Elfte Ordnung zur Änderung der Prüfungs- und Studienordnung für den konsekutiven Master-Studiengang „Sustainable International Agriculture“ der Universität Kassel und der Georg-August-Universität Göttingen vom 12.07.2023

Die Prüfungs- und Studienordnung für den konsekutiven Master-Studiengang „Sustainable International Agriculture“ der Universität Kassel und der Georg-August-Universität Göttingen vom 21. Oktober 2011 (MittBl. 1/2012, S. 26), zuletzt geändert am 14.07.2021 (MittBl. 4/2022, S. 25), wird wie folgt geändert:

Artikel 1 Änderungen

2. Die Anlage 1 wird wie folgt neu gefasst:

Anlage 1: Modulübersicht

Es müssen insgesamt wenigstens 120 Anrechnungspunkte nach Maßgabe der nachfolgenden Bestimmungen erworben werden.

a) Studienschwerpunkte
Es muss ein Studienschwerpunkt im Umfang von insgesamt wenigstens 90 C erfolgreich absolviert werden.

aa) International Agribusiness and Rural Development Economics

i) Pflichtmodule
Es müssen folgende Pflichtmodule im Umfang von insgesamt 24 C erfolgreich absolviert werden:
M.Agr.0086: World agricultural markets and trade (6 C, 6 SWS).
M.SIA.E11: Socioeconomics of Rural Development and Food Security (6 C, 4 SWS)
M.SIA.I12: Sustainable International Agriculture: basic principles and approaches (6 C, 4 SWS)
M.WIWI-QMW.0004: Econometrics I (6 C, 4 SWS)

ii) Wahlpflichtmodule
Aus folgenden Modulen müssen Wahlpflichtmodule (davon mindestens ein Modul zur Schulung des methodischen Arbeitens mit einem Code M) im Umfang von insgesamt 30 C erfolgreich absolviert werden:

M.Agr.0148: Policy analysis of international agri-environmental Schemes
M. Agr.0200: Machine Learning in Food Economics and Agribusiness
M.Agr.0201: Dynamic modelling in landuse systems
M.SIA.E05M: Marketing research (6 C, 4 SWS)
M.SIA.E12M: Quantitative Research Methods in Rural Development Economics (6 C, 4 SWS)
M.SIA.E13M: Microeconomic Theory and Quantitative Methods of Agricultural Production (6 C, 4 SWS)
M.SIA.E14: Evaluation of rural development projects and policies (6 C, 4 SWS)
M.SIA.E18: Organization of Food Supply Chains (6 C, 4 SWS)
M.SIA.E21: Rural Sociology (6 C, 4 SWS)
M.SIA.E24: Topics in rural development economics I (6 C, 4 SWS)
M.SIA.E31: Strategic management (6 C, 4 SWS)
M.SIA.E33: Responsible and sustainable food business in global contexts (6 C, 4 SWS)
M.SIA.E34: Economic valuation of ecosystem services in developing countries (6 C, 4 SWS)
~~M.SIA.E36: Institutions and the food system (6 C, 4 SWS)~~
M.SIA.E37: Agricultural policy analysis (6 C, 4 SWS)
M.SIA.E38: Scientific writing in Agricultural Economics (6 C, 4 SWS)
M.SIA.E40: Agriculture, Environment and Development (6 C, 4 SWS)
M.SIA.I19M: Participatory research methods for sustainability (6 C, 4 SWS)
M.WIWI-VWL.0008: Development Economics I: Macro Issues in Economic Development (6 C, 4 SWS)

iii) Wahlmodule

Aus folgenden Modulen müssen Wahlmodule im Umfang von insgesamt 36 C erfolgreich absolviert werden. Es können auch die bislang nicht gewählten Wahlpflichtmodule des Studienschwerpunkts gewählt werden:

M.Agr.0106: China economic development: from an agricultural economy to an emerging economy (6 C, 4 SWS)
M.Agr. 0118: Applied Microeconomics (6 C, 4 SWS)
M.Agr. 0151: Data Analysis with R in agricultural economics (6 C, 4 SWS)
M.Agr.0156: Microfinance for the Rural Poor: A Business Class (6 C, 4 SWS)
M.FES.734: Agroforestry Design Course (6 C, 4 SWS)
M.SIA.A07: Unconventional livestock and wildlife-management, utilization and conservation (6 C, 4 SWS)
M.SIA.A08: Socio-ecology in livestock production systems (6 C, 4 SWS)
M.SIA.A11: Tropical animal husbandry systems (6 C, 4 SWS)
M.SIA.A14: Organic livestock farming under temperate conditions (6 C, 4 SWS)
M.SIA.A16: Livestock breeding programs (6 C, 4 SWS)
M.SIA.E02: Agricultural price theory (6 C, 4 SWS)
M.SIA.E06: International organic food markets and marketing (6 C, 4 SWS)
M.SIA.E17M: Management and management accounting (6 C, 4 SWS)
M.SIA.E19: Market integration and price transmission I (6 C, 4 SWS)
M.SIA.E39: Critical and collective perspectives on the global food system
M.SIA.E40: Agriculture, environment and development (6 C, 4 SWS)
M.SIA.E41: EU policies and Organic Agriculture (6 C, 4 SWS)
M.SIA.E42: Agriculture, nutrition and sustainable food systems (6 C, 4 SWS)
M.SIA.E45: Introduction to choice experiments in food economics (6 C, 4SWS)
M.SIA.I02: Management of (sub-)tropical landuse systems (6 C, 4 SWS)
M.SIA.I03: Food quality and organic food processing (6 C, 4 SWS)
M.SIA.I07: International land use systems research - an interdisciplinary study tour (6 C, 8,5 SWS)
M.SIA.I11M: Free Project (6 C)
M.SIA.I14M: GIS and remote sensing in agriculture (6 C, 4 SWS)
M.SIA.I17: Sustainable diets (6 C, 6 SWS)
M.SIA.I20: Agriculture and ecosystem services (6 C, 4 SWS)
M.SIA.I21M: From conceptualisation to communication: key steps in empirical research (6 C, 4 SWS)
M.SIA.I23: Sustainable agricultural practices in Mediterranean regions (6 C, 2 SWS)
M.SIA.I24: Modelling climate impacts on agroecosystems (6 C, 4 SWS)
~~M.SIA.I26: Wastewater treatment for agricultural reuse (6 C, 4 SWS)~~
M.SIA.P05: Organic cropping systems under temperate and (sub)tropical conditions (6 C, 4 SWS)
M.SIA.P21: Energetic use of agricultural crops and field forage production
M.SIA.P22: Management of tropical plant production systems (6 C, 4 SWS)
~~M.SIA.P24: Agroforestry (6 C, 4 SWS)~~
M.SIA.P28: Digitalization in agriculture (6 C, 4 SWS)
M.SIA.P29: Impact of climate extremes on plant production systems around the globe (6 C, 4 SWS)
M.WIWI-VWL.0096: Essentials of global health (6 C, 2 SWS)

