Do you want to know how Animal Behaviour and Animal Welfare is affected by socio-economic factors?

Are you interested in getting more out of your MSc degree? Do you have a special interest in Animal Behaviour and Welfare? Are you interested in studying in a very international setting? Then you are the right student for the MSc course in Animal Behaviour and Welfare Assessment.

Animal Behaviour and Welfare Assessment
This programme is a joint initiative between Wageningen University (the Netherlands) and SLU (Sweden). It is a 5-months track that can be taken either as part of a 2-year MSc programme, or as separate courses. This means that you will be in Sweden from August 30th until early January. From February to June you will follow courses of the MSc Animal Sciences programme of Wageningen University.
In Sweden you follow the courses: Ethological methods and experimental design, Applied animal behaviour, Anthrozoology and Protection and welfare of animals. These courses run in pairs and are meant to be followed as an entire package, but it is also possible to take only the first two or the last two courses.
In the Netherlands the courses will focus more on the social and economic factors that affect animal behaviour and welfare issues. By understanding this interaction, you will be able to analyse issues taking all stakeholders into account and provide long term solutions that will receive the most support from society.

Courses
The schedule below gives an indication of the courses you will follow in Wageningen. There are a couple of compulsory courses and some optional courses. In period 4 you can choose one out of four courses mentioned. In period 5 you will follow Technology, Innovation and Strategy in the mornings and Communication and Policy Making in the afternoons. In period 6 you will follow one course in the first 4 weeks and one course in the last 4 weeks. In the last 4 weeks you have the choice out of two courses.
In the schedule the name of the course, the amount of credits and the code of the course are mentioned. If you want more details about the courses you can go to wageningenuniversity.nl/uk. The button 'students' will guide you to the study handbook. In the study handbook you can find course descriptions, activities etc. You can use the code to find the course in the handbook.

Period 4 (February 13th to March 9th)	Period 5 (March 13th to May 4th)		Period 6 (May 7th to July 6th)
Choose one out of four	**Morning**	**Afternoon**	**Choose one out of two**
Empowerment for Sustainability (ECS-53506, 6 ECTS) or Integrated Course Intensive Livestock (YAS-33306, 6 ECTS) or Integrated Course Extensive Livestock (YAS-33406, 6 ECTS) or Globalization and Sustainability of Food Production and Consumption (ENP-31806, 6 ECTS)	Technology, Innovation and Strategy (MST-30306, 6 ECTS)	Communication and Policy Making (COM-20306, 6 ECTS)	**C**hoose one course in last 4 weeks **First 4 weeks** Developmental Biology of Animals (EZO-30306, 6 ECTS) **Last 4 weeks** Behavioural Endocrinology (ETH-20306, 6 ECTS) or Behavioural Ecology (YBE -30306, 6 ECTS)

Prerequisites
You need a relevant Bachelor degree of 180 ECTS for example in the field of Animal Sciences or Biology. Furthermore your proficiency in English has to be high enough to be able to read write and speak properly in English. For the exact requirements please check wageningenuniversity.nl/uk.

Information
For more information you can contact Rene Kwakkel (Wageningen University. rene.kwakkel@wur.nl, +31 317-482468) or Lotta Berg (SLU, lotta.berg@hmh.slu.se).

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Empowerment for Sustainability ECS-53506 (6 ECTS)

Contents:

This course aims to inspire and to empower students to walk the talk of sustainability. Firstly, the course engages students to distinguish personal attitudes, perspectives and paradigms with regard to being change makers. Empowerment and leadership paradigms are analyzed and discussed. Secondly, the course supports students to uncover their potential and personal talents through which they can contribute to a sustainable world. Thirdly, the course supports students to develop skills (ex.: communication and entrepreneurial skills) for walking the talk of sustainability**.**

Learning outcomes:

After successful completion of the course students are expected to:

- be able to distinguish various personal attitudes and values, perspectives and paradigms with regard to being change makers;
- have discovered their talents; have developed a vision of how they can use their potential to lead inspiring lives and to contribute to a sustainable world;
- have developed skills for walking the talk of sustainability.

Integrated Course Intensive Livestock YAS-33306 (6 ECTS)

Contents:

This course allows specialization within the intensively kept farm animal species such as pigs and poultry. Knowledge on breeding, management, nutrition, welfare and housing systems as well as financial and economic aspects are combined in an integrated way. With this approach, specific knowledge of various aspects of the sector is gained. This knowledge will be used for a consultancy practice in the sector. Together with students of a university of applied sciences, a practice-oriented problem has to be analyzed and an advice should be formulated to a farm or company in this sector. This course is in development; consult the coordinator of the course prior to period 4 (2010/2011) for detailed information.

