

Course Title	Land in the City - Green in the City
Category	Metropolitan Studies & Urban Development
Class Time	Session 2, July 22nd – August 16th 2019 Track B Weekly schedule Monday: 9 am – 10.30 am & 11 am – 12.30 pm Wednesday: 9 am – 10.30 am & 11 am – 12.30 pm Thursday: 1.30 pm – 3 pm & 3.30 pm – 4.15 pm
Course Level & Target Group	Undergraduate students, graduate students
Course Language	This course is taught in English, including readings in English. For the understanding of the texts and the discussions in class a language level B2 (Common European Framework of Reference for Languages) is required.
ECTS	5 ECTS (45 contact hours)
Instructor	Ms. Heide Hoffmann, PD Dr. Mr. Volker Minks, Dipl. Ing. agr.

Course Description

In the age of climate change and mega urbanization urban agriculture and horticulture provide multiple functions and benefits to urban dwellers and cities. The course shows and discusses new perspectives of how cities can be developed sustainable, greener and resilient.

The classes will deal with the history of urban agriculture and garden cultures for example from the old Persian world and the ancient cultures of Mayas, Aztecs and Incas, as well from North America and Europe.

The urban gardening movement has its obstacles to be involved in the concepts of smart, clean, compact and global cities. The course will discuss the current role and the future of urban gardening in the world.

The classes will equip students with valuable knowledge and skills. Experience, academic research and suggestions in theory and practice are provided for future decision-makers in urban design and planning, civil engineering, architecture and landscape architecture as well for students from administration, politics and legislations.

The lectures, seminars and excursions will offer the students a deeper insight of green as an integral part of urban sustainable development. The ecological, economic and social advantages are manifold: healthy nutrition, reduced loss of food due to adequate transport and storage, poverty reduction through income opportunities. The variety of urban green infrastructure provides spaces for climate improvement, energy savings, rain water management, recreation, education and biodiversity of urban wildlife.

The Summer School will identify and show examples of the many functions that agriculture and horticulture activities fulfil in large cities, especially in Berlin. Explore different ways to save and

create green spaces. Knowledge acquisition and skills about:

- different techniques to protect and create green spaces, in order to identify the - interdisciplinary character of welfare effects on urban life;
- institutional conditions of green infrastructure in urban planning processes through its ecological, economic and social benefits;
- practice on different ways to cultivate and process agricultural products for food security and income-earning reasons in cities, applying new and traditional production methods;
- strategies for mitigation and adaptation to climate change in order to decrease greenhouse gas and the urban heat island (UHI) effect;
- conservation of resources through energy and water cycles as well as recycling of waste (composting);

Meet experts of urban agriculture and horticulture projects in Berlin, such as allotment gardens, community gardens, green roof and walls and market oriented urban farms (vegetable, fish and algae production). The Course addresses the issues of ecological challenges and responsibilities in sustainable urban development, in order to improve planning, design and architecture in cities.

Course Objective & Learning Outcomes

By the end of the course, students will be able to understand:

- the role, benefits and institutional aspects of urban agriculture and sustainable urban development;
- applied research and innovation in ecological urban agriculture and horticulture, such as vertical farming - green roof and wall technologies - railtrack, riverside and roadside greening - permaculture - aquaculture and aquaponic gardening;
- the different fields of urban gardening such as allotment gardening, city gardens and farms, community gardens, urban parks and forestry, guerilla gardening and others;
- the environmental and social aspects in terms of education and integration of different generation and cultures on climate change, food security and biodiversity;
- scientific research and best practice of urban agriculture at the Humboldt University and in the city of Berlin.

Readings

A handout and other supplementary materials will be handed out in class.

Suggested

Allen, J.; Mollison, B. (2007): *Smart Permaculture Design*, New Holland, ISBN 978-187706918.

Bernstein, S. (2011): *Aquaponic Gardening - A Step-by-Step Guide to Raising Vegetables & Fish Together*, New Society Publishers; Original edition, ISBN-13: 978-0865717015

Carreiro, M. M. et al. (2011): *Ecology, planning and management of urban forests - an international perspective*, ISBN 0-8148-0030-3.

Despommier, D. (2010): *The Vertical Farm - Feeding the World in the 21st Century*, Thomas Dunne Books, St. Martin's Press, New York, ISBN-10: 0312610696

Dunnett, N. et al. (2008): *Planting Green Roofs and Living Walls*, Timber Press, Portland, London.

