MSc Environmental Economics (Coursework) (02250405)

Minimum duration of study	1 year
Total credits	180

Programme information

This programme is coordinated in the Department of Agricultural Economics, Extension and Rural Development.

The MSc degree is conferred on the grounds of a dissertation and such additional postgraduate coursework as may be prescribed.

Renewal of registration

As long as progress is satisfactory, renewal of the registration of a master's student will be accepted for the second year of the study. Registration for a third and subsequent years will only take place when the Student Administration of the Faculty receives a written motivation that is supported by the relevant head of department and Postgraduate Studies Committee.

General

Candidates are required to familiarise themselves with the General Regulations regarding the maximum period of registration and the requirements on the submission of a draft article for publication.

Admission requirements

- For admission to the MSc in Environmental Economics, candidates must have a four-year degree qualification (BScHons, BScAgric or BScAgric in Agricultural Economics) or equivalent degree status with appropriate subjects in economics and statistics. Final admission is subject to the approval of the Director of the Centre of Environmental Economics and Policy (CEEPA) and/or the Head of the Department of Agricultural Economics Extension and Rural Development.
- Admission is additionally dependent on availability of supervisor/s and/or projects within the department.

Promotion to next study year

The progress of all master's candidates is monitored biannually by the supervisor and the postgraduate coordinator. A candidate's study may be terminated if the progress is unsatisfactory or if the candidate is unable to finish his/her studies during the prescribed period.

Subject to exceptions approved by the Dean, on recommendation of the relevant head of department, and where applicable, a student may not enter for the master's examination in the same module more than twice.

Pass with distinction

The MSc degree is conferred with distinction to candidates who obtain a final average mark of at least 75% and a mark of at least 75% for the dissertation/mini-dissertation from each of the members of the examination panel. Where a member of the examination panel awards a mark of less than 75% for the dissertation/mini-dissertation, that member of the examination panel must offer, in writing, support for his/her decision, or indicate in writing that he/she supports the examination committee's decision to confer the degree with distinction.

Curriculum: Final year

Minimum credits: 180

Core modules

Applied econometrics 810 (LEK 810)

Module credits	15.00
Prerequisites	No prerequisite.
Contact time	1 lecture per week, 1 practical per week
Language of tuition	Module is presented in English
Department	Agricultural Economics Extension and Rural Develo
Period of presentation	Semester 1 or Semester 2

Module content

Econometrics. Linear regression: assumptions of the linear regression model, OLS estimators and properties, hypothesis testing (single and multiple restrictions), forecasting, dummy variables. Violations of the linear model assumptions: multi-colinearity, heteroscedasticity, serial correlation and distributed lag models, (GLS estimators). Advanced topics: Quantitative response models (logit, tobit and probit analysis) co-integration, instrumental variables and 2-stage least squares.

Applied micro-economics 815 (LEK 815)

Module credits	15.00
Prerequisites	No prerequisites.
Contact time	1 practical per week, 2 lectures per week
Language of tuition	Module is presented in English
Department	Agricultural Economics Extension and Rural Develo
Period of presentation	Semester 1

Module content

Economic models and empirical applications in food demand and agricultural production, welfare economics, risk analysis, and industrial organisation as it relates to the agricultural and food industry.

Environmental valuation and policy 826 (LEK 826)

Module credits	15.00
Service modules	Faculty of Economic and Management Sciences
Prerequisites	No prerequisites.
Contact time	1 lecture per week
Language of tuition	Module is presented in English
Department	Agricultural Economics Extension and Rural Develo

Period of presentation   Semester 2

Module content

Environmental valuation and policy. This module will review the basic principles of microeconomic theory needed for understanding and analysis of environmental problems, introduce market and non-market techniques of valuation of natural resources and environmental services (hedonic pricing, contingent valuation, transport cost, willingness-to-pay, cost-based techniques, etc.), public goods and environmental externalities, property rights regimes and selection of appropriate environmental policy instruments for management of environmental externalities.

