

Mitteilungsblatt der Universität Kassel

Inhalt

	Seite
1. Satzung gemäß § 63 Abs. 4 HHG über die Zugangsvoraussetzungen für die Studiengänge im Fach Englisch bzw. Anglistik und Amerikanistik des Fachbereichs Sprach- und Literaturwissenschaften der Universität Kassel: hier: Berichtigung	48
2. Neufassung der Satzung gemäß § 63 Abs. 4 HHG über die Zugangsvoraussetzungen für die Studiengänge im Fach Englisch bzw. Anglistik und Amerikanistik des Fachbereichs Sprach- und Literaturwissenschaften der Universität Kassel	49
3. Ordnung der Diplomprüfungen im gestuften Studiengang für Soziale Berufe an der Universität Kassel	51
4. Ordnung der Diplomprüfungen im Studiengangssystem für Soziale Berufe an der Gesamthochschule Kassel, Teil I: Grundständiger Studiengang	52
5. Ordnung der Diplomprüfung im Studiengangssystem für Soziale Berufe an der Universität Gesamthochschule Kassel, Teil II, Aufbaustudiengänge Supervision, Soziale Gerontologie und Soziale Therapie	53

6. Prüfungsordnung für den konsekutiven Masterstudiengang
„International Organic Agriculture“ des Fachbereichs Ökologische
Agrarwissenschaften der Universität Kassel

54

Impressum

Verlag und Herausgeber:

Universität Kassel, Mönchebergstrasse 19, 34125 Kassel

Redaktion (verantwortlich):

Personalabteilung – Organisation, Innerer Dienst

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www.uni-kassel.de/mitteilungsblatt

Erscheinungsweise: unregelmäßig

Satzung gemäß § 63 Abs. 4 HHG über die Zugangsvoraussetzungen für die Studiengänge im Fach Englisch bzw. Anglistik und Amerikanistik des Fachbereichs Sprach- und Literaturwissenschaften der Universität Kassel

vom 02. November 2005 (MittBl. Nr. 7/2006, S. 1454), geändert am 28. Juni 2006 (MittBl. Nr. 19/2006, S. 3156) in der Fassung vom 19. August 2008 (MittBl. Nr. 10/2008, S. 646)

hier: Berichtigung vom 04. März 2009

Artikel 1 Berichtigung

In der o.g. Satzung ist in der Bekanntmachung der Neufassung vom 10. September 2008 (MittBl. 10/2008, S. 646) ein Fehler enthalten, der nachstehend berichtigt wird.

§1 Abs. 2 hat richtig folgende Fassung:

„Dieser Nachweis wird erbracht durch

- a) eine Durchschnittsnote von mindestens 12 Punkten (Grundkurs) oder 10 Punkten (Leistungskurs) im Schulfach Englisch in den beiden Schuljahren vor Erwerb der Hochschulzugangsberechtigung oder
- b) durch einen Sprachtest gem. § 2.

Die Nachweise dürfen nicht älter als zwei Jahre sein.“

Artikel 2 Übergangs- und Schlussbestimmungen

1. Ermächtigung zur Neubekanntmachung

Die Satzung gemäß § 63 Abs. 4 HHG über die Zugangsvoraussetzungen für die Studiengänge im Fach Englisch bzw. Anglistik und Amerikanistik des Fachbereichs Sprach- und Literaturwissenschaften der Universität Kassel vom 02. November 2005 (MittBl. Nr. 7/2006, S. 1454), geändert am 28. Juni 2006 (MittBl. Nr. 19/2006, S. 3156) in der Fassung vom 19. August 2008 (MittBl. Nr. 10/2008, S. 646) wird unter Einarbeitung der Berichtigung vom 04. März 2009 in einer Neufassung veröffentlicht.

2. In-Kraft-Treten

Diese Ordnung tritt am Tag nach der Veröffentlichung im Mitteilungsblatt der Universität Kassel in Kraft.

Kassel, den 12. März 2009

Prof. Dr. Rolf-Dieter Postlep
Präsident der Universität Kassel

Neufassung der Satzung gem. § 63 Abs. 4 HHG über die Zugangsvoraussetzungen für die Studiengänge im Fach Englisch bzw. Anglistik und Amerikanistik des Fachbereich Sprach- und Literaturwissenschaften der Universität Kassel

vom 02. November 2005 (MittBl. Nr. 7/2006, S. 1454), zul. geändert am 12.03.2009

§ 1 Studiengangsspezifische Zulassungsvoraussetzungen

(1) Neben der Hochschulreife gem. § 63 Abs. 2 HHG müssen studiengangsspezifische Kenntnisse als Voraussetzung zur Zulassung zum Studium in folgenden Studiengängen nachgewiesen werden:

- English and American Culture and Business Studies / Anglistik, Amerikanistik und Wirtschaftswissenschaften im Bachelorstudiengang,
- English and American Studies / Anglistik und Amerikanistik im Bachelorstudiengang,
- Englisch im Bachelorstudiengang Berufsbezogene Mehrsprachigkeit,
- Teilstudiengänge Englisch für die Lehrämter an Grundschulen, Haupt- und Realschulen und Gymnasien,
- – zweites Unterrichtsfach Englisch im Bachelorstudiengang Wirtschaftspädagogik,
- zweites Unterrichtsfach Englisch im Bachelorstudiengang Berufspädagogik (Metalltechnik/Elektrotechnik),
- Nebenfach English and American Studies / Anglistik und Amerikanistik in Bachelorstudiengängen.

(2) Dieser Nachweis wird erbracht durch

a) eine Durchschnittsnote von mindestens 12 Punkten (Grundkurs) oder 10 Punkten (Leistungskurs) im Schulfach Englisch in den beiden Schuljahren vor Erwerb der Hochschulzugangsberechtigung oder

b) durch einen Sprachtest gem. § 2.

Die Nachweise dürfen nicht älter als zwei Jahre sein.

§ 2 Sprachtest

Nachstehend aufgeführte Sprachtests werden anerkannt:

1. Test of English as a Foreign Language (TOEFL): Internet-Test: mindestens 72 Punkte,
2. TOEFL: Computer-Test: mindestens 200 Punkte,
3. TOEFL: Papierbogen-Test: mindestens 533 Punkte,
4. Cambridge Certificate of Advanced English (CAE): mindestens Note C,
5. International English Testing System (IELTS): mindestens Note 6.

§ 3 Ausnahmen

Ausgenommen von den Regelungen nach den §§ 1 und 2 sind Austauschstudierende der vom Institut für Anglistik und Amerikanistik bzw. vom Institut für Romanistik anerkannten Austauschprogramme. Für Studienortwechsler aus dem Geltungsbereich des HRG gilt eine Einzelfallprüfung.

§ 4 In-Kraft-Treten

Diese Ordnung tritt am Tag nach ihrer Veröffentlichung im Mitteilungsblatt der Universität Kassel in Kraft.

Kassel, den 08. Februar 2006

Der Dekan des Fachbereichs Sprach- und Literaturwissenschaften

Prof. Dr. Peter Seibert

Ordnung der Diplomprüfungen im gestuften Studiengang für Soziale Berufe an der Universität Kassel
vom 08. Mai 2002 (StAnz. 34/2002, S. 3178);
hier: Änderungsordnung vom 17. Dezember 2008

Artikel 1 Änderungen

Nach § 30 wird als neuer § 31 eingefügt:

„§ 31 Außer-Kraft-Treten

Diese Prüfungsordnung tritt mit Ablauf des 31. März 2014 außer Kraft.“

Artikel 2 Übergangs- und Schlussbestimmungen

In-Kraft-Treten

Diese Änderungsordnung tritt am Tag nach ihrer Veröffentlichung im Mitteilungsblatt der Universität Kassel in Kraft.

Kassel, den 09. März 2009

Der Dekan des Fachbereichs Sozialwesen

Prof. Dr. Stephan Rixen

Ordnung der Diplomprüfungen im Studiengangssystem für Soziale Berufe an der Gesamthochschule Kassel, Teil I: Grundständiger Studiengang

vom 27. Juni 1984 (ABl. S. 892), zuletzt geändert am 15. Mai 1996 (StAnz. 31/1997, S. 2292)

hier: Dritte Ordnung zur Änderung vom 17. Dezember 2008

Artikel 1 Änderungen

1. Dem § 28 wird als neuer Abs.5 angefügt:

„Studierende, die im Rahmen der o.g. Prüfungsordnung studieren, werden noch bis zum 30. September 2009 nach dieser Prüfungsordnung geprüft. Auf Antrag werden sie nach der Ordnung der Diplomprüfungen im gestuften Studiengang für Soziale Berufe an der Universität Kassel in der Fassung vom 08. Mai 2002 (StAnz. 34/2002, S. 3178) geprüft. Der Antrag ist bis zum 31. März 2009 zustellen.“

2. Nach § 29 wird als neuer § 30 eingefügt:

„§ 30 Außer-Kraft-Treten

Diese Prüfungsordnung tritt mit Ablauf des 30. September 2009 außer Kraft.“

Artikel 2 Übergangs- und Schlussbestimmungen

In-Kraft-Treten

Diese Ordnung tritt am Tag nach der Veröffentlichung im Mitteilungsblatt der Universität Kassel in Kraft.

