HU WISU
Humboldt Winter and Summer University

Land in the City - Green in the City

14 July – 08 August 2025

CATEGORY Metropolitan Studies & Urban Development

COURSE STRUCTURE

You will receive a total of **45 hours of academic lessons** (one lesson equals 45 minutes; 15 hours per week). Lessons will comprise lectures, group work, discussion sessions, and excursions.

WEEKLY SCHEDULE

HUWISU courses are grouped into different time tracks. Your course will take place in **Track B**

Monday: 9.00 am – 10.30 am & 11.00 am – 12.30 pm
Wednesday: 9.00 am – 10.30 am & 11.00 am – 12.30 pm
Thursday: 1.30 pm – 3.00 pm & 3.30 pm – 5.00 pm

COURSE LANGUAGE

This course is taught in **English**, including the readings. For the understanding of the texts and the discussions in class, a language-level of B2 (Common European Framework of Reference for Languages) is required.

TARGET GROUP

This course is designed **for undergraduate students of all subjects** with a strong interest in urban planning, ecological, environmental, cultural and agricultural topics.

CREDITS & CERTIFICATES

Participants will receive **6 ECTS** credit points and a certificate if they attend regularly (at least 80% attendance), participate actively and fulfil all course assignments. Additionally, six weeks after the end of the course a Transcript of Records is issued by Humboldt-Universität zu Berlin. All courses are accredited according to the European Credit Transfer System (ECTS).

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CULTURAL ACTIVITIES

You are invited to **join our cultural and social program**. We offer a fine selection of interesting activities that aim to give you an unforgettable stay in Berlin. Through excursions, social gatherings, and sport activities, you have the opportunity to get to know the city, the university, and to meet students from all parts of the world. **Costs for these offers are included in the program fee**. Below, you find examples of previously offered cultural activities. You will be informed about the respective cultural program shortly before the start of the program via email as well as during the course period.

POLITICAL AND HISTORICAL GUIDED TOURS

- Federal Chancellery (*Bundeskanzleramt*)
- German Parliament (*Bundestag*)
- House of Representatives (*Abgeordnetenhaus*)
- Topography of Terror exhibition
- Political Archive of the Federal Foreign Office

CULTURAL GUIDED TOURS

- Kreuzberg Tour
- Museum Island (*Museumsinsel*)
- Berlin Cathedral (*Berliner Dom*)
- Daytrip to Potsdam
- Exhibitions

SOCIAL GATHERINGS

- Welcome Session
- Beach Volleyball
- Farewell Get2gether

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 the schedule including handing them over to the lecturer.

Commitment in class: Pay particular attention to the lecturer and respect differences of opinions (classmates', lecturers').

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.

Attendance policy: No unexcused absences are permitted. Students must follow teachers` instructions to catch up on missed work – to excuse absence please contact the HUWISU office.

COURSE DESCRIPTION

Explore and learn about urban plants and planting. Within intensive industrialization and urbanization the urban green areas were lost in many cities. The result of life-threatening exploitation of natural resources, harmful production and consumption is the essential loss of biodiversity and promotion of climate change. Transformation is necessary to address the climate crisis and motivate investment in green infrastructure.

So how do we drive and fund these processes – we will look at new concepts like green and sustainable cities, bioeconomy, ESG and carbon credits and markets as part of the answer. Now in cities, especially Megacities with increasing environmental problems, lack of farmland and food supply, gardens can find the way back to urban dwellers and into the cities. The course provides academic research, institutional aspects, projects and experiences of urban gardening in theory and practice for future decision-makers in the fields of urban design and planning, civil engineering, architecture and landscape architecture as well as for students from administration, politics and legislation.

Exploring the urban fauna and flora of Berlin, the Students will get in touch and gaining knowledge, about the meaning of nature and biodiversity, but also of the meaning of biodiversity hotspots in the world. The importance to protect nature and green areas inside and outside of cities. The many forms of greening as well as food production in Berlin, both indoors and outdoors in the context of garden culture and movement, classic gardens, forests and new innovative vertical and horizontal green areas. According to the Agenda 2030 with the 17 sustainability goals, should architecture, engineering, politics, industry, agriculture and urban development work together for more green spaces to create resilient cities.