Learning outcomes:

Students , who followed this course with interest and took part in the discussions should be able to:

- describe the pig and poultry industry in the Netherlands and worldwide in general terms;
- distinguish and characterise the various components of the pork and poultry production chain and its stakeholders;
- to find reliable information about the pig and poultry sector;
- identify and explain the factors that independently and in combination to each other dictate pig and poultry production in all aspects;
- interpret and integrate scientific information on nutrition, breeding, housing, health, welfare, product quality and various societal issues for pigs and poultry;
- apply this integrated knowledge in a real consultancy practice by giving advice to a farmer or entrepreneur in this sector;
- understand and work together with colleagues regarding questions from an other professional background.

Integrated Course Extensive Livestock YAS-33406 (6 ECTS)

Contents:

This course allows specialization within extensively kept farm animals such as cattle (dairy), goats and sheep. Knowledge on breeding, management, nutrition, welfare and housing systems as well as financial and economic aspects are combined in a integrated way. With this approach, specific knowledge of various aspects of the sector is gained. This knowledge will be used for a consultancy practice in the sector. Together with students of a university of applied sciences, a practice-oriented problem will be tackled, analyzed and an advice should be formulated to a company or farm in this agricultural sector. This course is in development; consult the coordinator of the course prior to period 4 (2010/2011) for detailed information.

Learning outcomes:

Students, who followed this course with interest and took part in the discussions should be able to:

- describe the dairy, beef, goat and sheep sector in the Netherlands and worldwide in general terms;
- distinguish and characterise the various components of the (small) ruminant production chain and its stakeholders;
- to find reliable information about the sector;
- identify and explain the factors that independently and in combination to each other dictate the (small) ruminant husbandry and production in all aspects;
- interpret and integrate scientific information on nutrition, breeding, housing, health, welfare, product quality and various societal issues for (small) ruminants;
- apply this integrated knowledge in a real consultancy practice by giving advice to a farmer or entrepreneur in this sector;
- understand and work together with colleagues regarding questions from an other professional background.

Communication and Policy Making COM-20306 (6 ECTS)

Contents:

Policy making can be described as a process that tends to involve different types of actors. Government organisations; stake holding groups such as 'local' people and interest groups such as those of farmers or industrialists; social movement organisations such as environmental organisations; the media; experts; the broader public - all these take part in the interaction that leads to policy. Policy making also involves different forms of interaction between these different types of actors. Think, for example, of opinion polling, politicians' interactions with the public through television and the internet, interactive policy making and participatory approaches in development. This course charts the nature and significance of these interactions, thereby showing how policy making processes are situated in society and involve a series of elementary questions and dilemmas that policy makers need to address in their work. In this course we address these by studying theory as well as concrete examples situated in developing countries as well as western democracies. We compare approaches and see how they apply in different contexts - and also discuss how better communication can contribute to better policy.

Learning outcomes:

After having followed this course students should be able to:

- distinguish different roles and forms of communication in policy making;
- describe political, social and cultural dimensions of policy processes;
- identify and describe the roles of different actors in policy processes;
- apply this knowledge in the analysis of concrete policy processes.

Globalization and Sustainability of Food Production and Consumption ENP-31806 (6 ECTS)

Contents:

This course introduces key concepts for the understanding of recent changes in food provision, their consequences and possible responses. These concepts include globalization and regionalization, global flows of goods, food and values, agro-food networks. Illustrated with concrete cases the transition from supply-side (productivist) to demand-side (consumption) orientation in food provision and the shifting patterns of production and consumption are discussed, as well as the growing importance of consumption styles and consumer concerns in attributing new values to food.

The recent consumer involvement is highlighted by looking at the emergence of new social and ecological movements, the growing attention for environmental aspects of food, food risks and consumer trust. Finally, the globalization of trade and regulatory regimes and the increasing attention to (tools for) monitoring, certification and labelling, are discussed. In order to provide additional clarification on the role of alternative supply chains, a half-day field visit is included to visit farms involved in organic food production, integrated in short food supply chains.

Learning outcomes:

- students know the basic aspects of global food production and consumption and the essential role of food networks;
- students have insight in the process of globalization and its impacts of food production and consumption. They are able to apply the selected theories of globalization and regionalization to explain contemporary developments of food provision worldwide. They are able to relate issues of globalization to shifts in international trade regimes and in environmental regimes (e.g. ecolabels);
- students can explain the main differences between a producer and a consumer orientation in the organization of food networks. They can indicate the main consequences of a shift to consumer orientation;
- students have insight in central environmental aspects of food networks. They can relate these aspects to the rise of the ecological movement, to the concepts of risk and trust, and to the theory of ecological modernization.

Technology, Innovation and Strategy MST-30306 (6 ECTS)

Contents:

The objective of the course is to provide students with a sound theoretical basis concerning the management and organization of the innovation process, within organizations while focusing on the intertwined relationship between technological and social factors.