Kassel, den 09. März 2009

Der Dekan des Fachbereichs Sozialwesen

Prof. Dr. Stephan Rixen

**Ordnung der Diplomprüfung im Studiengangssystem für Soziale Berufe an der Universität
Gesamthochschule Kassel, Teil II, Aufbaustudiengänge Supervision, Soziale Gerontologie und Soziale
Therapie**

vom 27. Juni 1984 (Abl. S. 840), zuletzt geändert am 04. Februar 1998 (StAnz. 44/1998, S. 3392)

hier: Dritte Ordnung zur Änderung vom 17. Dezember 2008

Artikel 1 Änderungen

Nach § 29 wird als neuer § 30 eingefügt:

„§ 30 Außer-Kraft-Treten

Diese Prüfungsordnung tritt mit Ablauf des 30. September 2009 außer Kraft.“

**Artikel 2 Übergangs- und Schlussbestimmungen
In-Kraft-Treten**

Diese Ordnung tritt am Tag nach der Veröffentlichung im Mitteilungsblatt der Universität Kassel in Kraft.

Kassel, den 09. März 2009

Der Dekan des Fachbereichs Sozialwesen

Prof. Dr. Stephan Rixen

**Prüfungsordnung für den konsekutiven Masterstudiengang „International Organic Agriculture“ des
Fachbereichs Ökologische Agrarwissenschaften der Universität Kassel
vom 17.12.2008**

Inhalt

I. Allgemeines

- § 1 Geltungsbereich
- § 2 Regelstudienzeit
- § 3 Akademischer Grad, Profiltyp
- § 4 Prüfungsausschuss

II. Masterabschluss

- § 5 Besondere Zulassungsvoraussetzungen
- § 6 Studienaufbau, Studienziele und studienbegleitende Modulprüfungen
- § 7 Masterarbeit und Kolloquium
- § 8 Bewertung und Gewichtung der Prüfungsleistungen

III. Übergangs- und Schlussbestimmungen

- § 9 Übergangsregelung
- § 10 In-Kraft-Treten

Anlagen

I. Allgemeines

§ 1 Geltungsbereich

Die Prüfungsordnung für den konsekutiven Masterstudiengang „International Organic Agriculture“ ergänzt die „Allgemeinen Bestimmungen für Prüfungsordnungen mit den Abschlüssen Bachelor und Master“ (AB Bachelor/ Master) an der Universität Kassel in der jeweils geltenden Fassung.

§ 2 Regelstudienzeit

Für den Masterstudiengang, der mit der Masterprüfung als zweitem berufsqualifizierenden Abschluss endet, beträgt die Regelstudienzeit vier Semester (120 Credits), davon 30 Credits für die Abschlussarbeit einschließlich des Kolloquiums.

§ 3 Akademischer Grad, Profiltyp

(1) Aufgrund der bestandenen Masterprüfung verleiht der Fachbereich Ökologische Agrarwissenschaften den Grad Master of Science (M.Sc.).

(2) Der Masterstudiengang ist vom Profiltyp als forschungsorientierter Studiengang konzipiert. Näheres ergibt sich aus dem Diploma-Supplement.

§ 4 Prüfungsausschuss

(1) Die Entscheidungen in Prüfungsangelegenheiten trifft der Prüfungsausschuss des Fachbereiches Ökologische Agrarwissenschaften.

(2) Der Prüfungsausschuss besteht aus drei Professoren/innen, einer/einem wissenschaftlichen Mitarbeiter/in und einer/einem Student/in.

II. Masterabschluss

§ 5 Besondere Zulassungsvoraussetzungen

(1) Das Masterstudium kann jeweils zum Wintersemester aufgenommen werden. Auf Antrag können Bachelor- oder Diplomabsolventinnen und -absolventen von Agrarstudiengängen, die aufgrund ihrer bisherigen Qualifikationen keine Brückenmodule (siehe §6 (4)) benötigen, auch zum Sommersemester aufgenommen werden.

(2) Zum Masterstudiengang kann zugelassen werden, wer

- einen Abschluss (B.Sc., Diplom) oder einen gleichwertigen Abschluss eines landwirtschaftlichen Studienganges der Universität Kassel oder einer anderen Hochschule mit mindestens der Note 2,5 besitzt oder
- einen gleichwertigen Abschluss eines fachlich verwandten Studienganges einer anderen Hochschule mit mindestens der Note 2,5 besitzt oder in den bisherigen Studienleistungen ein fachliches Profil aufweist, das eine Grundlage für die Aufnahme des Master-Studiums darstellt.

(3) Studierende, die diese Voraussetzungen mit den schriftlich einzureichenden Unterlagen nicht nachweisen, müssen sich einem Zulassungsgespräch durch zwei promovierte Lehrende des Studienganges International Organic Agriculture unterziehen, die durch den Prüfungsausschuss ernannt werden.

(4) Die Entscheidung über eventuelle Auflagen erfolgt durch den Prüfungsausschuss.

(5) Die Regelstudiendauer des Studiums zum Erlangen des ersten akademischen Abschlusses gem. Abs. 2 muss mindestens drei Jahre betragen haben.

(6) Zusätzlich ist der Nachweis von Kenntnissen der englischen Sprache auf dem Niveau TOEFL 61 oder äquivalentem Umfang zu erbringen.

§ 6 Studienaufbau, Studienziele und studienbegleitende Modulprüfungen

(1) Das Masterstudium baut sich folgendermaßen auf:

1 Brückenmodul	6 Credits
4 Fachmodule (Pflicht)	24 Credits
9 Fachmodule (Wahlpflicht)	54 Credits
1 Modul (Wahl)	6 Credits
20 Wochen Masterarbeit inkl. Kolloquium	30 Credits
Summe	120 Credits

(2) Die Masterprüfung besteht aus

- den studienbegleitenden Modulprüfungen gem. Abs. (4)
- der Masterarbeit und dem Kolloquium gem. § 7.

(3) Studienziel des Studienganges ist es, die Studierenden zu befähigen, die Möglichkeiten und Grenzen der Ökologischen Landwirtschaft in den verschiedenen Agrarökosystemen der Erde und in Abhängigkeit der sozioökonomischen Gegebenheiten aufzuzeigen. Das Studium soll insbesondere

- das Verständnis für die globalen ökosystemaren Zusammenhänge von Ökologischer Landwirtschaft fördern,
- den Anwendungsbezug wissenschaftlicher Kenntnisse und Methoden im Berufsfeld der internationalen Agrarwirtschaft stärken,
- die Fähigkeiten ausbauen, Potentiale konkreter Standortbedingungen (klimatisch, sozioökonomisch, kulturell) zu erkennen und produktiv zu nutzen, und
- damit einen Beitrag für die nachhaltige Sicherung der Ernährungsgrundlagen einer wachsenden Weltbevölkerung leisten.

Nach Abschluss des Masterstudiums sind die Studierenden in der Lage, nach wissenschaftlichen Grundsätzen selbstständig zu arbeiten und Methoden und Erkenntnisse der ökologischen Landwirtschaft anzuwenden und weiterzuentwickeln.

(4) Im Rahmen des Masterstudiums sind studienbegleitende Modulprüfungen (Modulbeschreibungen s. Anlage 2, Modulhandbuch) im Umfang von 90 Credits zu absolvieren:

- Zum Ausgleich unterschiedlicher Vorkenntnisse der Studierenden muss folgendes Brückenmodul erbracht werden, wenn der Prüfungsausschuss keine Befreiung ausgesprochen hat:
 - Soil and plant science.
 Der Prüfungsausschuss kann bei Bedarf weitere Pflichtmodule innerhalb der 120 Credits festlegen.

