module credits	5.00
Prerequisites	No prerequisites.
Contact time	1 practical per week, 3 discussion classes per week, 3 seminars per week
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Infectious disease epidemiology 870 (CDT 870)

Module credits	5.00
Prerequisites	HME 870
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Module content

Students learn about the special rates applicable with outbreak and ID investigations. They learn about basic vaccinology (the epidemiology of) and introductory compartmental modelling terms and skills. They also learn basic clinical epidemiology concepts as applicable for screening and public health programmes. Finally they learn about the composition, duties and roles of the infection control team in a hospital.

Principles of clinical epidemiology 872 (CLI 872)

Module credits	10.00

Prerequisites	No prerequisites.
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Health risk assessment 871 (EHM 871)

Module credits	10.00
Service modules	Faculty of Veterinary Science
Prerequisites	EOH 871
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Methods in exposure assessment 872 (EHM 872)

Module credits	10.00
Prerequisites	EOM 870
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Environmental epidemiology 871 (EOM 871)

Module credits	10.00
Prerequisites	No prerequisites.
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Module content

This module is an introduction of the various types of epidemiological study designs that are applied in the investigation of the association between environmental exposures and health outcomes. Apart from the classical epidemiological study designs (cross-sectional, case-control and cohort designs that are introduced in HME 874), other study designs such as the time-series, case-crossover, panel, spatial, genetic and molecular study designs are introduced and discussed. The statistical techniques that are applied in the time-series, case-crossover, panel, spatial, genetic and molecular study designs are discussed as well as the implication of random and systematic errors in exposure/health assessment on the measures of associations; hence a basic biostatistics vocabulary (introduced in BOS 874) is required.

Conducting surveys 873 (EPM 873)

Module credits	10.00

Prerequisites	BOS 870
Contact time	1 practical per week, 12 lectures per week, 4 discussion classes per week
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Disease surveillance 874 (EPM 874)

Module credits	5.00
Prerequisites	No prerequisites.
Contact time	1 practical per week, 3 discussion classes per week, 3 seminars per week
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Monitoring and evaluation 875 (HME 875)

Module credits	15.00
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Qualitative research methods 870 (QHR 870)

Module credits	10.00
Service modules	Faculty of Veterinary Science
Prerequisites	No prerequisites.
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Principles of quality assurance 872 (TQM 872)

Module credits	10.00
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Curriculum: Final year

Minimum credits: 180

Fundamental modules

Scientific writing 873 (HMS 873)

Module credits	0.00
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Learning in public health 873 (PHM 873)

Module credits	0.00
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Module content

This is the first (one-week) module at the beginning of the year focusing on learning. At the end of this week, you will have a much better understanding of what you actually want to achieve in public health and what you need to learn to get there. You will probably also have changed your views on learning: from individual surface learning and memorization, to valuing deep learning often in a group context. Finally, you will have achieved the ability to use the ever-increasing knowledge in health, philosophy, and ethics that are generated on the internet to your own best advantage.

Applied research methodology 802 (TNM 802)

Module credits	0.00
Language of tuition	Module is presented in English
Department	Health Sciences Deans Office
Period of presentation	Year

Module content

*Attendance module only.

Core modules

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Module credits	10.00
Prerequisites	No prerequisites.
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Department	School of Health System and Public Health

Period of presentation	Year

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Prerequisites	No prerequisites.
Language of tuition	Module is presented in English
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Period of presentation	Year

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Module credits	10.00
Prerequisites	HME 870, BOS 870 and BOS 871
Contact time	lectures and practicals
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Module content

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Module credits	10.00
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Module content

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Module credits	5.00
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Contact time	1 practical per week, 3 discussion classes per week, 3 seminars per week
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

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Module credits	5.00
Prerequisites	HME 870
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Module content

Students learn about the special rates applicable with outbreak and ID investigations. They learn about basic vaccinology (the epidemiology of) and introductory compartmental modelling terms and skills. They also learn basic clinical epidemiology concepts as applicable for screening and public health programmes. Finally they learn about the composition, duties and roles of the infection control team in a hospital.

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Module credits	10.00

Prerequisites	No prerequisites.
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

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Module credits	10.00
Service modules	Faculty of Veterinary Science
Prerequisites	EOH 871
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Period of presentation	Year

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Module credits	10.00
Prerequisites	EOM 870
Language of tuition	Module is presented in English
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Period of presentation	Year

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Module credits	10.00
Prerequisites	No prerequisites.
Language of tuition	Module is presented in English
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Period of presentation	Year

Module content

This module is an introduction of the various types of epidemiological study designs that are applied in the investigation of the association between environmental exposures and health outcomes. Apart from the classical epidemiological study designs (cross-sectional, case-control and cohort designs that are introduced in HME 874), other study designs such as the time-series, case-crossover, panel, spatial, genetic and molecular study designs are introduced and discussed. The statistical techniques that are applied in the time-series, case-crossover, panel, spatial, genetic and molecular study designs are discussed as well as the implication of random and systematic errors in exposure/health assessment on the measures of associations; hence a basic biostatistics vocabulary (introduced in BOS 874) is required.

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Module credits	10.00

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Contact time	1 practical per week, 3 discussion classes per week, 3 seminars per week
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Module credits	15.00
Language of tuition	Module is presented in English
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Module credits	10.00
Service modules	Faculty of Veterinary Science
Prerequisites	No prerequisites.
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

Principles of quality assurance 872 (TQM 872)

Module credits	10.00
Language of tuition	Module is presented in English
Department	School of Health System and Public Health
Period of presentation	Year

The information published here is subject to change and may be amended after the publication of this information. The General Regulations (G Regulations) apply to all faculties of the University of Pretoria. It is expected of students to

familiarise themselves well with these regulations as well as with the information contained in the General Rules section. Ignorance concerning these regulations and rules will not be accepted as an excuse for any transgression.