Grundlagen der Entomologie
(Basics in Entomology)

Earliest possible year	M.Sc 1st year or later
Duration	Entire Semester
Credits	3 ECTS; 2 SWS
Course level	M.Sc
Examination	No
Requirement for attending exam	No
Teaching	Lectures
Block placement	Entire Semester, every winter semester
Teaching language	German
Mandatory prerequisites	No
Restrictions	No
Areas of competence the course will address	The students should obtain knowledge about the biology of insects and the immense ecological importance and impact of these animals. The mediated knowledge is the basic background for research work in ecology world-wide and is important for applied research in agronomy. The student is capable of using aspects of entomology in multidisciplinary research. The accompanying seminar provides the student to use scientific sources of informations and to present them.
Objectives	Necessary background for later work in entmology and applied entomolgy (inc. crop protection);
Contents	Entomolgy as a science; Habitats and diversity of insects, systematic of insects, anatomy and physiology of insects; senses and behaviour; reprodcution of Insects; Developmental Biology; Social Insects; Predators and Parasitoids; Selfdefense; Populations dynamics; applied aspects of Entomolgy
Teaching and learning methods	Lecture inc. Excursions and short talks made by the students Hand out avaiable
Course literature	Gullan P. J.; Cranston, P. S. (2005): The insects - An outline of entomology. Blackwell Publishing. Dettner, K.; Peters, W. (Hrsg.) (2003): Lehrbuch der Entomologie. Fischer, Stuttgart. (Signatur UB Hohenheim: WQ 3000 D483; Standort: 10)

Course responsible	Prof. Dr. C. Zebitz; zebitz@uni-hohenheim.de; Phone 0711 459-22400Department of Applied Entomology, Institute of Phytomedicine, Faculty of Agricultural Science	
Home Page	www.uni-hohenheim.de/ento/public_html/lehre/lehre.htm , material belonging to the lecture, password protected!!!!	
Scope	Lectures	28 h
	Preparation/self-study	56 h
	Sum	84 h

Ökologie der Insekten
(Ecology of Insects)

Earliest possible year	M.Sc 2nd year or later
Duration	Entire Semester
Credits	1,5 ECTS
Course level	M.Sc
Examination	No
Requirement for attending exam	none
Teaching	Lectures
Block placement	Entire semester, every winter semester Every We 10:15 pm -11:00 pm; Lecture room HS 21
Teaching language	English
Mandatory prerequisites	Good basic knowledge in entomology is recommended (eg. “Grundlagen der Entomologie”), but not mandatory
Restrictions	none
Areas of competence the course will address	The students should understand the role of inscts as bioindicators, as part of the food chain and as companion of humans in their role of an ecosystem. He should be able to use these knowledge in the fiels of applied ecology.
Objectives	Create the necessary background, concerning insect, that are needed to work in the fields of applied ecology, environmental protection and managment of environment
Contents	These lectures want to create a basic understanding of the ecological significance of insects, their biodiversity and their skill to survive in nearly every habitat on earth. Habitat types, role in ecosystems, adaption on hostile environments, adaptions on habitats, nutrition, migration seasonal adaptation, hibernation, social insects, insect-plant interaction (basics only), insect-animal/human-interactions, predation, parasitism, defence strategies, adaptation to different habitats under the synecological point of view, changing of habitats and the consequences, choosing habitats, communities of insects in different habitats, ecological webs and insects as bioindicators.
Teaching and learning methods	Lecture and supporting material
Literature	Gullan, P. J. & Cranston, P. S. (2005) The Insects – An Outline of Entomology. 3rd edition, Blackwell Science, Oxford. (Allgemeines Lehrbuch der Entomologie) Andrewartha, H. G. & Birch, L. C. (1984) The Ecological Web, Universitiy of Chicago Press, Chicago.

Price, P. W. (1984) Insect Ecology, 2nd editon, John Wiley & Sons, New York (UB Hoh. Signatur: Zo 655.62)

Schwerdtfeger, F. (1978) Lehrbuch der Tierökologie. Verlag Paul Parey, Hamburg. (UB Hoh. Signatur: WI 2025 S415)

Southwood, T. R. E. (1994) Ecological Methods - With particular reference to the study of insect populations. 2nd edition, Chapman & Hall, London.