- Jeweils 1 Fachmodul als Pflichtmodul (jeweils 6 Credits) aus den Bereichen Ökologie und Methoden, Pflanzenbauwissenschaften, Nutztierwissenschaften, Wirtschafts- und Sozialwissenschaften, die der Wissensvertiefung in den agrarwissenschaftlichen Fachgebieten der Natur-, Wirtschafts- und Sozialwissenschaften dienen. Pflichtmodule können sein:

Bereich	Pflichtmodule
<u>Applied methods</u>	<ul style="list-style-type: none"> • <u>Ecological modelling and GIS</u> • <u>Nutrient dynamics, long-term experiments and modelling</u> • <u>Multidisciplinary Research in Tropical Production Systems</u> • <u>Biometrics</u>
Plant science	<ul style="list-style-type: none"> • Organic farming systems under temperate conditions • Principles of organic agriculture, Organic farming systems under (sub-)tropical conditions
Animal science	<ul style="list-style-type: none"> • Organic livestock farming under temperate conditions • Animal environment interactions under (sub-)tropical conditions
Economy and social science	<ul style="list-style-type: none"> • Development policy • International markets and marketing of organic products

- 9 Fachmodule als Wahlpflichtmodule (jeweils 6 Credits). Neben den nicht gewählten Pflichtmodulen können Wahlpflichtmodule sein:

Bereich	Wahlpflichtmodule
<u>Ecology</u>	<ul style="list-style-type: none"> • <u>Ecological soil microbiology</u> • <u>Soil and water</u> • <u>Agrobiodiversity, plant nutrition</u> • <u>International landuse systems research</u>
Plant science	<ul style="list-style-type: none"> • Ecology and agro-ecosystems • Methods and advances in plant protection • Growing renewable natural resources • <u>Management of (sub-)tropical landuse systems</u>
Economy and social science	<ul style="list-style-type: none"> • Changing societies, intercultural management • Ecological economics • Marketing research • <u>Management and management accounting</u> • <u>Supply chain management</u> • <u>Research in business</u>
Animal Science	<ul style="list-style-type: none"> • <u>Animal husbandry and sustainable land use</u> • <u>Tropical Animal Husbandry Systems</u>
Food and technology science	<ul style="list-style-type: none"> • Food quality and organic food processing • Quality management for organic foods • Energy in agriculture • Food preservation, packaging, transportation • Recent developments in food and nutritional sciences

- 1 Wahlmodul (6 Credits). Dieses ist aus dem Modulkatalog der Master-Studiengänge zu wählen, die an der Universität Kassel oder anderen Hochschulen angeboten werden, und soll in sinnvollem Zusammenhang mit dem von der oder dem Studierenden angestrebten Qualifikationsprofil stehen.

- Bis zu 4 Module des Wahlpflichtbereiches können nach individueller Studienberatung durch Module der Masterstudiengänge „Ökologische Landwirtschaft“ bzw. „International Food Business and Consumer Studies“ ersetzt werden.
 - Bis zu 2 Module des Wahl-/Wahlpflichtbereiches können durch eine interdisziplinäre Projektarbeit ersetzt werden. Interdisziplinär heißt, dass Lehrende aus mindestens zwei verschiedenen Fachgebieten ein Projekt gleichwertig betreuen.
- (5) Mindestens 12 der erforderlichen Credits sollen an einer ausländischen Hochschule erworben werden.

§ 7 Masterarbeit und Kolloquium

(1) Die Ausgabe des Themas der Masterarbeit erfolgt auf Antrag über den Vorsitzenden/die Vorsitzende des Prüfungsausschusses nach Zulassung zur Masterarbeit. Die Masterarbeit kann frühestens im dritten Studiensemester bzw. bei Quereinstieg im zweiten Studiensemester ausgegeben werden. Das Thema der Masterarbeit kann ausgegeben werden, wenn nicht mehr als zwei studienbegleitende Prüfungsleistungen fehlen. Diese sind bis zur Einreichung der Masterarbeit nachzuholen.

(2) Die Masterarbeit hat eine Bearbeitungsfrist von 20 Wochen. Die Masterarbeit wird in der Regel in englischer Sprache abgefasst. Über Ausnahmen entscheidet der Prüfungsausschuss. Eine deutschsprachige Zusammenfassung mit bibliografisch verwertbaren Schlüsselwörtern ist beizufügen.

(3) Im Rahmen der Abschlussprüfung findet ein Kolloquium über die Masterarbeit mit den zwei Prüfern/Prüferinnen der Masterarbeit spätestens sechs Wochen nach ihrer Abgabe statt. Das Kolloquium dauert 60 Minuten. Die Masterarbeit inkl. Kolloquium umfasst 30 Credits. Die Note wird gebildet durch die Note der Masterarbeit mit dem Faktor 3 und der Note des Kolloquiums mit dem Faktor 1.

§ 8 Bewertung und Gewichtung der Prüfungsleistungen

Die Gesamtnote des Masterabschlusses wird als gewichtetes arithmetisches Mittel gemäß den Credits gebildet.

III. Übergangs- und Schlussbestimmungen

§9 Übergangsregelung

Studierende des Studienganges „International Ecological Agriculture“ können innerhalb des Semesters des In-Kraft-Tretens auf Antrag nach der Prüfungsordnung „International Organic Agriculture“ wechseln.

§ 10 In-Kraft-Treten

Diese Prüfungsordnung tritt am Tag nach ihrer Veröffentlichung im Mitteilungsblatt der Universität Kassel in Kraft.

Witzenhausen, den 29. Januar 2009

Dekan des Fachbereichs Ökologische Agrarwissenschaften der Universität Kassel
Prof. Dr. Michael Wachendorf

Anlage 1: Studienverlaufsplan

Semester	Module				
1 (30 Credits)	Brückenmodul 1 (6 Credits)	Pflichtmodul 1 (6 Credits)	Pflichtmodul 2 (6 Credits)	Wahlpflichtmodul 1 (6 Credits)	Wahlpflichtmodul 2 (6 Credits)
2 (30 Credits)	Pflichtmodul 3 (6 Credits)	Pflichtmodul 4 (6 Credits)	Wahlmodul (6 Credits)	Wahlpflichtmodul 3 (6 Credits)	Wahlpflichtmodul 4 (6 Credits)
3 (30 Credits)	Wahlpflichtmodul 5 (6 Credits)	Wahlpflicht- modul 6 (6 Credits)	Wahlpflicht- modul 7 (6 Credits)	Wahlpflichtmodul 8 (6 Credits)	Wahlpflichtmodul 9 (6 Credits)
4 (30 Credits)	Master Thesis incl. Colloquium (30 Credits)				

Anlage 2

Annex to Examination Regulations:

Master International Organic Agriculture

Modul Descriptions

Overview

1. Bridging modul

Plant science	- A21 Soil and plant science
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2. Professional modules (compulsory)

At least one module has to be chosen out of each following Block:

Applied methods	<ul style="list-style-type: none"> - A14 Ecological modelling and GIS - A15 Nutrient dynamics, long-term experiments and modelling - A16 Biometrics - A17 Multidisciplinary research in tropical production systems
Plant science	<ul style="list-style-type: none"> - A22 Organic farming systems under temperate conditions - A23 Principles of organic agriculture, Organic farming systems under (sub-)tropical conditions
Animal science	<ul style="list-style-type: none"> - A31 Organic livestock farming under temperate conditions - A32 Animal environment interactions under (sub-) tropical conditions
Economics and social science	<ul style="list-style-type: none"> - A41 Development policy - A42 International markets and marketing of organic products

3. Professional modules (elective)

Ecology	<ul style="list-style-type: none"> - A11 Soil and water - A12 Agrobiodiversity, plant nutrition - A13 Ecological soil microbiology - A18 International landuse systems research
Plant science	<ul style="list-style-type: none"> - A24 Ecology and agro-ecosystems - A25 Methods and advances in plant protection - A26 Growing renewable natural resources - A27 Management of (sub-) tropical landuse systems
Animal science	<ul style="list-style-type: none"> - A33 Tropical animal husbandry systems - A34 Animal husbandry and sustainable landuse
Economics and social science	<ul style="list-style-type: none"> - A43 Changing societies, intercultural management - A45 Ecological economics - A48 Marketing research - F11 Management and management simulation - F41 Supply chain management - F46 Research in business
Food and technology science	<ul style="list-style-type: none"> - A51 Food quality and organic food processing - A52 Quality management for organic foods - A53 Energy in agriculture - A54 Food preservation, packaging, transportation - A55 Recent developments in food and nutritional sciences - A56 Research in Business

1. Bridging Module

Module	Soil and plant science
Code	A 21
Coordinator	Prof. Dr. M.R. Finckh
Language	English
Stud. workload	180 hours, of which 60 contact time
Credits	6
Frequency (WS / SS)	Yearly, WS
Contents	<p>1. Fundamentals of soil science (12h): Physical properties (texture, soil water, pore space), Chemical properties (buffering, exchange capacity, nutrients), Biological properties (organic matter, edaphon), Soil formation and classification</p> <p>2. Plant nutrition (12h): Role of major and minor elements in plants, Nutrient availability and nutrient mobilisation, Plant nutrients and food quality.</p> <p>3. Plant breeding and genetics (12h): Plant morphology, genetics and breeding: Principles of plant domestication and use, Characterization and evaluation, Use of genetic resources in plant breeding, Genetic basis for plant breeding.</p> <p>4. Plant Protection (24h): Principles of plant pathology and entomology , Genetics of plant diseases, Epidemiology, Plant defence mechanisms; Insect physiology and Ecology.</p>
Objectives	<p>Bridging module for students missing basic knowledge in some agronomy disciplines. With the help of lectures and reading materials students will be enabled to fill in gaps and get up-to-date with state-of-the art knowledge with a special focus on questions pertinent to organic agriculture.</p> <p>Students having taken this module will be able to follow advanced courses in the above fields.</p>
Literature	<p>Brady, N.C. 1990: The nature and properties of soils. 10th edition. H. Marschner 1995: Mineral Nutrition of Higher Plants, Academic Press, New York. P. Sanchez 1976: Properties and Management of Soils of the Tropics, Wiley, New York. van Wyk, B.-E. 2005: Food Plants of the World. Briza Publication, Pretoria. Rehm, S. and G. Espig 1991: The Cultivated Plants of the Tropics and Subtropics. Verlag Josef Margraf, Weikersheim. Agrios, G.N. 2005: Plant Pathology, 5th edition. Pedigo, L.P. 2002: Entomology and Pest Management, 4th edition.</p>
Study system usability	Compulsory module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture
Instruction type	Lecture, seminar
Examination type	Oral test, written test