bb) International Organic Agriculture

i) Pflichtmodule

Folgendes Brückenmodul M.SIA.P07 und folgende Module im Umfang von insgesamt 30 C müssen erfolgreich absolviert werden:

M.SIA.A14: Organic livestock farming under temperate conditions (6 C, 4 SWS)
M.SIA.I10M: Applied statistical modelling (6 C, 4 SWS)
M.SIA.I12: Sustainable International Agriculture: basic principles and approaches (6 C, 4 SWS)
M.SIA.P05: Organic cropping systems under temperate and (sub)tropical conditions (6 C, 4 SWS)
M.SIA.P07: Soil and plant science (6 C, 4 SWS)

ii) Wahlpflichtmodule

Aus folgenden Modulen müssen vier Module im Umfang von insgesamt 24 C (davon mindestens ein Modul zur Schulung des methodischen Arbeitens mit einem Code M sowie ein ökonomisches Modul mit einem Code E) erfolgreich absolviert werden:

M.Agr.0009: Biological Control and Biodiversity (6 C, 6 SWS)
M.Agr.0056: Plant breeding methodology and genetic resources (6 C, 4 SWS)
M.FES.321: Ecopedology of the tropics and subtropics (6 C, 4 SWS)
M.FES.734: Agroforestry design course (6 C, 4 SWS)
M.SIA.A08: Social-ecology in livestock production systems (6 C, 4 SWS)
M.SIA.A10M: Livestock nutrition and feed evaluation under (sub)tropical conditions (6 C, 4 SWS)
M.SIA.A16: Livestock breeding programs (6 C, 4 SWS)
M.SIA.E06: International organic food markets and marketing (6 C, 4 SWS)
M.SIA.E11: Socioeconomics of Rural Development and Food Security (6 C, 4 SWS)
M.SIA.E21: Rural Sociology (6 C, 4 SWS)
M.SIA.E41: EU policies and Organic Agriculture (6 C, 4 SWS)
M.SIA.I03: Food quality and organic food processing (6 C, 4 SWS)
M.SIA.I06M: Exercise on the quality of tropical and subtropical products (6 C, 4 SWS)
M.SIA.I14M: GIS and remote sensing in agriculture (6 C, 4 SWS)
M.SIA.I17: Sustainable diets (6 C, 6 SWS)
M.SIA.I19M: Participatory research methods for sustainability (6 C, 4 SWS)
M.SIA.I20: Agriculture and ecosystem services (6 C, 4 SWS)
M.SIA.I30: Organic agriculture in Europe (6 C, 4 SWS)
M.SIA.P01: Ecology and agroecosystems (6 C, 4 SWS)
M.SIA.P03: Ecological soil microbiology (6 C, 4 SWS)
M.SIA.P06: Soil and water (6 C, 4 SWS)
M.SIA.P13: Agrobiodiversity and plant genetic resources in the tropics (6 C, 4 SWS)
M.SIA.P15M: Methods and advances in plant protection (6 C, 4 SWS)
M.SIA.P16M: Crop modelling for risk management (6 C, 4 SWS)
M.SIA.P20: Plant Nematology (6 C, 4 SWS)
~~M.SIA.P24: Agroforestry (6 C, 4 SWS)~~

iii) Wahlmodule
Aus folgenden Modulen müssen Module im Umfang von insgesamt 36 C erfolgreich absolviert werden. Es können auch die bislang nicht gewählten Wahlpflichtmodule des Studien- schwerpunkts gewählt werden.:

M.Agr.0086: World agricultural markets and trade (6 C, 6 SWS)
M.Agr.0148: Policy analysis of international agri-environmental Schemes
M.Agr.0156: Microfinance for the Rural Poor: A Business Class (6 C, 4 SWS)
M.Agr.0174: Plant Health Management in Tropical Crops (6 C, 4 SWS)
M.Agr.0200: Machine learning in food economics and agribusiness (6 C, 4 SWS)
M.Agr.0201: Dynamic modelling in land use systems (6 C, 4 SWS)
M.FES.321: Ecopedology of the Tropics and Subtropics (6 C, 4 SWS)
M.SIA.A02M: Epidemiology of international and tropical animal infectious diseases (6 C, 4 SWS)
M.SIA.A03M: International and tropical food microbiology and hygiene (6 C, 4 SWS)
M.SIA.A04: Livestock reproduction physiology (6 C, 4 SWS)
M.SIA.A07: Unconventional livestock and wildlife-management, utilization and conservation (6 C, 4 SWS)
M.SIA.A11: Tropical animal husbandry systems (6 C, 4 SWS)
M.SIA.A13M: Livestock-based sustainable land use (6 C, 4 SWS)
M.SIA.A15M: Scientific writing in natural sciences (6 C, 4 SWS)
M.SIA.A17: Digitalisation in livestock systems (6 C, 4 SWS)
M.SIA.E02: Agricultural price theory (6 C, 4 SWS)
M.SIA.E05M: Marketing research (6 C, 4 SWS)
M.SIA.E12M: Quantitative research methods in rural development economics (6 C, 4 SWS)
M.SIA.E13M: Microeconomic theory and quantitative methods of agricultural production (6 C, 4 SWS)
M.SIA.E14: Evaluation of rural development projects and policies (6 C, 4 SWS)
M.SIA.E17M: Management and management accounting (6 C, 4 SWS)
M.SIA.E18: Organization of Food Supply Chains (6 C, 4 SWS
M.SIA.E24: Topics in Rural Development Economics I (6 C, 4 SWS)
M.SIA.E31: Strategic management (6 C, 4 SWS)
M.SIA.E33: Responsible and sustainable food business in global contexts (6 C, 4 SWS)
M.SIA.E34: Economic valuation of ecosystem services in developing countries (6 C, 4 SWS)
M.SIA.E36: Institutions and the food system (6 C, 4 SWS)
M.SIA.E37: Agricultural policy analysis (6 C, 4 SWS)