Dwyer, J.; et al. (1991): "The significance of urban trees and forests: toward a deeper understanding of values". *Journal of Arboriculture*, 17(10), pp. 276-284.

Miller, R. W. (2007): *Urban Forestry: Planning and Managing Urban Greenspaces*, ISBN1-57766-510-4.

Müller, Ch. (2011): *Urban Gardening: Über die Rückkehr der Gärten in die Stadt*. oekom. München.

Horticultural Industry, European Journal of Horticultural Science by Verlag Eugen Ulmer. ISSN (printed): 1611-4426. ISSN (electronic): 1611-4434

Rosenzweig, C. et al. (2011): *Climate Change and Cities: First Assessment Report of the Urban Climate Change Research Network*. Cambridge University Press

Ryn, S. et al. (1996): *Ecological Design*. Island Press. Washington.

Snodgrass, E. C. (2006): *Green Roof Plants: A Resource and Planting Guide*, Timber Press, Portland

Cuba's urban farming revolution (2014): www.architectural-review.com/comment-and-opinion/cubas-urban-farming-revolution-how-to-create-self-sufficient-cities/8660204.article

UN HABITAT (2016): *World Cities Report 2016: Urbanization and Development – Emerging Futures*. Nairobi

UN Revision of World Urbanization Prospects (2015):
https://esa.un.org/unpd/wpp/publications/files/key_findings_wpp_2015.pdf

Course Schedule

1st week: Introduction and History of Urban Agriculture and Horticulture Activities

Course introduction

Presentation of Topics

Presentation of Students

Logistics

Introduction to the History and current Role of urban Agriculture and Horticulture (L)

The ability to grow crops has changed the way of life for human kind. The development of agriculture made it possible to settle. Since then, food has been grown outside and inside of cities. The class will deal with the history of urban agriculture and horticulture technics and garden cultures as example from the old Persian world and ancient cultures of Mayas, Aztecs and Incas, as well from North America and Europe.

Within intensive industrialization and urbanization the gardens were lost in many cities. Now with increasing environmental problems, lack of farmland and food supply urban agriculture and horticulture activities, also described as urban gardening, can find the way back into the cities. Therefore urban gardening is subject of intense debates regarding its viability and efficiency.

Today, more than 50% of world population living in urban areas. In 2050 approximately 66%. Urban agriculture and horticulture can help to fulfill the changing needs and demands of people who live in the growing metropolitan areas. Urban Gardening is a term for a large and complex area of scientific horticulture and sustainable urban food production. It deals with the complex problems of growing plants in dense populated areas, using them effectively, and maintaining their long-term health and functional value.

The urban gardening movement has its obstacles to be involved t in the concepts of smart, compact and global cities. The current role and the future of urban gardening in the world will be discussed.

History of Garden Cultures and Urban Agriculture (S)

Gardens and the vegetation have inspired human history and art. The vision of paradise - 'paradesa' *pairi-daēza* the old Persian word for a fenced area - has influenced the phantasy of human kind with the aspiration of heaven on earth. Even today the many different types of garden cultures reflect this basic need to create a place of beauty and connectedness to nature according to diverse interpretations of esthetical values and philosophy. Garden cultures are excellent examples of the concept of 'Nature-Culture', that will show us the way human beings have accommodated within their social and natural environment. The human ecological triangle as the Nature-Culture arrangements operate with two dynamic motivations. There is the need

for social acceptance, as articulated by the contemporary German philosopher Axel Honneth alongside and as strong as the one for material existence. The Lecture will introduce the human ecological framework that will help to analyse the history of garden cultures in different parts of the world.

Discussion: What do gardens and paradise mean and how are they culturally aligned?

Green Cities - The Green Urban Design Network and the Berlin Open Space System (S)

Urbanization, buildings and vegetation seem to be three difficult non-compatible elements within cities. The Green Urban Design Network includes agriculture and horticulture activities as an integral part of sustainable urban planning processes.