2. Professional modules (compulsory)

Module	Ecological Modelling and GIS
Code	A14
Coordinator	Dr. J. Benz
Language	English
Stud. workload	180h (60h contact time)
Credits	6
Frequency (WS / SS)	Yearly, WS
Contents	<p><u>Ecological modeling (30h)</u>: Introduction to common mathematical concepts used in ecology; basic steps of modelling (conceptual modelling, translation of ecological knowledge into mathematical concepts, implementation, verification; concepts of simulation, specific methods (nonlinear parameter estimation, sensitivity analysis); introduction to modelling and simulation packages; modelling of important ecological processes: Transport, nutrient cycles, dynamics of soilwater, growth, population dynamics.</p> <p><u>GIS (Geographical Information Systems) (30h)</u>: Principles of geodetics; georeferencing; data types, -import and -management; methods of data manipulation and analysis (aggregation, (re)classification, interpolation, buffers, overlays, network analysis, image analysis; remote sensing techniques; practical exercises with GIS and GPS., explained under consideration of applications in organic farm management and precision farming.</p>
Objectives	<p><u>Ecological Modelling</u>: Basic understanding of the mathematics used in ecological modelling (e.g. ordinary and partial differential equations, state and time events, including numerical aspects); basic experiences in modelling and simulation; knowledge about the possibilities and limits of modelling and simulation in ecology.</p> <p><u>GIS</u>: Understanding of geodetic fundamentals, basic GIS-methods and related applications like GPS, remote sensing and precision farming; Evaluation of GIS-applications in organic farming management.</p>
Literature	<p>Chang, K.T. 2002: Introduction to geographic information systems. McGraw-Hill. Boston</p> <p>Schuurman, N. 2004: GIS - A short introduction. Blackwell, Lecture notes, online tutorials</p>
Study system usability	Compulsory module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture
Instruction type	Lecture, seminar
Examination type	Oral test, home work

Module	Nutrient dynamics: long-term experiments and modelling
Code	A15
Coordinator	Prof. Dr. B. Ludwig
Language	English
Stud. workload	180h (60h contact time)
Credits	6
Frequency (WS / SS)	Yearly, WS
Contents	<ul style="list-style-type: none"> - Explanation of the dynamics of C, N and P in arable soils - Presentation of the results of existing long-term experiments with emphasis on the variables and variants influencing these results - Modelling of the turnover of soil organic matter using the models "Rothamsted Carbon Model" and "DNDC" - Simulation of pH buffering and nutrient transport in soils using the model "PHREEQC"
Objectives	Students are able to use established models and to critically evaluate the underlying ecological processes. Based on their understanding of soil nutrient dynamics they are able to evaluate and critically assess the significance of long-term experiments considering all influencing variables.
Literature	Merbach, W. et al. 2000: The long-term fertilization experiments in Halle (Saale), Germany – introduction and surveys. <i>Journal of Soil Science and Plant Nutrition</i> 163. 629–638; Coleman, K. und D.S. Jenkinson 1996: RothC–26.3 – A model for the turnover of carbon in soil. In: Powlson, D.S., Smith, P. und J.U. Smith (Hg.): <i>Evaluation of Soil Organic Matter Models</i> . Springer. Berlin; Li, C. 1996: The DNDC model. In: Powlson, D.S., Smith, P. und J.U. Smith (Hg.): <i>Evaluation of Soil Organic Matter Models</i> . Springer. Berlin
Study system usability	Compulsory module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture
Instruction type	Lecture, practice
Examination type	Oral test

Module	Biometrics (Linear Models and Experimental Design)
Code	A16
Coordinator	Prof. Dr. C. H. Müller
Language	English
Stud. workload	180h (60h contact time)
Credits	6
Frequency (WS / SS)	Biennial, WS
Contents	Linear regression; Polynomial regression; Intrinsically nonlinear models; Residuals, plots, diagnostic tools; Analysis of variance; Analysis of covariance ; Randomised complete block design, incomplete blocks Missing values; Data transformations; Split plots and split blocks; Factorial designs; Multivariate analysis of variance
Objectives	Students are able to analyse data from complex surveys and experiments using appropriate univariate and multivariate statistical methods.
Literature	Lecture based materials, e-learning materials
Study system usability	Compulsory module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture
Instruction type	Lecture, practice
Examination type	Written test

Module	Multidisciplinary Research in Tropical Production Systems
Code	A17
Coordinator	Prof. Dr. E. Schlecht
Language	English
Stud. workload	180h, of which 60h contact time
Credits	6
Frequency (WS / SS)	Yearly, SS
Contents	The module prepares the student for international agricultural research in the framework of their M.Sc. and Ph.D. theses, the prerequisites of which include the ability to work in a multicultural and interdisciplinary environment as well as the ability to communicate effectively and efficiently in written and spoken English. The module emphasises the practice of research and communication skills. Participatory tools for field research are introduced and tested, exercises on how to design experiments and analyse experimental data are carried out. Hereby, the livestock, crop and farm household data is taken from finalized or ongoing research projects of the instructors. The communication of results in the form of oral presentations and scientific posters is trained.
Objectives	Students will acquire multicultural and interdisciplinary communication skills and learn priority setting for research projects. They will also get acquainted with participatory tools for field research. Students will also learn to design experiments and analyse field data, moderate sessions and make scientific presentations.
Literature	Lecture based materials.
Study system usability	Compulsory module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture
Instruction type	Lecture, seminar, practice
Examination type	Written test, presentation

Module	Organic farming under temperate conditions
Code	A22
Coordinator	Prof. Dr. P. von Fragstein
Language	English
Stud. Workload	180 hours, of which 60 contact time
Credits	6
Frequency (WS / SS)	Yearly, SS
Contents	1. Ecological Agriculture in Europe: Presentation and discussion of selected literature 2. Prototyping of farming systems: Definition of farming systems, multifunctional objectives Methods for testing and improving the set of objectives. 3. International standards of organic farming: Comparison of standards of organic agriculture (IFOAM, EU, AGOEL)
Objectives	Students understand and are able to scientifically evaluate farming systems and their underlying multifunctional objectives. Students are able to discuss and judge within a scientific framework standards of organic agriculture and clearly present their results in writing and orally.
Literature	Lecture based materials
Study system usability	Compulsory module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture, Module soil and plant science or equivalent
Instruction type	Seminar, project
Examination type	Oral test, presentation, project report

Modul	Organic mixed farming systems under (sub-)tropical conditions
Code	A23
Coordinator	Prof. Dr. P. Von Fragstein
Language	English
Stud. Workload	180h, of which 60h contact
Credits	6
Frequency (WS / SS)	Yearly, WS
Contents	<ul style="list-style-type: none"> - Development, evaluation and comparism of ecological landuse management systems in the background of diverse natural, economical and sociocultural circumstances. - Nutrient cycle management on different locations. - Possibility to adapt the EC and North American regulations for organic farming into practical organic agriculture of other climates and regions. - Legumes to N-supply according to location. - Evaluation of landuse management systems.
Objectives	<p>Students are able to evaluate, present and describe</p> <ul style="list-style-type: none"> - the principles and structures as well as functions of agricultural ecosystems in general - nutrient cycles and their management in agriculture - systems of land use and their ecological impact - principles of organic pest management - principles of animal husbandry in organic agricultural systems
Literature	Lampkin, N.H. 1990: Organic farming. Farming Press, Ipswich; Ostergaard, T.V. 1996: Fundamentals of organic agriculture. IFOAM, Tholey-Theley; Gliessman 2000: Agroecology: Ecological processes in sustainable agriculture. Lewis Publishers, Boca Raton; Knudsen, M.T. et al. 2006: Global development of organic agriculture: challenges and prospects. Cabi Publishing; Kristiansen, P., and Taji, A. 2006: Organic Agriculture: A Global Perspective. CSIRO Publishers
Study system usability	Compulsory module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture
Instruction type	Lecture, seminar
Examination type	Oral test, presentation