M.SIA.E39: Critical and collective perspectives on the global food system
M.SIA.E42: Agriculture, nutrition and sustainable food systems (6 C, 4 SWS)
M.SIA.I02: Management of (sub-)tropical landuse systems (6 C)
M.SIA.I06M: Exercise on the quality of tropical and subtropical products (6 C, 4 SWS)
M.SIA.I07: International land use systems research - an interdisciplinary study tour (6 C, 8,5 SWS)
M.SIA.I11M: Free Project (6 C)
M.SIA.I21M: From conceptualisation to communication: key steps in empirical research (6 C, 4 SWS)
M.SIA.I23: Sustainable agricultural practices in Mediterranean regions (6 C, 2 SWS)
M.SIA.I25: Engineering software in agriculture and livestock farming (6 C, 4 SWS)
~~M.SIA.I26: Wastewater treatment for agricultural reuse (6 C, 4 SWS)~~
~~M.SIA.I27: Postharvest technology (6 C, 4 SWS)~~
M.SIA.I28M: Unoccupied aerial vehicle (UAV) applications in agriculture (6 C, 4 SWS)
M.SIA.I29M: Research Methods and Data Science in the Life Sciences (6 C, 4 SWS)
M.SIA.P10: Tropical agro-ecosystem functions (6 C, 4 SWS)
M.SIA.P19M: Experimental techniques in tropical agronomy (6 C, 4 SWS)
M.SIA.P21: Energetic use of agricultural crops and field forage production (6 C, 4 SWS)
M.SIA.P22: Management of tropical plant production systems (6 C, 4 SWS)
~~M.SIA.P23M: Modern Plant Nutrition - Application of Molecular Methods in Plant Nutrition Research (6 C, 4 SWS)~~
M.SIA.P27M: Nutrient dynamics, experimental design and statistical modelling - bilingual (6 C, SWS)
M.SIA.P28: Digitalization in agriculture (6 C, 4 SWS)
M.SIA.P29: Impact of climate extremes on plant production systems around the globe (6 C, 4 SWS)
~~M.SIA.P30M: Ecological genetics (6 C, 4 SWS)~~
M.SIA.P31: Biochar for environmental management (6 C, 4 SWS)
M.WIWI-VWL.0008: Development Economics I: Macro Issues in economic development (6 C, 4 SWS)
M.iPAB.0002: Breeding schemes and programs in plant and animal breeding (6 C, 4 SWS)

cc) Tropical Agricultural and Agroecosystems Sciences

i) Pflichtmodule
Folgendes Brückenmodul M.SIA.P07 und folgende Module im Umfang von insgesamt 30 C müssen erfolgreich absolviert werden:

M.SIA.A11: Tropical animal husbandry systems (6 C, 4 SWS)
M.SIA.I10M: Applied statistical modelling (6 C, 4 SWS)
M.SIA.I12: Sustainable International Agriculture: basic principles and approaches (6 C, 4 SWS)
M.SIA.P07: Soil and plant science (6 C, 4 SWS)
M.SIA.P22: Management of tropical plant production systems (6 C, 4 SWS)

ii) Wahlpflichtmodule
Aus folgenden Modulen müssen Module im Umfang von insgesamt 24 C (davon mindestens ein Modul zur Schulung des methodischen Arbeitens mit einem Code M sowie ein ökonomisches Modul mit einem Code E) erfolgreich absolviert werden:

M.Agr.0180: Mineral nutrition of crops under different climate and environmental conditions
M.FES.321: Ecopedology of the tropics and subtropics (6 C, 4 SWS)
M.FES.734: Agroforestry design course (6 C, 4 SWS)
M.SIA.A04: Livestock reproduction physiology (6 C, 4 SWS)
M.SIA.A10M: Livestock nutrition and feed evaluation under (sub)tropical conditions (6 C, 4 SWS)
M.SIA.A13M: Livestock-based sustainable land use (6 C, 4 SWS)
M.SIA.A16: Livestock breeding programs (6 C, 4 SWS)
M.SIA.E11: Socioeconomics of Rural Development and Food Security (6 C, 4 SWS)
M.SIA.E33: Responsible and sustainable food business in global contexts (6 C, 4 SWS)
M.SIA.E34: Economic valuation of ecosystem services in developing countries (6 C, 4 SWS)
M.SIA.I06M: Exercise on the quality of tropical and subtropical products (6 C, 4 SWS)
M.SIA.I14M: GIS and remote sensing in agriculture (6 C, 4 SWS)
M.SIA.I19M: Participatory research methods for sustainability (6 C, 4 SWS)
M.SIA.I20: Agriculture and ecosystem services (6 C, 4 SWS)
M.SIA.I21M: From conceptualisation to communication: key steps in empirical research (6 C, 4 SWS)
M.SIA.I24: Modelling climate impacts on agroecosystems (6 C, 4 SWS)
M.SIA.P01: Ecology and agroecosystems (6 C, 4 SWS)

M.SIA.P10: Tropical agro-ecosystem functions (6 C, 4 SWS)
M.SIA.P13: Agrobiodiversity and plant genetic resources in the tropics (6 C, 4 SWS)
M.SIA.P16M: Crop Modelling for Risk Management (6 C, 4 SWS)
M.SIA.P19M: Experimental Techniques in Tropical Agronomy (6 C, 4 SWS)
~~M.SIA.P24: Agroforestry (6 C, 4 SWS)~~
M.SIA.P29: Impact of climate extremes on plant production systems around the globe (6 C, 4 SWS)

iii) Wahlmodule
Aus folgenden Modulen müssen Module im Umfang von insgesamt 36 C erfolgreich absolviert werden. Es können auch die bislang nicht gewählten Wahlpflichtmodule des Studien- schwerpunkts gewählt werden.:

M.Agr.0009: Biological control and biodiversity (6 C, 6 SWS)
M.Agr.0056: Plant breeding methodology and genetic resources (6 C, 4 SWS)
M.Agr.0086: World agricultural markets and trade (6 C, 6 SWS)
M.Agr.0148: Policy analysis of international agri-environmental Schemes
M.Agr.0156: Microfinance for the Rural Poor: A Business Class (6 C, 4 SWS)
M.Agr.0174: Plant health management in tropical crops (6 C, 4 SWS)
M.SIA.A02M: Epidemiology of international and tropical animal infectious diseases (6 C, 4 SWS)
M.SIA.A03M: International and tropical food microbiology and hygiene (6 C, 4 SWS)
M.SIA.A07: Unconventional livestock and wildlife-management, utilization and conservation (6 C, 4 SWS)
M.SIA.A08: Socio-ecology in livestock production systems (6 C, 4 SWS)
M.SIA.A14: Organic livestock farming under temperate conditions (6 C, 4 SWS)
M.SIA.A15M: Scientific writing in natural sciences (6 C, 4 SWS)
M.SIA.A17: Digitalisation in livestock systems (6 C, 4 SWS)
M.SIA.E02: Agricultural price theory (6 C, 4 SWS)
M.SIA.E05M: Marketing research (6 C, 4 SWS)
M.SIA.E06: International markets and marketing for organic products (6 C, 4 SWS)
M.SIA.E12M: Quantitative research methods in rural development economics (6 C, 4 SWS)
M.SIA.E13M: Microeconomic theory and quantitative methods of agricultural production (6 C, 4 SWS)
M.SIA.E14: Evaluation of rural development projects and policies (6 C, 4 SWS)
M.SIA.E17M: Management and management accounting (6 C, 4 SWS)
M.SIA.E18: Organization of Food Supply Chains (6 C, 4 SWS)
M.SIA.E21: Rural Sociology (6 C, 4 SWS)
M.SIA.E24: Topics in Rural Development Economics I (6 C, 4 SWS)
M.SIA.E31: Strategic management (6 C, 4 SWS)
M.SIA.E33: Responsible and sustainable food business in global contexts (6 C, 4 SWS)
M.SIA.E34: Economic Valuation of Ecosystem Services (6 C, 4 SWS)
M.SIA.E36: Institutions and the food system (6 C, 4 SWS)
M.SIA.E37: Agricultural policy analysis (6 C, 4 SWS)
M.SIA.E39: Critical and Collective Perspectives on the Global Food System
M.SIA.E41: EU policies and Organic Agriculture (6 C, 4 SWS)
M.SIA.E42: Agriculture, nutrition and sustainable food systems (6 C, 4 SWS)
M.SIA.I02: Management of (sub-)tropical landuse systems (6 C)
M.SIA.I03: Food quality and organic food processing (6 C, 4 SWS)
M.SIA.I07: International land use systems research - an interdisciplinary study tour (6 C, 8,5 SWS)
M.SIA.I11M: Free Project (6 C)
M.SIA.I14M: GIS and remote sensing in agriculture (6 C, 4 SWS)
M.SIA.I17: Sustainable diets (6 C, 6 SWS)
M.SIA.I19M: Participatory research methods for sustainability (6 C, 4 SWS)
M.SIA.I23: Sustainable agricultural practices in Mediterranean regions (6 C, 2 SWS)
M.SIA.I25: Engineering software in agriculture and livestock farming (6 C, 4 SWS)
M.SIA.I26: Wastewater treatment for agricultural reuse (6 C, 4 SWS)
M.SIA.I27: Postharvest Technology (6 C, 4 SWS)
M.SIA.I28M: Unoccupied aerial vehicle (UAV) applications in agriculture (6 C, 4 SWS)
M.SIA.I29M: Research Methods and Data Science in the Life Sciences (6 C, 4 SWS)
M.SIA.I30: Organic agriculture in Europe (6 C, 4 SWS)
M.SIA.P03: Ecological soil microbiology (6 C, 4 SWS)
M.SIA.P05: Organic cropping systems under temperate and (sub)tropical conditions (6 C, 4 SWS)
M.SIA.P06: Soil and water (6 C, 4 SWS)
M.SIA.P15M: Methods and advances in plant protection (6 C, 4 SWS)

M.SIA.P20: Plant Nematology (6 C, 4 SWS)
M.SIA.P21: Energetic use of agricultural crops and field forage production (6 C, 4 SWS)
M.SIA.P27M: Nutrient dynamics, experimental design and statistical modelling - bilingual (6 C, 4 SWS)
M.SIA.P28: Digitalization in agriculture (6 C, 4 SWS)
~~M.SIA.P30M: Ecological genetics (6 C, 4 SWS)~~
M.SIA.P31: Biochar for environmental management (6 C, 4 SWS)
M.WIWI-VWL.0008: Development Economics I: Macro issues in economic development (6 C, 4 SWS)
M.iPAB.0002: Breeding schemes and programs in plant and animal breeding (6 C, 4 SWS)

b) Masterarbeit
Durch die erfolgreiche Anfertigung der Masterarbeit werden 24 C erworben.

c) Kolloquium zur Masterarbeit
Durch das erfolgreiche Absolvieren des Kolloquiums zur Master-Arbeit werden 6 C erworben.
2. Das Modulhandbuch wird um folgende Modulbeschreibungen ergänzt:

<table>
<tr><td colspan="2">Georg-August-Universität Göttingen
Module M.Agr.0180: Mineral Nutrition of Crops Under Different Climate and Environmental Conditions</td><td>6 C
4 WLH</td></tr>
<tr><td colspan="2">Learning outcome, core skills:
Students acquire knowledge of characteristic properties and specialities of nutrient cycles of ecosystems of different climate zones and upon different environmental drivers.
Participants develop understanding of important processes and interactions between
abiotic condition of locations, processes in soils and in particular on their effects on plant
nutrient uptake. They know plant adaptation mechanisms. Students also get knowledge
of the use of stable isotopes for the study of the above processes.</td><td>Workload:
Attendance time:
56 h
Self-study time:
124 h</td></tr>
<tr><td colspan="2">Course: Mineral nutrition of crops under different climate and environmental conditions (Lecture)
Contents:
Lectures focus on element dynamics in ecosystems starting with element inputs, their internal turnover processes and dynamics and outputs. In the course of the semester they will cover sub-arctic over temperate to tropical zones and key examples. In each zone a key focus will be on adaptation mechanisms that can be found among wild plants and crops. About one third of the module will address stable isotope methods for studying such subjects.</td><td>4 WLH</td></tr>
<tr><td colspan="2">Examination: Written examination (90 minutes) Examination requirements:
Knowledge of key characters of nutrient cycles in different climate zones with respect to major problems of soil fertility, plant nutrient supply and other environmental impacts, including anthropogenic management. Second important focus on adaptation mechanisms in plants to cope with nutritional constraints. Basic knowledge in stable isotope tracer methods and natural stable isotope abundance methods for the study of above research subjects.</td><td>6 C</td></tr>
<tr><td>Admission requirements:
none</td><td>Recommended previous knowledge: Basics in plant physiology, chemistry and soil science</td><td></td></tr>
</table>