The lecture introduces the students to green infrastructure and ecological design technologies that help render the urban environment sustainable, crucial to addressing the economic, demographic, social and environmental challenges in cities. The different ways to protect and create new green habitats: green roof and walls, allotment gardens, city farms, rail track and roadside greening, riverside greening, parks, tree planting and forestry, vertical farming, community gardens, guerrilla-gardening and others. The class also shows that market oriented urban farms with vegetables, fish and algae production can play a important role of urban sustainable development. The city of Berlin combines today all kinds of green spaces and technologies and is an example of a green City. The Open Space System in Berlin connects green areas by district cross linking through "green corridors" and "green belts". A network of green spaces to multiply the social and environmental benefits.

Discussion: urbanization and destruction of nature - challenges of urban development

Tempelhofer Feld - From City Airport to a growing Urban Park Landscape - the Allmende Kontor (Ex)

The excursion takes place on Tempelhofer Feld. The Allmende-Kontor is being developed as contact and networking place, as knowledge storage and learning place. It is an initiative to create a garden for everyone interested and involved in community gardens and urban farming in Berlin. Activists bring this green space through collaborative use as a common community asset to life. In particular with respect to social, cultural and biological diversity, participative urban design, city ecology, education, nutrition and health, solidarity, integration and civic engagement. Students will meet garden activists from the Berlin community garden scene.

Discussion: history and challenges of urban development and community gardening worldwide

2nd week: Research and Innovation in Urban Gardening – Food Production and Greening

Aquaculture and Aquaponic Gardening - An Introduction to Theory and Practice (S)

This Seminar will introduce students to the theory and practice of aquaculture and aquaponic gardening. A 2011 FAO report predicts that food production will need to increase by 70% globally and by 100% in developing countries, to meet the increasing demand for nutritious food. In order to produce greater quantities of high quality food and adapt to the drastically changing horticultural production conditions, including climate change and increasing resource scarcity, new and comprehensive knowledge, as well as innovative methods and approaches, are required. One such promising innovation is aquaponic gardening. Aquaponic links aquaculture with hydroponic vegetable and herb production as a bio-integrated system.

Campus tour at the Agricultural Research Institute in Dahlem

Visiting the greenhouses, laboratories and experimental fields of the Albrecht Daniel Thaer-Institute of Agricultural and Horticultural Sciences. Explore and understand research and practice in urban agriculture and horticulture.

Green Urban Design - Technical Aspects of Green Roofs and Walls (L)

Green roofs are important systems of ecological design and they benefit urban areas ecologically, economically and socially. Creating new green areas on roofs is one of the most innovative and efficient fields of study, constantly developing in the areas of ecology, agriculture and horticulture, as well in engineering and landscape architecture. The students will learn about Green Roof Technology as an important subject matter: The past and the present, generally categorized types of green roof systems - extensive and intensive green roofs, environment aspects and effects – motivation and significance, potential of roof gardens - risks and chances - examples of green roofs in Berlin and worldwide. The use of different types of green roof systems can collectively serve the green infrastructure in urban areas with a multiplicity of benefits. Discussion: chances and risks of greening technologies

Field Trip - Best Practice In Berlin - Roof Gardens and Living Wall Projects (Ex)

A green environment in Cities combines nature with ecological, economic and social welfare as well as landscape design benefits. In Berlin, we find a variety of green roof and living walls on private or public buildings. As part of these field trip, the students will visit different wall and green roof projects that use intensive or extensive roof garden technology. The experts will demonstrate and explain the construction, implementation and the specific use of plants as well as research on materials and new systems in the private and public sector. The Students can discover the climatic, social and economic benefits of different techniques.

Field Trip - ECF - Efficient City Farming - Aquaponic-Water Circulation System combines fish Farming with Vegetable and Herb Cultivation (Ex)

The ECF City farming system enables vegetable, herb and fish production within an urban environment. Is a CO2-neutral production with no pesticides, zero transportation miles, and with a reduced water footprint. The result is year-round sustainable food production with high resource efficiency and exemplary environmental standards. Ideal for all city farmers: restaurateurs, hoteliers, supermarkets, architects, schools and universities. Students learn about the manifold benefits. The economic and environmental protection goes hand in hand with 1) sustainable production of local vegetables and fish; 2) elimination of environmentally harmful transport routes and cold chains; 3) transparent production process; and 4) synergistic effects of using waste heat to allow year-round cultivation.