The classes will deal with the history of urban agriculture and garden cultures for example in the old Persian world and the ancient cultures of Mayas, Aztecs and Incas, as well as in North and South America, and Europe. In the classes will be discussed the current role and future of urban agriculture and horticulture in the world, especially in Berlin.

The course will identify and show examples of the ecological, economical and social functions of urban agriculture and horticulture in large cities and discusses the institutional aspects, the protection and the creation of green spaces and innovative green infrastructure. The seminars, lectures and field trips will offer specific skills, tools and know-how to manage urban design and environment sustainable, in particular to deal with food production, energy, housing, transport, water and recycling management. Meet experts of urban agriculture and horticulture projects in Berlin, such as green roof and walls, allotment gardens, community gardens and market oriented urban farms (vegetable, fish and algae production). Explore different ways, instruments and conservation measures to protect and create urban green infrastructure.

COURSE OBJECTIVES AND LEARNING OUTCOMES

- 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, design, 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;
- addresses the issues of ecological challenges, decision making and responsibilities in urban development, politics and as citizen;
- skills to learn, observe, draw, and work scientifically with interest and enjoyment in mixed groups with students from different countries from all over the world to prepare a paper and a presentation on a topic on green cities.

READINGS

Reading materials will be available via Moodle during the course.

Suggested:

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

ALTIERI, M. A. COMPANIONI, N. CAÑIZARES, K. MURPHY, C. ROSSET, P. BOURQUE, M. NICHOLLS, C. I. The greening of the "barrios". Urban agriculture for food security in Cuba. Agriculture and Human Values, v. 16, n. 2, p. 131-140, 1999.

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

Bosso, Ch. (2017): Feeding cities. improving local food access, security, and resilience. Routledge. New York.

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

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

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.

Fruehauf, A.; Afonso Sandre, A.; Magda Lombardo, M.; Pellegrino, P. (2023): Urban Trees in the Metropolitan Region of São Paulo: A Study of Geodesign and Ecosystem Services. DOI: 10.5772/intechopen.1001470.

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.

Müller, Christa (2012): Practicing Commons in Community Gardens: Urban Gardening as a Corrective for Homo Economicus. Published in: Bollier, David/Helfrich, Silke (Editors): The Wealth of the Commons. A World beyond Market and State, 219-224, Amherst 2012

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.

SMDU; Massambani, O.; Minks, V. (2012): Building Sustainable Cities - Synthesis of C40 Sao Paulo Climate Summit 2011. https://www.prefeitura.sp.gov.br/cidade/secretarias/upload/chamadas/c40_cidades-sustentaveis_22x26_1359741170.pdf

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

UN (2015): Revision of World Urbanization Prospects.

UN (2016): The 2030 Agenda for Sustainable Development.

The UN Environment Programm (UNEP)

Zachos, F. E.; Habel, J. Ch. (2011): Biodiversity Hotspots: Distribution and Protection of Conservation Priority Areas 2011. Springer. Heidelberg/New York.

ASSIGNMENT INFO

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.

4. focusing and research for information on a specific area with different methods,
5. writing and then presenting the group work, in front of the class and other professors.

The final grade will be composed of:

- Active 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 (10%: a minimum of 80% attendance rate is required). Failure to fulfill one of the mentioned components results in failure of the class.

YOUR INSTRUCTOR

Mr. Volker Minks holds a doctor degree of science of the Universidade de Sao Paulo (USP) and a master's degree in agricultural engineering from Humboldt Unversität zu Berlin with specialization in urban gardening, landscape design and sustainable urban planning. Mr. Minks has worked in interdisciplinary research projects in the areas of urban agriculture and horticulture, green technology, innovation and sustainable urban planning in Germany, the United States, Cuba, India and Brazil.

Since 2011 he has been the coordinator and lecturer for the course "Land in the City, Green in the City". He works with specialists from different fields and Professors from the Life Sciences Faculty at the Albrecht Daniel Thaer-Institute of Agricultural and Horticultural Sciences of Humboldt-Universität zu Berlin. In Brazil he is affiliated with the Escola Superior de Agricultura "Luiz de Queiroz" (ESALQ) and Faculdade de Arquitetura e Urbanismo (FAU) of the University of Sao Paulo (USP).