Language: English	**Person responsible for module:** Prof. Dr. Klaus Dittert
Course frequency: each winter semester	**Duration:**
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 36	
Additional notes and regulations: After successful conclusion of M.Agr.0103 students can not complete M.Agr.0180	

Georg-August-Universität Göttingen **Module M.Agr.0200: Machine Learning in Food Economics and Agribusiness**	6 C 4 WLH
Learning outcome, core skills: Machine learning is changing the world from different dimensions, and agricultural and food economics is no exception. In contrast to econometrics of causal analysis, machine learning put more emphasis on prediction and pattern recognition. This course will briefly introduce machine learning algorithms for research of agricultural and food economics. It will help master students to master bask techniques in programing for machine learning with Python and their application in food economics and agribusiness analysis.	**Workload:** Attendance time: 56 h Self-study time: 124 h
Course: Machine Learning in Food Economics and Agribusiness (Lecture, Exercise) *Contents*: This course will introduce basic algorithms in machine learning and apply them to research of agribusiness and food economics. Specifically, we will introduce Python language, and how to use Python to realize plotting, feature engineering, linear regression, logit model, support vector machine, k-nearest neighbor, random forest, k- means clustering, neural network and deep learning (ANN, CNN and RNN). **Course Outline** 1. Introduction to Python and its application of machine learning in agricultural economics 2. Data Plotting and visualization 3. Linear regression and feature engineering 4. Logit model and support vector machine 5. k-nearest neighbor and discrimination analysis 6. Classification and random forest 7. Artificial neural network and deep learning (CNN and RNN) 8. Unsupervised learning: k-means clustering, PAM, Principal Component Analysis, and 9. Machine learning with time series data **Programming Requirement**: 1. Python : https://www.python.org/ 2. Anaconda: https://www.anaconda.com/ 3. VScode: https://code.visualstudio.com/ **Text books:** Swamynathan Manohar. 2017. Mastering Machine Learning with Python in Six Steps. APress. Matthes E., 2022. Python Crash Course, 3rd Edition. No Starch Press, L.A. Raschka Sebastian, Yuxi (Hayden) Liu, Vahid Mirjalili.2022. Machine Learning with PyTorch and Scikit-Learn. Packet Press. 2022. **Reference Papers :** Wang H., X. Yu (2023) "Carbon Dioxide Emission Typology and Policy Implications: Evidence from Machine Learning". Forthcoming in China Economic Review. Maruejols L., L. Hoeschle, X. Yu (2022) Vietnam between economic growth and ethnic divergence: A LASSO examination of income-mediated energy consumption. Energy Economics. Graskemper V., X. Yu and Jan-Henning Feil (2022) Values of Farmers-Evidence from Germany, Journal of Rural Studies. Vo. 89:13-24. Wang H., L. Maruejols, and X.Yu (2021) Predicting energy poverty with combinations of remote-sensing and socioeconomic survey data in India: Evidence from	4 WLH

machine learning. Energy Economics. Vol. 102, 105510. https://doi.org/10.1016/ j.eneco.2021.105510 Graskemper V., X. Yu and Jan-Henning Feil (2021). Farmer Typology and Implications for Policy Design – an Unsupervised Machine Learning Approach. Land Use Policy. Volume 103, April 2021, 105328.	
Examination: Written examination (120 minutes, 70%) and homework assignments (30%) **Examination requirements:** Examination requirements: 1. Understand the machine learning models taught in the class 2. Use python skillfully	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Xiaohua Yu
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.Agr.0201: Dynamic modelling in land use systems**	6 C 4 WLH
Learning outcome, core skills: System dynamics is an interdisciplinary field of study that combines insights from various disciplines, such as sociology, agronomy, economics, ecology and computer science, to understand the behaviour of complex systems over time. The course on system dynamics aims to equip students with a solid understanding of the principles and methods used in this field. The targets of the course include developing an understanding of complex systems, teaching students how to model and simulate these systems, analysing feedback loops, understanding system behaviour, optimizing systems, and developing effective communication skills.	**Workload:** Attendance time: 56 h Self-study time: 124 h
Course: Dynamic modelling in land use systems (Lecture, Exercise) *Contents*: System dynamics is an interdisciplinary field of study that combines insights from various disciplines, such as sociology, agronomy, economics, ecology and computer science, to understand the behaviour of complex systems over time. The course on system dynamics aims to equip students with a solid understanding of the principles and methods used in this field. 1. Understanding complex systems: The primary target of a course on system dynamics is to help students develop an understanding of complex systems. System dynamics is concerned with the study of systems that are made up of interdependent components that interact with one another in complex ways. These systems can be found in a wide range of fields, such as economics, ecology, healthcare, and engineering. A course on system dynamics provides students with the necessary tools and techniques to analyse and model such systems, and to understand the behaviour of these systems over time. 2. Modelling and simulation: Another important target is to teach students how to develop models of complex systems and simulate their behaviour. System dynamics modelling involves constructing a graphical representation of the system, identifying the key components and their interrelationships, and developing equations that describe the behaviour of the system over time. Simulation involves running these equations to generate predictions of how the system will behave under different conditions. A course on system dynamics helps students develop the skills needed to create and run such models and simulations, and to interpret the results. 3. Analysis of feedback loops: Feedback loops are a central concept in system dynamics, and a course on this topic aims to help students understand their role in complex systems. Feedback loops occur when the output of a system is fed back into the system as input, leading to a cycle of cause and effect. System dynamics courses teach students how to identify different types of feedback loops, such as reinforcing and balancing loops, and how they can impact the behaviour of a system. Students also learn how to analyse the dynamics of feedback loops using mathematical and computational tools.	4 WLH