Module	Organic livestock farming under temperate conditions
Code	A31
Coordinator	Prof. Dr. T. Baars
Language	English
Stud. Workload	180h, of which 60h contact
Credits	6
Frequency (WS / SS)	Yearly, SS
Contents	<p>1. Animal welfare (15h) Principles of animal welfare in relation to organic farming; Scientific methods of welfare assessment</p> <p>2. Advances in animal nutrition and animal health (15h) Methodology in animal nutrition and animal health, meaningfulness of criteria in relation to different objectives, scientific strategies to solve conflicts of aims within organic livestock farming and to provide a sustainable livestock production.</p> <p>3. Sustainable forage production systems (15h) Design and management of a sustainable forage production Management of forage quality and biodiversity on grassland Minimizing nutrient losses towards water and atmosphere.</p> <p>4. Biodynamic aspects in animal husbandry (15h) Design and management of farm animal breeding suitable for local conditions. The role of line breeders and the design of a co-operation of breeders and users. Management for keeping bulls.</p>
Objectives	<p>Students achieve an understanding of the ethical and biological basis of animal welfare, and will be familiarized with practical problems and scientific concepts including the assessment of animal welfare both at farm and system level.</p> <p>They are able to apply scientific tools for quantifying, assessing and evaluating nutrition and health related problems within organic livestock production.</p> <p>Students are able to assess the relationships between sward management and structural (yield, botanical composition) and functional (nutrient efficiency) sward characteristics.</p> <p>Students are able to design and develop localised natural dairy breeding schemes.</p>
Literature	<p>Appleby, M.C., Hughes, B.O. (eds) 1997: Animal welfare. CAB International, Wallingford; Vaarst, M. et al. (eds.) 2004: Animal health and welfare in organic Agriculture. CAB International, Wallingford, Sundrum, A. 2005: Nutrient flow in organic livestock production. (in press); Vaarst, M., Roderick, S., Lund, V. and Lockeretz, W. (eds.) 2004: Animal health and welfare in organic agriculture. CAB International, Wallingford; Hopkins, A. 2003: Grass, its production and utilization (Blackwell Science); J.H. Cherney: Grass for Dairy Cattle (CABI); J. Frame: Temperate Forage Legumes (CABI), Nauta W. et al. 2003: Vision of breeding for organic agriculture, Report Louis Bolk Institute, Driebergen, The Netherlands; Baars T., A. Spengler and J. Spranger 2003: Is there something like bio-dynamic breeding?, Article Workshop Driebergen</p>
Study system usability	Compulsory module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture
Instruction type	Seminar
Examination type	Oral test, presentation, project report

Module	Animal environment interactions under (sub-)tropical conditions
Code	A32
Coordinator	Prof. Dr. E. Schlecht
Language	English
Stud. workload	180h, of which 60h contact time
Credits	6
Frequency (WS / SS)	Yearly, SS
Contents	1. Environmental influences and animal responses in the (sub-)Tropics [30h] Abiotic stresses and their effects on animals Biotic stresses and their effects on animals Behavioural adaptations/responses of major livestock species Morpho-physiological adaptations/responses of major livestock species 2. Agro-ecological impacts of animals and the role of management [30h] Impact on soils Impact on natural vegetation Impact on water quality Modification of livestock-environment interactions through human management
Objectives	Students comprehend the impact of abiotic and biotic environmental conditions on the behaviour, physiology and productivity of different animal species. They are able to determine the interdependencies of animals and their natural resource base and the implications of managerial decisions.
Literature	Lecture based materials.
Study system usability	Compulsory module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture, Basic knowledge (B.Sc. level) of soil, plant and animal sciences
Instruction type	Lecture, seminar
Examination type	Written test, homework, presentation, protocoll

Modul	Development policy
Code	A41
Coordinator	Prof. Dr. B. Knerr
Language	English
Stud. workload	180h (60h contact time)
Credits	6
Frequency (WS / SS)	Yearly, SS
Contents	General processes of economic development as a framework for the development of the agricultural sector, with special emphasis on low-income countries.
Objectives	The students are able to understand the implications of economic development processes, to scientifically assess their future consequences, and to apply and communicate this knowledge when later on working for a private or public employer, or being self-employed.
Literature	Lecture based materials.
Study system usability	Compulsory module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture
Instruction type	Lecture, seminar
Examination type	Oral test, presentation

Module	International Markets and Marketing for Organic Products
Code	A42
Coordinator	Prof. Dr. U. Hamm
Language	English
Stud. workload	180h (60h contact time)
Credits	6
Frequency (WS / SS)	Yearly, SS
Contents	<ul style="list-style-type: none"> - Overview of the international markets for organic products - possibilities for exports from developing countries to the EU - import regulations of the EU - marketing strategies for export organisations in developing countries with special emphasis on supply chain management
Objectives	Students are able to evaluate organic markets in Europe and the possibilities for exports from developing countries to the EU and make a scientific presentation about the topic.
Literature	Hamm U. and F. Gronefeld 2004: The European market for organic food: Revised and updated analysis. School of Management and Business, University of Wales, Aberystwyth/UK; Jain S.C. 1990: International marketing management. 4th ed., Wadsworth, Belmont, California/USA; Kotler P. 2003: Marketing management. 11th ed., Prentice-Hall Pearson, Upper Saddle River, New Jersey/USA; Simchi-Levi D., Kaminsky P., Simchi-Levi E. 2004: Managing the supply chain. McGraw Hill, New York/USA.
Study system usability	Compulsory module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture
Instruction type	Lecture, seminar
Examination type	Oral test, presentation

3. Professional modules (electives)

Module	Soil and water
Code	A11
Coordinator	Prof. Dr. O. Hensel
Language	English
Stud. workload	180 hours, of which 60 contact time
Credits	6
Frequency (WS / SS)	Yearly, SS
Contents	<p>1. Soil Sciences (40h):</p> <ul style="list-style-type: none"> - Soil quality, processes and functions (Org. matter turnover, interactions between soil organisms, soil fertility) - Soil degradation and conservation (Erosion, acidification, compaction, contamination), soil and water salinity <p>2. Water management (20h):</p> <ul style="list-style-type: none"> - Water management (basics of water ecology and landscape water household, evaluation and development of waters) in national and international context - Water lifting and conveyance, surface irrigation, sprinklers, mikro-irrigation
Objectives	Students are able to critically evaluate soil and water problems and scientifically assess the limits of natural resources.
Literature	Wild, A. 1993: Soils and the Environment; Coyne, M.S. 1999: Soil microbiology: an exploratory approach; Paul, E.A., Clark, F.E. 1996: Soil microbiology and biochemistry, 2. ed.; Lampert, W. 1997: Limnoecology. Oxford University press; Naiman, R.J. (Ed.) 1998: River Ecology and Management. Springer; Wetzel, R.G. 1983: Limnology, Saunders College Publishing
Study system usability	Elective module see § 6 (4)
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture, Module Soil and plant science or equivalent, Fundamentals on water ecology and management
Instruction type	Lecture
Examination type	Oral test

Module	Agro-Biodiversity and Plant nutrition
Code	A12
Coordinator	Prof. Dr. K. Hammer
Language	English
Stud. workload	180h, of which 60h contact time
Credits	6
Frequency (WS / SS)	Yearly, SS
Contents	<p>1. Biodiversity (30h):</p> <ul style="list-style-type: none"> - Evolution of diversity, three levels of diversity - Collection and use of Plant genetic resources (PGR), PGR and plant breeding - National and international law - Strategies for the future <p>2. Advanced Plant nutrition (30h)</p> <ul style="list-style-type: none"> - External factors influencing plant growth - Soil fertility and sustainable aspects - Nutrient uptake mechanisms of cells and roots (short distance transport) - Nutrient transport in the xylem and phloem (long distance transport) - Adaptation of plants on waterlogged soils - CO² and its influence on the yield of crops - Functions of mineral nutrients and other elements: silicon, nitrogen, sulphur, phosphorus, potassium, sodium, magnesia, calcium, iron, manganese, copper, zinc, molybdenum, boron, chlorine - Toxic elements (lead, cadmium, selenium) - Fertilizer application (organic and mineral)
Objectives	Students are able to evaluate the effects of different germ plasm conservation methods breeding approaches and legislation on PGPR and make a scientific presentation about the topic. They are also able to scientifically assess complex interactions between the environment and plant nutrition
Literature	Marschner H. 1996: Mineral nutrition of higher plants. Academic press. London; Collins W.W. and C.O. Qualset 1999: Biodiversity in agroecosystems. CRC Press. Boca Raton; Hammer K. 2003: Resolving the challenge posed by agrobiodiversity and plant genetic resources - an attempt. Beiheft 76. Journal of Agriculture and Rural Development in the Tropics and Subtropics. Kassel university Press; Rehm S. and G. Espig 1991: The cultivated plants of the tropics and subtropics. Margraf Publishers. Weikersheim
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture, Module soil and plant science or equivalent, Basic knowledge in botany, taxonomy, agro-biodiversity, agricultural chemistry and plant nutrition
Instruction type	Lecture, seminar
Examination type	Oral test, home work, presentation