Discussion: the revolution of food production - chances and risks

3rd week: Urban Gardening in Berlin - Environmental Education and Best Practice

Field Trip - Into the Woods: Urban Trees and Forestry - From Plant Selection to tree and Park Management (Ex)

The Großer Tiergarten, a habitat for flora and fauna is situated in the center of Berlin. It is the place for recreation and nature experience as well to explore various historical gardens and cultural monuments. Its history goes back 500 years and has a many faceted horticultural and scenery-formative tradition. Typically for the park are the wide laws crisscrossed with small watercourses and with groups of trees, the lakes with small islands and the numerous bridges and paths as well the single ornament gardens such as the Luiseninsel and the Rosengarten. In the 16th century it used to be a forest and hunting reserve with humid meadows and swamps. In the 18th century it was a baroque garden with forest character, and in 19th century reshaped as a scenery garden in the style of English gardens by Peter Joseph Lenné. In the 20th century the Großer Tiergarten served during and after the second world war shortly as a firewood resource and agricultural space. The excursion will demonstrate certain botanical species, the characteristic of the habitats and landscapes as well the planting and institutional aspects to maintain the forest.

Discussion: urban forests last major refuges for fauna and flora - why and how to preserve

Field Trip - Urban Nature and Food Production - Allotment Gardens in Berlin – The Garden Colony Rehberge (Ex)

Allotment gardens are green urban spaces with essential social, economic and ecological benefits. The field trip will show the significance and the close relationship between urban development and the role of small city gardens in Berlin. Presented will be the historical development during the 19th century, the partial progress in the 1920s, survival during the war, the separate development while Berlin was divided, and the common development after 1990. They are a vital component of a “green lung” of cities providing space for fruit and vegetable cultivation, recreation and communication, cultural integration and social sharing of people from different generations and cultural backgrounds. The ecological and climate impact is essential in terms of providing habitats for flora and fauna, improve the urban air quality and balance the temperature.

Discussion: the role and future of allotment gardens in cities

Field Trip - Climatic Garden Maxim - Urban Youth Educational Project (Ex)

The Climatic Garden Maxim is a project for leisure activities for children, youth and the neighborhood. It is part of a special research project for the development of climate adaptation strategies for Berlin and Brandenburg. The Maxim Climate Garden is integrated "educational garden" which is managed with great commitment of dedicated people. The children and youth learn about climate change and practical gardening such as methods of water saving, organic cultivation of fruit, vegetables, herbs and flowers as well of specific preparation for serving and cooking of the garden products. The Maxim offers recreational opportunities and creative courses, music and theater performances as well it is open for artistic and sportive activities. The students will learn by guided tours about the different facets of this educational projects and garden experiments. They will have the chance to plant, as well to experience and taste fresh garden products.

Discussion: gardens as centers of social integration and environmental education

4th week: Ecological Agricultural and Design Principles by Permaculture - Students Presentations and Evaluation

Permaculture - An Alternative Planning Method in Urban Gardening - Principles of Permaculture (L & Ex)

The lecture and the exercise will give an introduction to Permaculture as an alternative planning method. Bill Mollison (2002) has defined “*A Permaculture is a complex agricultural ecological system, which is designed, so that minimal work is put in and maximum harvest is gained*”. Permaculture is based on ecological and biological principles. The Philosophy behind Permaculture is to work with nature instead against it. This means a system which is integrated harmoniously and sustainable between the environment and humans, food, energy and other materials. The Lecture gives an overview of the philosophy and the application area of Permaculture. Thus, biodiversity is the basic principle of the idea of year-round self-sufficiency in food. The lecture discussed the 12 most important Permaculture planning principles created by Bill Mollison. In the outdoor exercise students will experience the philosophy of Permaculture.

Presentations (Examination)

Final Presentation of the Student Working Groups

Evaluation and Certification

Assignments

working in groups of 4-5 students from different countries to present:

1. Paper (each student 4-5 pages),
2. Presentation (each group presents 20min, afterward 5min discussion).

Material and information be generated by students out of:

1. lectures, seminars and excursion,
2. interviews, readings and literature recherche.

Students learn:

1. to form and organize a working group out of participants from different countries, also speaking different native languages and have different professional and cultural backgrounds,
 2. effective planning, developing and collaborating in the group,
 3. discovering the information for the theme and developing the outline and content,
 4. focusing and research for information on a specific area with different methods,
 5. writing and presenting there work in the group, in front of the class and other professors.
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Assessment Components

Special assessment of the assignments: punctual delivery, quality of structure, content and creativity

The final grade will be composed of:

- Activ participation in the seminars, lectures and field trips – 30%,
- Active participation in working groups and quality of assignments - 60% (paper 30%, presentation 30%),
- Punctuality and attendance rate (a minimum of 80% attendance rate is required) – 10%.