4. Understanding system behaviour: A course on system dynamics also helps students understand the behaviour of complex systems over time. System dynamics models can be used to generate predictions of how a system will behave under different conditions, and to identify key factors that influence the behaviour of the system. Students learn how to use these models to understand the behaviour of systems in various domains, such as business, healthcare, and the environment. They also learn how to interpret the results of these models and to use them to make informed decisions. 5. System optimization: In addition to understanding system behaviour, a course on system dynamics also teaches students how to optimize complex systems. System optimization involves identifying the goals of the system and developing strategies to achieve them while taking into account various constraints and trade-offs. Students learn how to use system dynamics models to optimize systems in various domains, such as supply chain management, energy systems, and transportation. 6. Communication: Finally, a course on system dynamics aims to develop students' communication skills. Students learn how to communicate complex concepts and models to a wide range of audiences, including policymakers, managers, and other stakeholders. Effective communication is critical in system dynamics, as it helps to ensure that the insights generated by models are understood and acted upon by decision-makers. The targets of the course include developing an understanding of complex systems, teaching students how to model and simulate these systems, analysing feedback loops, understanding system behaviour, optimizing systems, and developing effective communication skills.	
Examination: 4 Home assignments (50%), 1 written paper (50%) **Examination prerequisites:** attendance of 80% of the course sessions	6 C

Admission requirements: none	**Recommended previous knowledge:** Regional Economics, Agroecology, Agr. Sociology, div
Language: English, German	**Person responsible for module:** Dr. sc. agr. Holger Bergmann
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: three times	**Recommended semester:**
Maximum number of students: 16	

Georg-August-Universität Göttingen **Module M.FES.321: Ecopedology of the Tropics and Subtropics**	6 C 4 WLH
Learning outcome, core skills: General understanding of the most important aspects of tropical and subtropical soils, their occurrence, genesis, geography, properties and use. Understanding the principles of the international FAO soil profile description and classification.	**Workload:** Attendance time: 56 h Self-study time: 124 h
Course: Ecopedology of the tropics and subtropics (Lecture) *Contents*: Part I: General introduction in soils of the tropics and subtropics, their functions, genesis, geography and properties. Objective: general understanding of the most important aspects of tropical soils, their occurrence, genesis, properties and use. The following topics will be discussed: Introduction; Climate, water and vegetation; Weathering and weathering products, clay minerals; Soil organic matter, C and N dynamic; Soil chemical reactions, variable charge; Soil forming processes and development of soils; Water and nutrient cycling of land use systems; Tropical shield areas (example: Amazon basin); Arid shields and platforms (example: West Africa); Tropical mountain areas (example: Andes); Fluvial and coastal areas in the tropics (example: coastal areas in Asia). Part II: Introduction in the description and classification of soils, using in international system (FAO). Objective: understanding the principles of the FAO soil profile description and classification. The course consists of introductory lectures in which the principles of the FAO soil description and classification will be explained. This knowledge will be practiced using examples of soil profiles from different tropical countries. The second part consists of a practical week during which soil profile descriptions and evaluations will be exercised in the field. We will visit three contrasting sites around Göttingen where a site and soil description will be made. The work will be done in small groups. Students discuss their results in a report.	4 WLH
Examination: Term paper (10 pages max.) and written exam (2 hours)	6 C
Examination requirements: Being able to describe, classify and evaluate soils for forestry applications in (sub)tropical regions. Understand most relevant biogeochemical processes and function of (sub)tropical soils. Calculate water and nutrient stocks in soils. Explain differences between soils in different (sub)tropical regions.	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Edzo Veldkamp
Course frequency: each summer semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:**

Maximum number of students: not limited	

Georg-August-Universität Göttingen **Module M.FES.734: Agroforestry design course**	6 C 4 WLH
Learning outcome, core skills: Acquiring knowledge to design an agroforestry system. The gained knowledge will be applied for own design work in groups, in cooperation with real farms that aim to plant agroforestry systems. This course is for students who aim to implement agroforestry in the field as farmers or as agroforestry consultants.	**Workload:** Attendance time: 56 h Self-study time: 124 h
Course: Agroforestry design course (Lecture, Excursion, Seminar) *Contents*: Learn about different agroforestry systems, historic developments, design processes, analysis of local conditions, (social) context, complexity, geography and water management, soil and plants, tree spacing and management, economy and marketing and map design. Two short excursions are included.	4 WLH
Examination: Presentation (approx. 10 minutes) with written outline (max. 5 pages)	6 C
Examination requirements: Agroforestry design as a group work of approx. 3 students. Presentation and report to explain and embed the design in scientifically sound contexts, as learned in the course	

Admission requirements: none	**Recommended previous knowledge:** Basic knowledge on Agroforestry
Language: German	**Person responsible for module:** Franziska Leonie Wolpert
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: cf. examination regulations	**Recommended semester:**
Maximum number of students: 30	

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.A17: Digitalisation in Livestock Systems**	6 C 4 WLH
Learning outcome, core skills: Following a successful completion of this module, students are expected to: • Have an overview of the current trends in digital technology for agricultural development with particular emphasis on livestock husbandry. • Be familiar with key terminologies including Precision Agriculture (PA), Precision Livestock Farming (PLF), Precision Pasture Management (PPM), and Digital Livestock Farming (DLF). They should be able to give relevant examples of a range of technologies currently applied to facilitate individual animal management systems. • Identify the opportunities and challenges of PLF for organic agriculture • Be able to critically assess the benefits of digitalisation vis-à-vis the socioeconomic realities of agricultural transformation, especially in low- and middle-income countries • Develop scientific presentation and reporting skills	**Workload:** Attendance time: 56 h Self-study time: 124 h
Course: Digitalisation in Livestock Systems (Lecture, Excursion, Seminar) *Contents*: **Course content:** Lectures (16 h), Seminars (plus excursion) 44 h Digitalisation is revolutionising the agricultural sector at an unprecedented pace requiring the building of human resource capacity to conveniently cope with the emerging norms of farming and livestock husbandry practices. In this module, students will be given a broader overview of the changes that have taken place in agricultural development. The concept of digital transformation which is enforcing the adoption of automation, high-tech sensors, cloud computing, decision making algorithms, and the Internet of Things will be introduced, and terminologies such as PA and PLF will be explained. Focusing on PLF, students will be helped to self-study a range of digital tools currently in use for either individual or group intensive and extensive management systems. These may include but not limited to the following: • Use of radio frequency identification (RFID) leveraged in other technologies for monitoring feed intake, weight gain etc. • Behavioural monitoring using on-animal motion and pressure sensors • Thermal and biochemical sensors for monitoring disease state • Autonomous animal location management (virtual fencing) • Pasture management using geographical information system (GIS) The students must have a fair understanding of what these tools/systems are, their mode of operation, associated costs, and the pros and cons of usage.	4 WLH