Robinson, W. H. (1996) Urban Entomology, Chapman & Hall, London. (UB Hoh. Signatur: WQ 3075 R666)

Responsible

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Department of Applied Entomology, Institute of Phytomedicine,
Faculty of Agricultural Science

Scope

Lectures	14h
Preparation/self-study	28h
Sum	42h

Populationsökologie der Insekten
(Population ecology of insects)

Earliest possible year	M.Sc 1st year or later
Duration	Entire Semester
Credits	1 ECTS
Course level	M.Sc
Examination	No
Requirement for attending exam	none
Teaching	Lectures
Block placement	Entire Semester, every winter semester Every We 11:15 am- 12:00 am; Lecture room HS 21
Teaching language	English
Mandatory prerequisites	none
Restrictions	none
Areas of competence the course will address	The forces that shape populations and ways to analyse the ecosystems, Introduction to ecological concepts like the numerical and the functional response
Objectives	Ecological concepts that shape the population of insect species in habitats
Contents	Populations and their characteristics; population dynamics incl. mathematical functions; active and passive dispersion; migration; invasive species; population fluctuations, habitat and population variability; functional and numerical response; intraspecific interactions: competition, interference, predation parasitism, pathogenes; mutual relations; ecosystems and their analysis: descriptive, analytical and simulation models
Teaching and learning methods	Lectures
Responsible	Prof. Dr. C. Zebitz; zebitz@uni-hohenheim.de; Phone:0711/459-22400 Department of Applied Entomology, Institute of Phytomedicine, Faculty of Agricultural Science
Scope	Lectures 14h Preparation/self-study 28h **Sum** 42 h

Insekt-Pflanze-Beziehungen
(Insect-Plant Relationships)

Earliest possible year	M.Sc 1st year or later
Duration	Entire Year
Credits	3 ECTS
Course level	M.Sc
Examination	None
Requirement for attending exam	None
Teaching	Lectures
Block placement	Entire semester, every winter semester Every Thu 5:15 pm -7:00 pm; Lecture room HS 21
Teaching language	German or english
Mandatoryprerequisites	No
Restrictions	No
Areas of competence the course will address	The students should obtain knowledge about the biological interactions between insects and plants and the ecological impact of insects on their host-plants and the ways a plant can protect itself against insects. The mediated knowledge is the basic background for research work in ecology world-wide and is imortant for applied research in Agronomy. The student is capable of using aspects of entomolgy in multidisciplinary research. The accompaning seminar teaches a student to use scientific sources of informations and to present them.
Objectives	Necessary background for later work in entmology and applied entomolgy (inc. plant protection)
Contents	Coevolution of plants and insects, pollination and distribution of plants by insects, herbivores, impact of herbivory on plants; host- and food-plant acquisition by herbivorous insects; feeding on plants; cytological, histological, physiological and biochemical effects of feeding by herbivores; defence-mechanisms; resistance, tolerance, impact of plants on herbivores and their interactions with their environment; multitropic interactions, insect-induced communication between plants.
Teaching and learning methods	Lecture and seminar, hand out avaiable
Literature	Schoonhoven, L. M.; van Loon, J. J. A.; Dicke, M. (2005): Insect-Plant Biology. 2nd Edition, Oxford University Press, Oxford. (recommended to buy) Bernays, E. A.; Chapman, R. F. (1994): Host-plant selection by phytophagous insects. Chapman & Hall, London

Bernays, E. A. (Ed.) (1989-1994): Insect-Plant Interactions, Vol. I-V, CRC Press, Boca-Raton. (Signatur UB Hohenheim: Pp 229.7)

Metcalf, R. L.; Metcalf, E. R. (1992): Plant kairomones in insect ecology and control. Chapman & Hall, London (Signatur UB Hohenheim: Pp 229.8)

Boethel, D. J.; Eikenbary, R. D. (Hrsg.) (1986): Interactions of plant resistance and parasitoids and predators of insects. Ellis Harwood Ltd., Chichester.

Ahmad, S. (Hrsg.) (1983): Herbivorous insects - host seeking behavior and mechanisms. Academic Press, Orlando. (Signatur UB Hohenheim: Zo 654.63)

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Scope

Lectures	28h
Preparation/self-study	56h
Sum	84h