Natural resource and environmental economics 880 (LEK 880)

Module credits	15.00
Prerequisites	No prerequisites.
Contact time	3 lectures per week
Language of tuition	Module is presented in English
Department	Agricultural Economics Extension and Rural Develo
Period of presentation	Semester 2

Module content

Natural resource and environmental economics. This module reviews the origins and evolution of natural and environmental resource economics. It describes and studies the application of economic principles and analytical methods for sustainable development of renewable, non-renewable and environmental economics. Examine sources of inefficiency and causes as well as indicators of environmental degradation. The economics of pollution management: Concepts, policies and instruments. Sustainable management of natural and environmental resources. Introduction to natural and environmental resource policy. Economic valuation of natural and environmental resources.

Mini-dissertation: Agricultural economics 892 (LEK 892)

Module credits	90.00
Language of tuition	Module is presented in English
Department	Agricultural Economics Extension and Rural Develo
Period of presentation	Year

Elective modules

Production economics 811 (LEK 811)

Module credits	15.00
Contact time	2 lectures per week, 1 practical per week
Language of tuition	Module is presented in English
Department	Agricultural Economics Extension and Rural Develo
Period of presentation	Semester 2

Module content

This module follows on the final-year module LEK 421 and is taught at the intermediate level and now moves beyond the single input production function to analysis with multi-variable functions. Detailed exposure to production, cost and profit functions, and the duality that exists between these is a core element of the module. The focus will also be on the implications of the properties for the economic behavior of agents. At the end of this module students will have complete competence in algebraically solving for the cost minimisation and profit maximisation problems. Themes covered in the module are: Properties of production functions. Economic theory of cost. Economic Theory of Profits. Duality between the cost and production functions. Duality between the profit and production functions. Applied topics.

Quantitative methods for agricultural and environmental policy 814 (LEK 814)

Module credits	15.00
Service modules	Faculty of Economic and Management Sciences
Prerequisites	No prerequisites.
Contact time	1 lecture per week, 1 practical per week
Language of tuition	Module is presented in English
Department	Agricultural Economics Extension and Rural Develo
Period of presentation	Semester 1

Module content

Quantitative models for agricultural and environmental policy. This module will introduce students to applications of discrete choice and linear regression models to agricultural and environmental economics. These include demand systems, production functions and treatment effects/impact assessment models. The second part of the class will focus on mathematical programming and numerical methods including but not limited to multisector models, Input-output and programming models and social accounting matrices for consistent production planning, growth, income distribution and trade policy analysis. Computable general equilibrium models.

Institutional economics 882 (LEK 882)

Module credits	15.00
Service modules	Faculty of Economic and Management Sciences
Prerequisites	No prerequisites.
Contact time	1 lecture per week
Language of tuition	Module is presented in English
Department	Agricultural Economics Extension and Rural Develo
Period of presentation	Semester 1

Module content

Institutional and behavioural economics. This module will expose students to the principles of the New Institutional Economics paradigm and how it can be utilized to improve the analysis of agricultural economic and agricultural development problems and issues. Major themes covered are: The agricultural development challenge: stylised features; new institutional economics: distinctive features and concepts; institutions and development: A historical and macro-perspective techno-economic characteristics and agricultural systems and products in poor countries; NIE analysis of markets and markets structures; the State: Political and institutional determinants of agricultural policy; collective action; transactions costs in smallholder agriculture; case studies.

The economics of natural resources 886 (LEK 886)

Module credits	15.00
Service modules	Faculty of Economic and Management Sciences
Prerequisites	LEK 810 or equivalent
Contact time	1 lecture per week
Language of tuition	Module is presented in English
Department	Agricultural Economics Extension and Rural Develo
Period of presentation	Semester 2

Module content

The economics of natural resources. This course will introduce students to the techniques of optimisation overtime, optimal allocation and management of non-renewable and renewable resources, with case studies from Africa. The influence of property rights regimes on optimal natural resource use will also be stressed. The course consists of three main sections: Methods of dynamic optimisation; Theory of exhaustible and renewable resources and growth models; and Property rights and natural resource use with case studies from Africa.

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.