As part of the learning process, students will be provided with journal article(s) relevant to the trends in application of digitalisation in PLF. Each student would be required to carefully study/review the article provided, and prepare a 25-page (max.) PowerPoint presentation to be presented in a weekly seminar session. Non-presenting students are also required to attend the weekly seminars and learn from their colleagues. de Queiroz DM, Valente DSM, Pinto FAC, Borém A, Schueller JK, eds. 2022: *Digital Agriculture*. Springer	
Examination: Student presentation with discussion (ca. 25 min presentation + ca. 10 min discussion 70%) and written report (30%) **Examination requirements:** transitions in agricultural development; digital transformation and sustainability; role/trends of digital tools, e.g., sensors in livestock husbandry. Written report and PowerPoint presentation according to international conference standards: concise, sound content, clear structure, and very well communicated (orally in case of ppt).	

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr. Sowah Addo
Course frequency: each summer semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 25	

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.I28M: Unoccupied aerial vehicle (UAV) applications in agriculture**	6 C 4 WLH
Learning outcome, core skills: The students will learn about the unoccupied aerial vehicle (UAV) based remote sensing data acquisition and use in the agricultural context. They will understand the logic of using UAVs for agricultural applications and challenges and the essential theoretical background of available airborne technology, including international legislation and regulations for UAVs. They will learn to prepare a flight plan with all the prerequisites and to execute a safe flight mission. They will get experience in collecting UAV remote sensing data and the corresponding validation in-situ data on the field. Students will develop the ability to process the collected remote sensing data using open-source software to prepare maps and interpret them. They will obtain basic modelling skills to calibrate/validate models and estimate crop parameters with collected in-situ data and UAV remote sensing data	**Workload:** Attendance time: 60 h Self-study time: 120 h
Course: Unoccupied aerial vehicle (UAV) applications in agriculture (Exercise) *Contents*: • Basic principles of vegetation remote sensing with a focus on different sensors and their characteristics. • Overview of the UAV application for agriculture, including opportunities and challenges. * Understanding of essential components of UAVs and international rules and regulations for UAVs. • Design an agricultural application with UAVs (Problem identification, data to be collected, selection of UAV and sensor, designing flying plans) • Field-level experience in UAV flying, mission planning, remote sensing and crop in- situ data (e.g., LAI, plant height), and ground control point data collection. • Introduction to structure from motion (SfM) technology for processing UAV images. • Processing of UAV remote sensing data using Open-Drone-Map (ODM) to develop image ortho-mosaics. • Visualisation of developed image products in Quantum GIS (QGIS) and their interpretation. • Basic principles of regression models and introduction to R. • Calibration and validation of crop in-situ data models using UAV remote sensing data, generation of estimated crop parameter maps, and interpretation of outputs.	4 WLH
Examination: Oral exam (30 min) 70 %; Presentation (15 min + 2 side handout) 30 % (45 minutes) Examination prerequisites:	6 C

Basic understanding of remote sensing for vegetation analysis, opportunities and limitations of UAV for agriculture, and how to design UAV data collection for agriculture applications.	
Admission requirements: none	**Recommended previous knowledge:** Participation in the I14M SIA module and programming with R would be advantageous.
Language: English	**Person responsible for module:** Jayan Wijesingha
Course frequency: each summer semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 15	

Additional notes and regulations:

Literature:

- Unmanned Aerial Vehicle: Applications in Agriculture and Environment, edited by Ram Avtar, and Teiji Watanabe, Springer International Publishing AG, 2019. ProQuest Ebook Central, https:// ebookcentral.proquest.com/lib/unikassel/detail.action?docID=5979944.
- E-agriculture in action: Drones for agriculture. Thailand, Food & Agriculture Org., 2018.; UAV Remote Sensing for Plant Traits and Stress. N.p., Frontiers Media SA, 2022.
- UAS-Remote Sensing Methods for Mapping, Monitoring and Modeling Crops. N.p., MDPI AG, 2021.

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen **Module M.SIA.I29M: Research Methods and Data Science in the Life Sciences**	6 C 4 WLH
Learning outcome, core skills: Students have an understanding of the methods of quantitative and qualitative data collection in the life sciences and the different sampling techniques and experimental designs. They are able to apply standard data analysis techniques. They understand the usefulness and limitations of selected multivariate approaches for regressions and pattern recognitions in the data science and learn the concepts of different machine learning approaches. They are able to apply the acquired skills in the analysis of their own MSc (and PhD) datasets.	**Workload:** Attendance time: 56 h Self-study time: 124 h
Course: Research Methods and Data Science in the Life Sciences (Internship, Lecture) *Contents*: Research methods and standard analyses in the life sciences • Introduction to methods of quantitative and qualitative data collection in the life sciences • introduction to sampling techniques and standard statistical techniques (regressions and analyses of variance) Data science in the life sciences • Application of multivariate approaches: principal component analysis (PCA) and regression (PCR), cluster analyses, factor analyses • Introduction to machine learning: perceptron, artificial neural networks, regression trees, rule-based models and support vector machine classification and regression	4 WLH
Examination: Oral examination (approx. 30 minutes) Examination requirements: Profound knowledge of existing research methods and standard analyses in the life sciences. Solid understanding of the concepts, usefulness and limitations of multivariate and machine learning approaches for data analyses in the life sciences.	6 C