Failure to fulfill one of the mentioned components results in failure of the class.

Expectations & Policies

Preparation for lively discussions in the classroom: be on time, have at least the required readings completed and points in mind for discussion or clarification.

Assignments: complete all assignments according to the specified requirements on schedule including handing over to the lecturer.

Commitment in class: pay particular attention to the lecturer and respect differences of opinions (classmates', lecturers, local constituents engaged with on the visits).

Academic guidelines: Comply with academic integrity policies (such as no plagiarism or cheating, nothing unethical), especially the Academic Honor Code and the student code of conduct (see *FAQs* on www.huwisu.de).

Attendance policy: No unexcused absences are permitted. Students must contact their class teachers to catch up on missed work – to excuse absence please contact the HUWISU office (80% class attendance are required).

Field trips: if classes involve a field trip or other external visits, these require attendance as well as appearance in time – transportation difficulties are never valid reasons for an excused absence

Cultural Extra-curricular Activities

HUWISU offers a fine selection of interesting extra-curricular activities and aims to give all participants an unforgettable stay in Berlin. Your program includes excursions, sport activities and social gatherings providing you the opportunity to get to know the city, the university and your classmates better and to meet students from all parts of the world. The costs for these offers are included in the course fees.

Below, you find examples of previously offered cultural activities. You will be informed about the respective cultural program after your enrolment via email as well as during the course period.

Political and historical guided tours:

- **Federal Chancellery (Bundeskanzleramt):** It's the central coordination point for the entire government policy. The office is in constant contact to departments and other authorities.
- **German Parliament (Bundestag):** As the highest organ of the legislative in Germany it's elected by the German people. In practice Germany is governed by a bicameral legislature, of which the Bundestag serves as the lower house and the Bundesrat equals the upper house.
- **House of Representatives (Abgeordnetenhaus):** It's the state parliament (Landtag) of Berlin and located in the center of the reunified city. Together with the Martin Gropius Bau, the Topography of Terror and the Bundesrat, it presents an arresting contrast to the flair of the new Potsdamer Platz.
- **Topography of Terror:** A permanent exhibition with focus on the central institutions of the SS and police during the "Third Reich" and the crimes they committed throughout Europe. With the help of mostly photographic material, visitors are led through the major themes of the exhibition's five main segments.
- **Political Archive:** As the "memory" of the Federal Foreign Office it preserves the files on German diplomacy since 1867, as well as the international treaties signed by the Federal Republic of Germany and its predecessors in title. The records are preserved, processed and made available for academic research.

Cultural guided tours:

- **Kreuzberg Tour:** Kreuzberg has emerged from its history as one of the poorest quarters in Berlin in the late 1970s to a cultural center of today's Berlin. A unique area and one of the hippest neighborhoods in Berlin with many bars, pubs and clubs.
- **Museum Island (Museumsinsel):** was awarded UNESCO World Heritage Status in 1999 and is an ensemble of five museums: Old Museum, New Museum, Old National Gallery, Pergamon Museum and Bode Museum.
- **Berlin Cathedral (Berliner Dom):** Berlin's largest and most important Protestant church is located on the Museum Island.
- **Daytrip to Potsdam:** Be inspired by the illustrious attractions of the UNESCO's World Heritage while underway through the city of Potsdam. Immerse yourself in the history and present of Potsdam and discover many palaces, gardens, and historic quarters such as the "Holländisches Viertel" or the "Nikolaikirche".
- **Exhibitions:** Berlin is known for its unique galleries and exhibitions, that is why we will visit at least one during the Summer University.

Social gatherings:

- **Welcome Get-Together:** We invite you to meet all participants as well as the HUWISU staff in a relaxed atmosphere.
- **Boat trip:** Get to know Berlin from a completely new perspective and see Berlin's famous sights while floating along the river Spree.
- **Beach Volleyball:** A fun outdoor sport activity on long warm summer evenings for those who love to play and everyone who just want to enjoy watching the others play, lying in the sand, meet friends for some drinks, or simply relax in the middle of Berlin.
- **Biergarten:** You cannot leave Berlin without having experienced a Biergarten. The perfect place to finish off your busy day with a cool "Feierabend" drink.
- **Farewell Party:** At the end of the Summer University we will come together to celebrate the exciting time with HUWISU.