His research is related to the ecological, economic and social benefits of green areas and urban agriculture in big cities as ecosystems, especially in the context of adapting and mitigating climate change. In 2011 he worked as coordinator for the C40 Sao Paulo Large Cities - Climate Summit and co-produced the publication - Building Sustainable Cities. He organized cooperation between USP and Humboldt with several KOSMOS Workshops: Berlin meets Sao Paulo: Cities for all – livable and sustainable.

Since 2014 he has been a part of the Cátedra José Bonifácio of the Ibero-American Center (CIBA USP), dealing with the challenges of Latin America in the areas of international governance, trade, negotiations, security, energy, sustainable education, innovation and environment. He is part of the Global Institute for Peace (GLIP USP) at the University of Sao Paulo since 2017. Working in projects with balance of gender and diversity, sustainability and peace, green infrastructure, ESG, nature as well with the indigenous populations to promote preservation of biodiversity, food security and culture.

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COURSE SCHEDULE - 14 July – 08 August 2025

WEEK 1
Introduction, History and Current Role of Urban Agriculture and Horticulture, Garden Cultures and the Green Urban Design Network

Course introduction

Presentation of Topics

Presentation of Students

Logistics

Introduction to Green, Biodiversity and the History and current Role of urban Agriculture and Horticulture (Lecture)

The ability to grow crops has changed the way of life for humankind. 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 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 densely 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.

Group work – topics and formation of mixed groups – first structure

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

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 an 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

Working Group Formation

Exercise – Choose a topic from the program search for 2 academic articles. present in class 2 min - subject, content, importance methodology

Land Use Plan and City Models of Berlin - Senatsverwaltung für Stadtentwicklung Berlin (Excursion)

The gray, blue and green infrastructure must be integrated into urban development in a sustainable and ecological way. Streets and buildings, urban greenery and water areas form the working and living space for people, as well for flora and fauna in the city. The maintenance of water and green areas reduces the risk of catastrophe and health problems, such as flooding. The task of future urban development is therefore to link different land uses and to integrate an overall ecological concept - such as the Land Use Plan and the Open Space System of Berlin. 44 % - Green Spaces and Waterways - more than 2500 public green spaces and recreational spaces - 6400 hectares in total.

The long-term **Landscape Program** includes the **Nature Conservation Program** and the **Land Use Plan**. The *Berlin City Models*, maps and brochures demonstrate sustainable urban development over the last 40 years.

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

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. Since the gardens and these areas are state land, they become speculative objects with rising property prices, and their existence is constantly in danger, not only in Berlin.

Discussion: the role and future of allotment gardens in cities

Exercise – Choose an interesting concept · concern · element · fact or a term that particularly caught your attention in connection with the field trip. Draw and explain why and what it contains. (1 page)

WEEK 2

Research, Innovation and New Technologies in Urban Agriculture – Food Production and Greening

Introduction to research projects - the CUBES Circle and Visit (Ex)

In the future, food production will be based on connected and standardized production modules communicating with each other. Together they form the CUBES Circle. Besides population growth and climate change, urban growth is one of the largest challenges of the 21st century. Spatial and infrastructural borders between urban centers and rural areas disappear. Agricultural production needs to feed an ever-growing population. At the same time, current innovations in animal breeding and plant cultivation, as well as measures for increasing productivity are not able to compensate for the ever-diminishing cultivation area. The vision of agricultural systems of the future is based on the idea that food will be produced in connected, mutually communicating and standardized production units, the so-called CUBES. Those CUBES are the basis for a closed food production system, which overcomes the weaknesses of earlier agricultural production systems by using ISO-standards, stackable units and a bio-cybernetic regulation approach. At the same time, the system integrates easily into the urban future. Due to its mobile nature, adaptability to a changing environment and an inherent scalability, the CUBES can be implemented in urban, rural and even desertified sites. Principles of closed cultivation methods will be integrated into a new process chain and the individual elements of the chain are intelligently connected and regulated. Thereby, synergies like the „Triple Zero®" concept can be used, enabling a production without additives and avoiding emissions and waste.

Introduction to research projects on FYTA- Sensors, Hyperspectral Imaging - Cultivation, Conditioning and use of ornamental Plants (L)

Aquaculture and Aquaponic Gardening - An Introduction to Theory and Practice

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 (Field trip)

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 siences.

