University of Pretoria Yearbook 2023

MSc (Environmental Economics) (Coursework) (02250405)

Department	Agricultural Economics, Extension and Rural Development
Minimum duration of study	1 year
Total credits	180
NQF level	09

Programme information

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

Admission requirements

1. BScHons degree with economics **or** environmental economics and statistics **or** BScAgric degree with economics and statistics **or** BScAgric (Agricultural Economics) (or equivalent) **or** relevant bachelor's degree **or** relevant honours degree
2. A weighted average of at least 65% at honours level

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.

General information

University of Pretoria Programme Qualification Mix (PQM) verification project

The higher education sector has undergone an extensive alignment to the Higher Education Qualification Sub-Framework (HEQF) across all institutions in South Africa. In order to comply with the HEQSF, all institutions are legally required to participate in a national initiative led by regulatory bodies such as the Department of Higher Education and Training (DHET), the Council on Higher Education (CHE), and the South African Qualifications Authority (SAQA). The University of Pretoria is presently engaged in an ongoing effort to align its qualifications and programmes with the HEQSF criteria. Current and prospective students should take note that changes to UP qualification and programme names, may occur as a result of the HEQSF initiative. Students are advised to contact their faculties if they have any questions.

Curriculum: Final year

Core credits: 135

Elective credits: 45

Please note that LEK 880 may not be offered each year. Please consult the Department.

Core modules

Applied econometrics 810 (LEK 810)

Module credits	15.00
NQF Level	09
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

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
NQF Level	09
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
NQF Level	09

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.

Mini-dissertation: Agricultural economics 892 (LEK 892)

Module credits	90.00
NQF Level	09
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
NQF Level	09
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 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
NQF Level	09
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 2

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.

Natural resource and environmental economics 880 (LEK 880)

Module credits	15.00
NQF Level	09
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.

Institutional economics 882 (LEK 882)

Module credits	15.00
NQF Level	09

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
NQF Level	09
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.

Regulations and rules

The regulations and rules for the degrees published here are subject to change and may be amended after the publication of this information.

The General Academic Regulations (G Regulations) and General Student Rules apply to all faculties and registered students of the University, as well as all prospective students who have accepted an offer of

a place at the University of Pretoria. On registering for a programme, the student bears the responsibility of ensuring that they familiarise themselves with the General Academic Regulations applicable to their registration, as well as the relevant faculty-specific and programme-specific regulations and information as stipulated in the relevant yearbook. Ignorance concerning these regulations will not be accepted as an excuse for any transgression, or basis for an exception to any of the aforementioned regulations.

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