Your Instructors

PD Dr. sc. agr. Heide Hoffmann works as a project manager and senior lecturer for ecology and organic farming at the Albrecht Daniel Thaer-Institute of Agricultural and Horticultural Sciences the Humboldt-Universität zu Berlin. Dr. Heide Hoffmann is the head of the department of agroecology and organic farming. For many years she was responsible for the development and maintenance of international contacts and partnerships of the faculty of agriculture and horticulture sciences. Since 2009 she works on the cooperation between Humboldt-Universität zu Berlin and University of Sao Paulo (USP). She has several publications mainly on organic farming in developing countries and also urban agriculture, and contributions to national and international conferences. Dr. Heide Hoffmann has also been appointed to give seminars and lectures in Namibia, Brazilian, Cuba, Ecuador, Mexico and Kazakhstan. Currently she is working on a project on urban agriculture to improve food security and develop income opportunities for disadvantaged urban populations groups in Southern Africa (Maputo/Mozambique and Cape Town/South Africa).

Dip.-Ing. agr. Volker Minks is a PhD candidate at the Humboldt University in Berlin (Faculty of Life Sciences - Albrecht Daniel Thaer-Institute of Agricultural and Horticultural Sciences), where he also obtained his Diploma in Agricultural Engineering. He has been working with interdisciplinary research projects and education in the fields of urban agriculture and horticulture, greening technologies and sustainable urban design in Germany, Cuba, USA, Indian and Brazil. In 2011 he worked as coordinator for the C40 Sao Paulo Large Cities Climate Summit and co-produced the publication - Building Sustainable Cities. Since 2011 he acts as coordinator and lecturer for the HUWISU summer school course: Land in the City, Green in the City. Since 2009 he works on the cooperation between University of Sao Paulo (USP) and Humboldt University, and organized the KOSMOS Workshops: Berlin meets Sao Paulo: Cities for all. Since 2014 he has been part of the Cátedra José Bonifácio of the Ibero-American Center (CIBA USP), dealing with the challenges of Latin America and Iberian America in the areas of international governance, trade, negotiations, security, energy, education, innovation and environment. His current research at USP is related to the ecological, economic and social benefits of urban green, especially in the context of urbanization, climate change, food production and biodiversity in megacities.

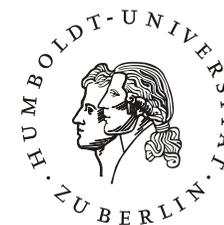
Please note that the course and its syllabus are subject to change. Last update: February 2019

SYLLABUS

July 22 - August 16, 2019

COURSE TITLE: Land in the City - Green in the City

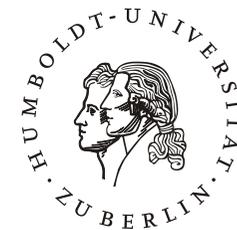
1st week Seminar: Introduction to Urban Gardening and the History of Garden Cultures and Green Urban Design



22-26/ 07/ 2019	MON 22	TUE 23	WED 24	THU 25	FRI 26
9.00 am – 10.30 am	Official Welcome Course introduction Logistics Pierre Steuer and Team - HUWISU		History of Garden Cultures and Urban Agriculture (S) Dr. Parto Teherani-Krönner		
10.30 – 11.00	Break		Break		
11.00 am – 11.30 am	Introduction - Course and Faculty: Land in the City – Green in the City PD.Dr. H. Hoffmann, Dipl.-Ing. V. Minks – Room 206		Green Cities - The Green Urban Design Network and the Berlin Open Space System (L) Dipl.-Ing V. Minks – Room 206		
11:30 am - 12.30 pm	Introduction - the History and current Role of urban Agriculture and Horticulture (L) – Dipl.-Ing. V. Minks				
1.30 pm – 4.30 pm				Field Trip Tiergarten – Into the Woods: Urban Trees and Forestry – history, plant selection and tree management (Ex) Dr. Rima Baag, Dipl.-Ing. V. Minks	

(L) – Lecture, (Sem) – Seminar, (Ex) - Excursion

Once a week we offer an additional cultural or social activity outside the classroom