Admission requirements: none	**Recommended previous knowledge:** Basic Knowledge (B.Sc. level) of Soil and Plant Sciences
Language: English	**Person responsible for module:** Prof. Dr. Bernard Ludwig
Course frequency: each winter semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 20	
Additional notes and regulations:	

Literature:

Everitt, B., Hothorn, T. P. 2011. An Introduction to Applied Multivariate Analysis with R. Springer,

New York Jones, E., Harden, S., Crawley, M.J. 2023. The R Book. 3rded. Wiley

Holmes, D., Moody, P., Dine, D., Trueman, L. 2017. Research Methods for the Biosciences. Oxford University Press

Touchon, J.C. 2021. Applied Statistics With R: A Practical Guide for the Life Sciences. Oxford University Press

Wehrens, R. 2020. Chemometrics with R. 2nd ed. Springer

Georg-August-Universität Göttingen **Universität Kassel/Witzenhausen** **Module M.SIA.I30: Organic Agriculture in Europe**	6 C 4 WLH
Learning outcome, core skills: Students understand the situation of organic agriculture in different European countries. Students are able to discuss and judge standards of organic agriculture.	**Workload:** Attendance time: 50 h Self-study time: 130 h
Course: Organic Agriculture in Europe (Seminar) *Contents*: Online seminar: Comparison of standards of organic agriculture (IFOAM, EU, within EU). Situation of organic production, processing and markets in different European countries. Organic agriculture in European Universities: current research projects, teaching activities. Necessary measures on all levels in the coming future to transform agriculture production in different countries to organic agriculture.	
Examination: Work report (15 p.) 80% or presentation (25min) 40% and work report (10 p.) 40%; oral test (15min) 20% **Examination requirements:** Students have to analyze the situation of organic agriculture in different European countries and to compare the situation and development under defined criteria.	6 C

Admission requirements: none	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Prof. Dr. Gunter Backes M.Sc. Holger Mittelstraß
Course frequency: each winter semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: not limited	

Additional notes and regulations:
The international module is offered online by ENOAT (European network of organic agriculture teachers) for students of all participating European universities.

Literature:
FIBL and IFOAM (ed.) 2022: The world of organic agriculture. Frick/Switzerland

Georg-August-Universität Göttingen Universität Kassel/Witzenhausen **Module M.SIA.P31: Biochar for Environmental Management**	6 C 4 WLH
Learning outcome, core skills: The students obtain basic knowledge in the areas of the production of biochar and activated carbon from residual biomass, as well as their use in agricultural and environmental applications. They develop a deeper understanding of pyrolytic processes and procedures, as well as different technological conversion processes for the production of biochar and activated carbon from biomass. They understand relationships between biomass composition, characteristics of biochar and activated carbons, and their potential applications. The students develop the ability to evaluate thermo-chemical conversion processes of biomasses, as well as to identify relevant influencing parameters on the quality and possible applications of biochars and activated carbons. The students have basic knowledge regarding the advantages and limitations of a material and energetic utilization of residual biomasses for the production of biochar and activated carbon, as well as their use in the agricultural and environmental sector for a sustainable environmental and resource management	**Workload:** Attendance time: 56 h Self-study time: 124 h
Course: Biochar for Environmental Management (Lecture, Practical course, Seminar) *Contents*: Lecture 20h, Work experience 20h, Seminar 20h Theoretical basics of thermo-chemical conversion (pyrolysis) of biomasses to produce biochar, with a focus on the use of (agricultural) residual biomasses for sustainable resource use, as well as the production of biogenic activated carbons for the substitution of fossil activated carbons in environmental applications. Fundamentals of possible treatment processes of grass and herbaceous residual biomasses for pyrolytic utilization. Possible uses of biochar and activated carbon in agricultural and environmental applications. Material and energetic balances of thermo-chemical processes. Requirements for purity and quality of biochar and activated carbon for different fields of application. Production of biochar and activated carbon from residual biomass (incl. treatment) on laboratory scale using different processes. Laboratory work for basic analytical characterization of the produced biochar and activated carbon and evaluation of their performance for environmental management.	4 WLH
Examination: Oral exam (ca. 30 minutes; 60 %) and presentation (ca. 20 minutes; 40 %) **Examination requirements:** Presentation and critical analysis of a potential utilization case of biochar and biogenic activated carbon in relevant environmental applications. Knowledge in biochar and activated carbon production, handling of residual biomass, biomass pre-treatment,	6 C

characterization of biochar and activated carbon, insights into different conversion technologies, interactions between biomass characteristics and biochar/activated carbon quality.	
Admission requirements: M.Sc.SIA Students Only	**Recommended previous knowledge:** none
Language: English	**Person responsible for module:** Dr.-Ing. Korbinian Kaetzl
Course frequency: each summer semester; Witzenhausen	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 12	

Additional notes and regulations:

Location:

The practical part of the module will take place at our research site in Neu-Eichenberg.

Literature:

Johannes Lehmann and Joseph Stephen (Eds.): Biochar for Environmental Management: Science, Technology and Implementation. Routledge, 2015.

Jay Shankar Singh and Chhatarpal Singh (Eds.): Biochar Applications in Agriculture and Environment Management. Springer, 2020.

Harry Marsh and Francisco Rodríguez Reinoso (Eds.) Activated Carbon. Elsevier Science, 2006.

Balwant Singh, Marta Camps-Arbestain, and Johannes Lehmann (Eds.) Biochar: A Guide to Analytical Methods. Csiro Publishing, 2017.

Peter Quicker and Kathrin Weber (Eds.): Biokohle: Herstellung, Eigenschaften und Verwendung von Biomassekarbonisaten. Springer Vieweg, 2016

Artikel 2 Übergangs- und Schlussbestimmungen

Studierende, die vor Inkrafttreten dieser Änderungsordnung ihr Studium begonnen haben, werden nach dieser Änderungsordnung geprüft.

Artikel 3 In-Kraft-Treten

Diese Änderungsordnung tritt nach ihrer Bekanntmachung in den Amtlichen Mitteilungen der Universität Göttingen und im Mitteilungsblatt der Universität Kassel in Kraft.

Witzenhausen, den

Die Dekanin des Fachbereichs Ökologische Agrarwissenschaften

Prof. Dr. Maria Finckh