The course will consist of a number of lecture sessions. During which capita selecta of Innovation Technology and Strategy will be presented and discussed by university staff department and some outside experts from different disciplines and backgrounds. All sessions will be interactive and students are expected to be well prepared and to participate actively in the discussions and presentations. A critical and participative attitude is required. Next to the lectures participants are expected to work in teams of three and write a scientific paper about innovation. Chair group staff will be available for consultancy and coaching.

Learning outcomes:

Upon completion of the course 'Technology, Innovations and Strategy' students should be able to

- describe and understand innovation as a management process as well as state the key issues in innovation management;
- to develop and describe a framework for innovation strategy, state different mechanism for the implementation of innovation strategy as well as outline different ways in which innovative organizations might be build;
- to apply the major concepts, models and theories regarding the development, implementation and evaluation of innovation strategies to business practice;
- to identify, analyze and assess business problems and challenges regarding innovation, technology and strategy and be able to provide a meaningful contribution to the solution of those problems.

Behavioural Endocrinology ETH-20306 (6 ECTS)

Contents:

Behavioural endocrinology refers to genetic, molecular, cellular, psychological, and social influences on behaviour. This course reviews the current state of knowledge at the interfaces of hormones and behaviour in mammals. The focus of the completely renewed course Behavioural Endocrinology is on 4 themes, namely:

1. female and male reproductive behavioural endocrinology;
2. social behaviour and its neuroendocrine regulation;
3. behavioural endocrinology of stress;
4. homeostasis and behaviour, including issues like energy balance and metabolism, body mass and the control of food intake.

The course addresses basic principles of behaviour and endocrinology, but especially outlines the interrelationships of hormones, behaviour and nervous systems. Contemporary knowledge is presented from diverse perspectives taking into account the historical background and findings that laid the foundations for modern studies of behavioural endocrinology.

Learning outcomes:

After following this course:

- students understand the basic principles of behaviour and endocrinology,
- students are able to explain basic mechanisms that underlie the interrelationships of hormones, behaviour and nervous systems;
- students are able to relate the effects of hormones to the behavioural outcomes in relation to reproduction, sociality, stress and homeostasis.

Behavioural Ecology YBE-30306 (6 ECTS)

Contents:

The course Behavioural Ecology provides insight in how evolution through natural selection shapes behaviour of animals (domestic or wild, vertebrate or invertebrate). The course includes acquiring theoretical knowledge, searching scientific information, critically reading of literature, observation and presentation of results. The acquired knowledge is directly applied in a short research project on captive or wild animals; these can be either invertebrates or vertebrates. **Learning outcomes:**

After following this course, the student:

- uses evolutionary concepts to explain animal behaviour;
- understands and is able to apply and define the four why's of Tinbergen in behavioural issues;
- is able to apply the basic behavioural and ecological skills of observation and (statistical) data analysis;
- is able to plan and finalize a small behavioural ecological research project;
- is able to present the results of a research project in a report and oral presentation.

Developmental Biology of Animals EZO-30306 (6 ECTS)

Contents:

The 24 lectures (1h each) are focussed on mechanisms of development of a wide variety of protostome and deuterostome species. Most attention however is given to the model organisms, Drosophila, zebrafish, Xenopus, chicken and mouse. Basal concepts like mosaic and regulative development are discussed and species compared in this respect. Molecular control of regulation of gene expression during development is a central field of interest. Specification of embryonic axes, pattern formation, morphogenetic processes, organogenesis and celdifferentiation are important issues. These processes undoubtedly have a (phylo-) genetic basis, but embryos develop in an environment with characteristic physical laws and parameter values. Techniques available to analyse the physical environment and its influence on embryonic development will be discussed. This analysis is important to gain insight in functional aspects next to genetic aspects of development. The role of phylogenetic and physical constraints in the developmental process will be discussed as well as the role of developmental biology in the study of evolution. The practicals (15 half days) focus on the morphogenesis of vertebrates, studied by microscopy, but some attention is also given to invertebrate species. Furthermore, an introduction into some important embryological and (developmental) molecular biological techniques is given. Literature on a number of important questions or techniques will have to be studied. The papers are discussed during 3 special meetings (1h each).

Learning outcomes:

After the course, students should be able to:

- formulate the central questions in the field and understand their impact;
- know how the morphogenesis of the body plan of a number of organisms takes place;
- know what (cellular, molecular, physical) mechanisms underlie these morphogenetic processes;
- quantitatively discuss why certain developmental processes take place (why for example will a circulatory system develop at a certain stage?);
- understand terms like morphogenetic determinants, gradients of morphogens, transcriptional regulation of maternal and zygotic genes, embryonic induction, pattern formation, the role of cytoskeleton and cell surface molecules in cell movement and morphogenesis and be able to give examples in relation to developmental processes;
- understand that a number of rather general mechanisms underlie embryonic development of a wide variety of body plans;