Module	Ecological soil microbiology
Code	A13
Coordinator	Prof. Dr. R.G. Joergensen
Language	English
Stud. workload	180h (60h contact time)
Credits	6
Frequency (WS / SS)	Yearly, WS
Contents	<p>1. Introduction and practice of the currently most important soil microbiological methods for measuring microbial activity, biomass, and community structure in soil.</p> <p>2. The complete cycle of a research project is carried out: From sampling of soil, sample pre-treatment, microbiological analysis, data processing, statistical evaluation, and writing of a report on the data obtained.</p> <p>3. Current literature on different aspects of soil microbiology is presented by the students and discussed.</p>
Objectives	The students are able to use soil microbiological laboratory methods and to scientifically evaluate data obtained by these methods critically and present the results in a scientific report. The students are aware of the current problems in assessing soil quality and soil fertility.
Literature	Coyne, M.S.: Soil microbiology: an exploratory approach. Paul, E.A., Clark, F.E.: Soil microbiology and biochemistry. 2nd ed. A set of papers to be presented in the course is provided.
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture. Fundamental knowledge in biology, chemistry, and soil science. The course is compulsory for writing an experimental thesis in the department of soil biology and plant nutrition.
Instruction type	Lecture, seminar, excursion, practice
Examination type	Work report

Module	International Land Use Systems Research - Interdisciplinary Study Tour
Code	A18
Coordinator	Prof. Dr. Eva Schlecht, Prof. Dr. Andreas Bürkert
Language	English
Stud. workload	180 h (120h contact time)
Credits	6
Frequency (WS / SS)	WS, once in 2 years
Contents	<p>The module consists of a 12-14 days field excursion to a tropical or subtropical country and a series of preparatory seminars. Through its practical component, it aims at providing participants with interdisciplinary insights into the complex bio-physical, economic and socio-cultural components of agricultural systems in developing and transformation countries in the tropics and subtropics. The excursion programme entails visits to agricultural producers, processing and trading enterprises along the food and agricultural product chain from small to large scale, agricultural administration, development organisations and research institutions and universities. The programme is designed to exemplify the opportunities and challenges of agricultural and alternative land use activities in their specific context. Particular attention is paid to aspects of sustainability, environmental safety and organic agriculture.</p> <p>The excursion targets regions where one or both of the organising universities conduct research programmes or maintain long standing scientific working contacts. This will permit students at the M.Sc. level to gain a first impression of how field research is organized and carried out in the context of developing countries in the tropics and subtropics. Up-to-date research approaches are presented to the participants and questions targeting the sustainable use of natural resources as well as questions of development cooperation are discussed in an international, multicultural and interdisciplinary context.</p>
Objectives	<p>Students gain interdisciplinary insight into international approaches towards opportunities and challenges of agricultural systems, sustainable resource use and agricultural development interventions.</p> <p>They will also be familiarized with theoretical and practical questions of field research in an international context.</p>
Literature	Varying according to case study / region of interest
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture. Fundamental knowledge in biology, chemistry, and soil science. The course is compulsory for writing an experimental thesis in the department of soil biology and plant nutrition.
Instruction type	Seminar, excursion
Examination type	Oral test, presentation, protocoll

Module	Ecology and agro-ecosystems
Code	A24
Coordinator	Prof. Dr. A. Bürkert
Language	English
Stud. workload	180h (60h contact time)
Credits	6
Frequency (WS / SS)	Yearly, SS
Contents	- Environmental problems in temperate & (sub-)tropical landscapes [20h] Nature of temperate and (sub-)tropical agro-ecosystems, Climatic and soil zones, Forest destruction, Plant adaptation to environmental stresses, Human intervention to relieve natural stresses, Fertility decline and restoration, Soil erosion and sedimentation , Current approaches/methods in plant production research - Case studies from Central Asia, Middle East and Africa [40h]
Objectives	Students understand basic principles of ecology in temperate and tropical agro- and forest-ecosystems and they are able to evaluate the ecological, human and institutional constraints in temperate and (sub-) tropical landscapes and present these in a scientific presentation.
Literature	Collins W.W.: Biodiversity in Agroecosystems (Advances in Agroecology), CRC Press Agroecology. Gliessman S.R.: Ecological Processes in Sustainable Agriculture, CRC Press Agroecology, M.A. Altieri, Westview Press
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture
Instruction type	Lecture, seminar
Examination type	Written test, home work, presentation

Module	Methods and advances in plant protection
Code	A25
Coordinator	Prof. Dr. M.R. Finckh
Language	English
Stud. workload	180h (60h contact time)
Credits	6
Frequency (WS / SS)	Yearly, WS
Contents	Advanced course in Plant Pathology and Entomology: - Methodology and evaluation methods in Plant Protection (Assessments, genetic analyses, insect ecology) - Case studies of specific plant protection issues in organic farming in the form of lectures, seminars and practical courses.
Objectives	Students are able to critically evaluate published results and apply this knowledge to actual problems in the field. They are also able to deal with problems in the field: Identification and measurements, design of experimental and analytical approaches to problems.
Literature	Agrios, G.N. 2005: Plant Pathology, 5th edition. Pedigo, L.P. 2002: Entomology and Pest Management, 4th edition.
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture; Introductory course in plant protection (entomology and pathology, at least 6ECTS or equivalent) or Bridging module Soil and Plant Science
Instruction type	Lecture, excursion, practice
Examination type	Written test, home work, work report

Module	Regrowing renewable plant resources
Code	A26
Coordinator	Prof. Dr. M. Wachendorf
Language	English
Stud. Workload	180h (60h contact time)
Credits	6
Frequency (WS / SS)	Yearly, WS
Duration (contact h)	52
Contents	<p>1. Production of renewable plant resources (52h)</p> <p>Principles of a sustainable plant production for industrial purposes.</p> <p>Crop management for protein, starch, fibre, sugar, fuel, electricity and heat production with respect to the quality of products and the demands of industrial processes.</p> <p>2. Harvesting technologies for renewable plant resources (4h)</p> <p>Design and management of technologies for harvesting bulky non-food biomasses for industrial purposes</p> <p>3. Economic analysis of renewable plant resources (4h)</p> <p>Production costs and revenues of non food biomass, farm management implications and land use decision making, total costs of energy plants</p>
Objectives	<p>Students know the relationships between product quality and quantity and climatic/edaphic factors and management means and they are able to plan the adaptation of production processes to achieve a given target value in product quality. Students are also familiarised with specific harvest procedures for non-food biomass and they are able to adapt procedures in order to achieve a required quality threshold and to minimize losses. Further, students are able to assess economic aspects of non-food biomass production with respect to the competition between food and non-food crops and the economics of on-farm use of biomass in energy production.</p>
Literature	<p>Kay, R. et al. 2003: Farm Management, McGraw-Hill; Quaak P., H. Knoef, H. Stassen 1999: Energy from Biomass, a Review of Combustion and Gasification Technologies, World Bank Publications; Klass D.L. 1998: Biomass for Renewable Energy, Fuels, and Chemicals, Academic Press; 1st edition.</p>
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture
Instruction type	Lecture
Examination type	Oral test

Module	Management of (sub-) tropical landuse systems
Code	A27
Coordinator	Prof. Dr. A. Bürkert
Language	English
Stud. workload	180h (60h contact time)
Credits	6
Frequency (WS / SS)	WS, once in 2 years
Contents	<p>Topics (Prague):</p> <ul style="list-style-type: none"> - Land-use management: farm and family income in different farming systems (Verner) - Soil conservation technologies for smallholder farming systems - Conservation tillage systems (Havrland, Krepl) - The potential use of waste-stream products to enhance soil productivity in tropical peri-urban and rural areas (Banout) - Crop biodiversity in tropical agricultural systems (Polesny) <p>Topics (Kassel):</p> <ul style="list-style-type: none"> - Plant-animal interactions: diet selection & nutritional wisdom, impact of grazing on pastures (Schlecht) - Post-harvest conservation techniques, irrigation techniques and mechanization (Hensel) - Measurement of nutrient fluxes in different agro-ecosystems (Bürkert)
Objectives	Students will understand the functioning and bio-physical limitations of (sub-) tropical landuse systems and the need for interdisciplinary approaches to overcome these. They will achieve insights into current research methods in landuse systems analysis
Literature	Miguel Altieri (1995). <i>Agroecology</i> , Westview Press, USA, 448p. Christopher Martius (2002). <i>Managing Organic Matter in Tropical Soils: Scope and Limitations</i> , Kluwer Academic Publishers, 248p. Barrie Axtell (2002). <i>Drying Food for Profit</i> , ITDG Publishers, Rugby, UK. Peter Van Soest (1994). <i>Nutritional Ecology of the Ruminant</i> . Cornell University Press, London, UK. 528p. Frederick D. Provenza (1995). Post-ingestive feedback as an elementary determinant of food preference and intake in ruminants. <i>Journal of Range Management</i> , 48: 2-17.
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture, Module Soil and Plant Science or equivalent.
Instruction type	Lecture
Examination type	Oral test, written test