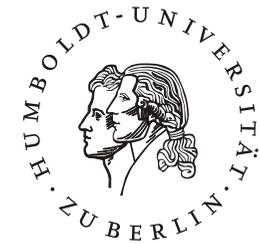


2nd week Seminar: Research and Innovation in Urban Gardening

29/07 - 02/08/ 2019	MON 29	TUE 30	WED 31	THU 01	FRI 02
9.00 am – 10.30 am	Aquaculture and Aquaponic Gardening - An Introduction to Theory and Practice (S) Dr. C. Oschmann		Field Trip - Rooftop Gardens and Living Wall Projects in Berlin – Part 1 (Ex) Architekt L. Volkmann, Dr. C. Oschmann, Dipl.-Ing V. Minks		
10.30 – 11.00	Break		Break		
11.00 am – 11.30 am 11.30 am – 12.30 pm	Campus Tour – Dahlem Green Urban Design - Technical Aspects of Roof Gardening (L) Dipl.-Ing V. Minks		Field Trip - Roof Garden and Living Wall Projects – Part 2 (Ex) IASP - Institut für Agrar- und Stadtökologische Projekte HU Berlin Dipl.-Ing. Susanne Herfort, Dipl.-Ing V. Minks		
1.30 pm – 4.30 pm				Field Trip - ECF - Efficient City Farming - Aquaponic-Water Circulation System combines Fish Farming with Vegetable and Herb Cultivation (Ex) Marie Schönau, Dipl.-Ing V. Minks	

(L) - Lecture, (Sem) – Seminar, (Ex) - Excursion

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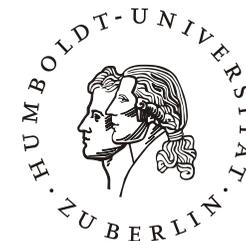


3rd week Seminar: Urban Gardening in Berlin - Environmental Education and Best practice

05-09/ 08/ 2019	MON 05	TUE 06	WED 07	THU 08	FRI 09
9.00 am – 10.30 am	Field Trip - Tempelhofer Feld - from City Airport to a growing Urban Park Landscape - Community Gardening Allmende-Kontor (Ex) PD Dr. Elisabeth Meyer-Renschhausen, Dipl.-Ing V. Minks		Field Trip - Climatic Garden Maxim - Urban Youth Educational Project (Ex) M.Sc. E. Foos, Evelin Reichelt, Maxim Team, Dipl.-Ing V. Minks		
10.30 – 11.00	Break		Break		
11.00 am – 12.30 pm	Field Trip - Tempelhofer Feld - Allmende-Kontor – the History of the Urban Gardening Movement (Sem) PD Dr. Elisabeth Meyer-Renschhausen, Dipl.-Ing V. Minks		Field Trip - Climatic Garden Maxim - Urban Youth Educational Project (Ex) M.Sc. E. Foos, Evelin Reichelt, Maxim Team, Dipl.-Ing V. Minks		
1.30 pm – 4.30 pm				Field Trip - Allotment Gardens in Berlin – Gartenkolonie Rehberge (Ex) Mr. K. Schrage - Bezirksverband Wedding der Kleingärtner e.V., Dipl.-Ing. H. Handtke, Dipl.-Ing. V. Minks	

(L) – Lecture, (Sem) – Seminar, (Ex) - Excursion

Once a week we offer an additional cultural or social activity outside the classroom



4th week Seminar: Ecological Design Systems - Students Presentations and Evaluation

12-16/ 08/ 2019	MON 12	TUE 13	WED 14	THU 15	FRI 16
9.00 am – 10.30 am	Permaculture - An Alternative Planning Method in Urban Gardening - Principles of Permaculture - Part 1 (L) PD.Dr. H. Hoffmann – Room 206		Student Presentations (Examination) PD.Dr. H. Hoffmann, Dr. C. Oschmann, Dipl.-Ing. V. Minks, Raum 206		FAREWELL PARTY
10.30 – 11.00	Break		Break		
11.00 am – 12.30 pm	Explore the Philosophy of Permaculture in the Nature - Field Experience - Part 2 (Sem) PD.Dr. H. Hoffmann		Student Presentations (Examination) PD.Dr. H. Hoffmann, Dr. C. Oschmann, Dipl.-Ing. V. Minks		
1.30 pm – 4.30 pm					

(L) – Lecture, (Sem) – Seminar, (Ex) - Excursion

Once a week we offer an additional cultural or social activity outside the classroom