Cultivation, Conditioning and Use of Ornamental Plants in Urban Centers (Lecture)

The class introduce students to research activities of horticultural and crop sciences. It involves horticulture plant systems, plant quality and product range development of new ornamental

plants for outdoor and indoor gardens. Students learn about the cultivation, propagation and conditioning of ornamental plants, as well about the development of new greening solutions, to be used sustainable and economical in and on buildings. The class explains the complex problems of growing plants in urban areas, using them effectively, and maintaining their long-term health and functional values.

Introduction to Bio-Invitro, FYTA- Sensors, Hyperspectral Imaging - Cultivation, Conditioning and use of ornamental Plants (Lectures/Field trip)

FYTA Beam - Hyperspectral Imaging - The ornamental plant range offers a wide range of different species and varieties from different origins. For many inexperienced consumers, this can lead to cultivation errors and ultimately to the death of the plants when fulfilling the species-specific requirements. On the other hand, the plants are often only seen as inanimate objects or decorations, which creates a certain throwaway mentality among many consumers. The Berlin start-up company FYTA GmbH has set itself the goal of actively supporting people in caring for their plants and also educating them about the basics of ornamental plant cultivation. The long-term survival of the plants should be supported and promoted through positive experiences and an active examination of the plants. This should be made possible by a newly developed plant sensor (FYTA Beam), which is intended to monitor the key growth parameters light, ambient temperature, substrate moisture and salt content in the substrate. If limit values are exceeded, the user is informed via smartphone-supported software and can then take appropriate action based on recommended actions. The Humboldt University of Berlin supports FYTA GmbH with scientific monitoring of the project.

CUBES Circle - in the future, food production will be based on connected and standardized production modules communicating with each other. Besides population growth and climate change, urban growth is one of the largest challenges of the 21st century. Agricultural production needs to feed an ever-growing population. At the same time, current innovations in animal breeding and plant cultivation, as well as measures for increasing productivity are not able to compensate for the increasing scarcity of cultivation areas. The vision of agricultural systems of the future is based on the idea that food will be produced in connected, mutually communicating and standardized production units, the so-called CUBES. Those CUBES are the basis for a closed food production system, which overcomes the weaknesses of earlier agricultural production systems by using ISO-standards, stackable units and a bio-cybernetic regulation approach. Due to its mobile nature, adaptability to a changing environment and an inherent scalability, the CUBES can be implemented in urban, rural and even desertified sites. Principles of closed cultivation methods will be integrated into a new process chain and the individual elements of the chain are intelligently connected and regulated. Thereby, synergies like the „Triple Zero®" concept can be used, enabling a production without additives and avoiding emissions and waste.

Discussion: the revolution of food production - chances and challenges

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

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 (Excursion)

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.

Exercise – Choose an interesting concept · concern · element · fact or a term that particularly caught your attention in connection with the field trip. Draw and explain why and what it contains. (1 page)

MINT Engineering - First Building-Integrated Algae Plant Berlin (Field Trips)

Algae – produced in new plant systems - integrated on house facades and indoor for use as food and for cosmetics. Algae are considered the raw material of the 21st century.

It is estimated that there are around 73,000 different types of algae - very few of them have been scientifically researched. For the most part, it is algae from aquaculture or algae farms.

Urban algae cultivation is an integral part of the concepts and techniques of vertical farming, and the smart city strategy of the State of Berlin. The concept of the EUREF campus "Intelligent City" aims to implement sustainable urban development.

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

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 challenges

Group work – present topic, structure and content

WEEK 3

Urban Gardening in Berlin - Environmental Education and Best Practice

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

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

Exercise – Choose an interesting concept · concern · element · fact or a term that particularly caught your attention in connection with the field trip. Draw and explain why and what it contains. (1 page)

Climatic Garden Maxim - Urban Youth Educational Project (Lecture & Excursion)

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

Exercise – Choose an interesting concept · concern · element · fact or a term that particularly caught your attention in connection with the field trip. Draw and explain why and what it contains. (1 page)

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

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

Exercise – Choose an interesting concept · concern · element · fact or a term that particularly caught your attention in connection with the field trip. Draw and explain why and what it contains. (1 page)

WEEK 4

Ecological Agricultural and Design Principles by Permaculture - Students Presentations and Evaluation

Permaculture - An Alternative Planning Method in Urban Gardening - Principles of Permaculture (Lecture & Excursion)

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