Module	Tropical animal husbandry systems
Code	A33
Coordinator	Prof. Dr. E. Schlecht
Language	English
Stud. workload	180h, of which 60h contact time
Credits	6
Frequency (WS / SS)	Yearly, WS
Contents	<p>This module provides an extensive overview on animal husbandry systems in developing and transformation countries of Africa, Asia and Latin America, ranging from camel nomadism in deserts to intensive dairying in tropical highlands as well as game ranching.</p> <p>The specific strategies for animal feeding, breeding and health care that are applied in different systems are introduced and analysed in view of their ecological and economic sustainability. The (potential) interactions of livestock with other components of the farming system are explored, thereby differentiating between market and subsistence oriented systems.</p> <p>The role of additional factors influencing livestock production systems such as cultural, social, economical and political frame conditions are discussed.</p>
Objectives	<p>Students understand the impact of the natural and economic environment on the evolution of different types of husbandry systems as well as on their orientation and intensity of production.</p> <p>To gain understanding for parameters that have to be considered when aiming at improvement of livestock husbandry systems within a given framework.</p>
Literature	Lecture based materials.
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture
Instruction type	Lecture, seminar
Examination type	Written test, presentation

Module	Animal husbandry and sustainable landuse
Code	A34
Coordinator	Prof. Dr. E. Schlecht
Language	English
Stud. workload	180h, of which 60h contact time
Credits	6
Frequency (WS / SS)	Yearly, SS
Contents	<p>This module analyses positive and negative impacts of livestock management on the natural resource base in different agro-ecological zones and discusses options for sustainable land use, building upon the beneficial interactions of animals with soils and plants at the plot up to the watershed level. International conventions affecting livestock-based land use are presented and the question of how to match the requirements of nature conservation with livelihood strategies of small-scale livestock keepers are discussed.</p> <p>Qualitative and quantitative field methods that can be used to analyse animal-environment interactions are presented and criteria such as accuracy and practicability under tropical conditions are discussed.</p> <p>Various modelling approaches that depict animal-environment interactions at the plot up to the watershed scale are presented and practically tested by the participants.</p>
Objectives	<p>Students understand the interactions of animals with the natural resource base and the respective impact of animal management.</p> <p>They will become acquainted with methodological approaches used in integrated plant-animal research and learn about modelling approaches, especially the data requirements and significance of results of simple modelling tools.</p>
Literature	Lecture based materials.
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture.
Instruction type	Lecture, seminar
Examination type	Written test

Module	Changing Societies, intercultural management
Code	A43
Coordinator	Prof. Dr. W. Troßbach
Language	English
Stud. workload	180h (60h contact time)
Credits	6
Frequency (WS / SS)	Yearly, WS
Contents	<p>1. Intercultural management Culture and cultural patterns; Processes of cross-cultural adaptation; Intercultural communication and dialogue; Leadership and personality in intercultural contexts; Management of change; Working with conflict and resistance</p> <p>2. Changing societies Patterns of change in western history; The Agricultural Revolution; Intertwining reforms of the nineteenth century: social and agrarian; History of the Organic Movement; Food supply and changing nutrition habits in history</p> <p>Students should become acquainted with the history of agricultural systems and nutritional habits, in order to adequately evaluate and influence the role of organic agriculture in the process of accelerated change, characteristic of contemporary western societies. A systematic survey of agents and patterns of change in history is to be combined with a detailed view on the development of European agriculture and food supply, beginning with the history of the early Agricultural Revolution in England</p>
Objectives	Students are able to successfully perform in contexts where intercultural communication, co-operation and management are in demand. Based on their knowledge about the history of agricultural systems and nutritional habits they are able to adequately evaluate and influence the role of organic agriculture in the process of accelerated change, characteristic of contemporary western societies.
Literature	Augsburger I.D.W. 1992: Conflict Mediation Across Cultures. Louisville; Bennett, M. J. (ed.) 1998: Basic Concepts of Intercultural Communication. London; Hodgetts R. M. & Luthans F. 2000: International Management. Culture, Strategy and Behavior. Boston; Huntington S. 1996: The Clash of Civilizations. New York; Harris P. R. & Moran R. T. 1991: Managing Cultural Differences. Houston; Hall E. T. 1976: Beyond Culture. New York; Overton M. 1996: Agricultural Revolution in England. The Transformation of the Agrarian Economy 1500 - 1850. Cambridge; Conford P. 2001: The Origins of the Organic Movement. Edinburgh; Thirsk J. 1978: Economic Policy and Projects. The Development of a Consumer Society in Early Modern England, Oxford
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture
Instruction type	Seminar
Examination type	Home work, presentation

Module	Ecological Economics
Code	A45
Coordinator	Prof. Dr. B. Knerr
Language	English
Stud. workload	180h (60h contact time)
Credits	6
Frequency (WS / SS)	SS
Contents	<ul style="list-style-type: none"> - theoretical background - societal and philosophical backgrounds - environmental implications of economic growth - discussion of current problems - a focus on agriculture.
Objectives	Students are able to assess, evaluate and present the environmental implications of economic activities, the rationales behind them and possible ways to resolve perceived problems.
Literature	Faber M. 1999: Ecological Economics, Springer
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture
Instruction type	Lecture, seminar
Examination type	Oral test, home work, presentation

Module	Marketing research
Code	A48
Coordinator	Prof. Dr. U. Hamm
Language	English
Credits	6
Stud. workload	180h, of which 60h contact
Frequency (WS / SS)	Yearly, WS
Contents	<ul style="list-style-type: none"> - Tasks and management of marketing research - Methods of data collection - Methods of data analysis - Presentation of market research results for decision support - Methods of development prognoses
Objectives	<p>Students</p> <ul style="list-style-type: none"> - are able to define marketing research - are able to describe how marketing research relates to the marketing concept - are able to outline the steps in the marketing research process and show how the steps are interrelated - know the factors to consider in defining the marketing problem or opportunity - are able to explain the differences between primary and secondary market research - are able to develop a research design - know all relevant methods and tasks for analysing consumer markets, competitors and actors in a supply chain - are able to state the specific advantages of each method of data collection - know advantages and disadvantages of different systems for the integration of marketing research tasks into the management system of businesses - know fundamentals of statistics and sampling theory - know the different types of statistical analysis techniques - acquire personal skills for oral and written presentations in teamwork
Literature	Aaker, D.A., Kumar, V. and Day, G.S. 2004: Marketing research. 8th ed., John Wiley and Sons. New York, USA; Burns, A.C. and Bush, R.F. 2003: Marketing research. 4th ed.. Pearson Education International. Upper Saddle River. New Jersey, USA; Shao, A.T. 2002: Marketing research. 2nd ed. South Western. Cincinnati, Ohio, USA.
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture and Management Module see § 6 (3) EO International Food Business and Consumer Studies
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture and § 5 EO International Food Business and Consumer Studies
Instruction type	Lecture, seminar
Examination type	Oral test, written test, presentation

Module	Management and management accounting
Code	F11
Coordinator	Prof. Dr. S. Seuring
Language	English
Credits	6
Workload	180h, davon 60h Kontakt
Frequency (WS / SS)	annually, WS
Content	<ul style="list-style-type: none"> - Key concepts and terminology in management - Planning - Organising - Leading - Controlling - Key concepts and terminology in management accounting - Instruments in management accounting - Traditional cost assignment - Activity based costing - Performance management - Management control systems - Management accounting in an international context - Basics of international management
Objectives	<p>Students are able to</p> <ul style="list-style-type: none"> - understand the role of management in organisations, - know basic terminology and concepts in management and know about their interrelation - understand the role of management accounting in organisations - know basic terms and concept of management accounting and control - understand concepts of management accounting and performance management - describe challenges of international management
Literature	<p>Lussier, R.N. (2006): Management Fundamentals – Concepts, Applications, Skill Development, Thomson, London.</p> <p>Robbins, S.P. / Coulter, M. (2007): Management, 9th edition, Pearson, Upper Saddle River.</p> <p>Drury, C. (2005): Management Accounting for Business, Thomson, London.</p> <p>Atkinson, A.A. / Kaplan, R.S. / Young, S.M. (2004): Management Accounting, 4th edition, Pearson, Upper Saddle River.</p>
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture and Bridging Module see § 6 (3) EO International Food Business and Consumer Studies
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture and § 5 EO International Food Business and Consumer Studies
Instruction type	Lecture, seminar
Examination type	Oral test, presentation, project presentation

Module	Supply Chain Management
Code	F41
Coordinator	Prof. Dr. S. Seuring
Language	English
Credits	6
Stud. workload	180h, of which 60h contact
Frequency (WS / SS)	Yearly, SS
Contents	<ul style="list-style-type: none"> – Introduction to terminology – Supply chain and operations strategy – Supply chain processes – Supplier management – Logistics management – Distribution management – Supply chain performance – Sustainable supply chain management
Qualification targets	<p>Students are able to</p> <ul style="list-style-type: none"> – understand the importance of supply chains – describe the processes and related material and information flows in a supply chain – know basic concepts of supply chain management – understand the relevance of sustainability initiatives in supply chains
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture and Management Module see § 6 (3) EO International Food Business and Consumer Studies
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture and § 5 EO International Food Business and Consumer Studies
Literature	Joel D. Wisner, G. Keong Leong, Keah-Choon Tan (2005): Principles of Supply Chain Management – A Balanced Approach, Thompson, Mason. Cecil C. Bozarth, Robert B. Handfield (2006): Introduction to Operations and Supply Chain Management, Pearson, Upper Saddle River.
Instruction type	Lecture, seminar
Examination type	Oral test, presentation

Module	Food quality and organic food processing
Code	A51
Coordinator	Dr. J. Kahl
Language	English
Stud. Workload	180h (60h contact time)
Credits	6
Frequency (WS / SS)	Yearly, SS
Contents	<ul style="list-style-type: none"> - European and international legislation for organically produced agricultural commodities (focussing : Annex II, Annex VI EEC 2092/91; contracting, quality standards, product handling) - Quality standard setting and the Organic Guarantee System - Certification systems for organic and conventional products (overview, principles, concept, certification) - Accreditation and accreditation agencies - Process and product orientated food quality concepts and assessments; "holistic" quality definitions - Processing techniques for organic food processing (different product groups) - Quality assessment methods for small and medium-size enterprises
Objectives	<p>Students will be able to</p> <ul style="list-style-type: none"> - define food quality and quality systems in agriculture and food industry - discuss principles of organic food production (agriculture, processing) according to EEC 2092/91 - discuss and evaluate food processing techniques and quality assessment methods
Literature	Florkowski et al 2000: Integrated View of Fruit and Vegetable Quality, Technomic; Welti-Chanes et al. 2001: International Congress on Engineering and Food, Volume I and II, Technomic; Luning et al. 2002: Food quality management, Wageningen Pers; Lawless et al. 1999: Sensory evaluation of Food, Kluwer; Kent et al.1994: Technology of cereals, Pergamon; Bidlack et al. 2000: Phytochemicals as bioactive agents, Technomic; Linden et al. 1994: New ingredients in food processing, CRC; Souci et al. 2000 : Nutrient Tables, Medpharm
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture and Management Module see § 6 (3) EO International Food Business and Consumer Studies
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture and § 5 EO International Food Business and Consumer Studies
Instruction type	Lecture
Examination type	Oral test, written test, presentation

Module	Quality Management for Organic Foods; Certification of Organic Foods
Code	A52
Coordinator	Prof. Dr. A. Ploeger
Language	English
Stud. Workload	180h (140h contact time)
Credits	6
Frequency (WS / SS)	Yearly, WS
Contents	<ol style="list-style-type: none"> 1. Project management 2. Introduction to and methodological principles of organic farming, Intercultural communication, 3. European and international legislation for organically produced agricultural commodities, 4. Contracting – quality standards, product handling, financing; 5. Markets and marketing of organically produced products in europe; 6. IFOAM Accreditation System; ISO–Guide 65, Accreditation (IRF and GRS), requirements for processing and trade; 7. Quality management – systems in the food industry (HACCP, Good manufacturing Practice; QM in processing and trade in developing countries and requirements for the European market; 8. Certification for processing and trade in developing countries
Objectives	Students are acquainted with relevant standards and regulations on organic production of agricultural commodities. They are able to develop local structures and apply appropriate methods of quality control and certification. Basic knowledge of organic agriculture and markets
Literature	Will be presented according to the topics; IFOAM Standards; Legislation: EU 2092/91 ff
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture and Management Module see § 6 (3) EO International Food Business and Consumer Studies
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture and § 5 EO International Food Business and Consumer Studies
Instruction type	Seminar, excursion
Examination type	Home work, presentation, protocoll, project report

Module	Energy in Agriculture
Code	A53
Coordinator	Prof. Dr. Hensel
Language	English
Stud. Workload	180h (60h contact time)
Credits	6
Frequency (WS / SS)	Yearly, WS
Contents	<p>1. Fundamentals Basic physics, Energy management, CHP-systems, Feed-in Technology, Heat conversion and recovery, Design of priority circuits</p> <p>2. Need for the use of biomass for energy Energy scenario and potentials, Emission of climate changing gases, Sources of energy from biomass, non biomass and waste material,</p> <p>3. Selecting and processing biomass as a fuel Biogas. Fermentation process and plant technology, Vegetable oil. Processing of vegetable oil from different origins, Modifications on internal combustion engines for the use of native oils , Biodiesel. Processing of alcohol esters from triglycerides and FFAs, Ethanol. Fermentation process, distillation and dehydration, Thermo-chemical processes. Gasification, Fischer-Tropsch-Process</p> <p>4. Renewable non biomass energy Wind. Electric energy and water lifting, Water. Design and potential of hydro power plants, Solar. Solar thermal collectors and photovoltaic</p>
Objectives	Based on the related data and basic physics, students are able to identify and calculate potentials and limits of energy production from renewable primary products, solar, wind and water sources.
Literature	Baue H. 2004: Automotive Handbook, Robert Bosch GmbH; Klass D. 1998: Biomass for Renewable Energy, Fuels, and Chemicals, Academic Press; Taylor B. N. 2001: The International System of Units (SI); NIST Special Publication
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture
Instruction type	Lecture, seminar, excursion
Examination type	Oral test, project report

Module	Food preservation, packaging, transportation
Code	A54
Coordinator	Prof. Dr. O. Hensel
Language	English
Credits	6
Stud. workload	180h, of which 60h contact
Frequency (WS / SS)	Yearly, WS
Contents	<ul style="list-style-type: none"> - Post-harvest technology, with emphasis on tropical products - Technology of food preservation - Packaging materials, technology and equipment - Interaction between packaging materials and food - Design of packaging processes - Problem solving in food packaging - Food transportation and logistics
Objectives	<p>Students</p> <ul style="list-style-type: none"> - understand the relevance of food preservation and packaging in international food trade - understand the factors affecting the shelf life and safety of processed food - understand the properties of packaging materials for foods - know the principles of food packaging technology and equipment - are able to assess and to select appropriate packaging materials, methods and equipment - are able to optimise the transportation of food
Literature	Lecture based materials
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture and Bridging Module see § 6 (3) EO International Food Business and Consumer Studies
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture and § 5 EO International Food Business and Consumer Studies
Instruction type	Lecture, seminar, practice
Examination type	Written test

Module	Recent developments in food and nutritional sciences
Code	A55
Coordinator	Prof. Dr. A. Ploeger
Language	English
Credits	6
Stud. Workload	180h, of which 60h contact
Frequency (WS / SS)	Yearly, SS
Contents	<ul style="list-style-type: none"> - Recent scientific results on food constituents, their physiological effects within various nutritional patterns, and their influence on the quality of raw material and final food products. - Artisanal, organic, conventional and novel processing technologies for food - in particular, „Minimal Processing“ and „Low Input Processing“ - and their effect on food quality and safety as well as on process quality (environmental and social aspects, sustainability)
Objectives	<p>Students are able</p> <ul style="list-style-type: none"> - to assess and evaluate interactions between food constituents processing methods, and food quality - to make use of products and process technologies for human nutrition. - to relate functional food constituents to their physiological effects. - to assess impacts of new results in food and nutrition science on the nutrition of various target groups, marketing, and the structure of the agricultural and food industry.
Literature	Lecture based materials
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture and Professional Module see § 6 (3) EO International Food Business and Consumer Studies
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture and § 5 EO International Food Business and Consumer Studies
Instruction type	Lecture, seminar, practice
Examination type	Home work

Module	Research in Business
Code	F46
Coordinator	Prof. Dr. Stefan Seuring
Language	English
Stud. Workload	180h (60h contact time)
Credits	6
Frequency (WS / SS)	Bi-Annually, WS (winter term)
Contents	<ul style="list-style-type: none"> - Introduction to philosophy of science - Research Process - Data collection and analysis - Case study research - Action research - Content analysis - Expert studies
Objectives	<p>Students are able to:</p> <ul style="list-style-type: none"> - understand the relevance of the research process - describe the research processes - know basic techniques of data collection and analysis
Literature	Saunders, M., Lewis, P., Thornhill, A. (2007): Research Methods for Business Students, 4. Edition, Prentice Hall, Harlow.
Study system usability	Elective module see § 6 (4) EO International Organic Agriculture and § 6 (3) EO International Food Business and Consumer Studies
Entrance requirements	Entrance requirements see § 5 EO International Organic Agriculture and § 5 EO International Food Business and Consumer Studies
Instruction type	Lecture, seminar
Examination type	Presentation, work report, project presentation