M O D U L E H A N D B O O K

Urban Agglomerations

Master of Science (M.Sc.) Faculty 1: Architecture · Civil Engineering · Geomatics

Edition 16 June 2014

Table of Contents

.

1. Qual	ification of the Programme	3
2. Reco	ommended Study Programme	4
3. Modu	ule and ECTS Overview	5
4. Modu	ules	
UA 1	Urban Planning and Development	6
UA 2	Urban Culture and Governance	11
UA 3	GIS and Remote Sensing	15
UA 4	Scientific Methods and Academic Skills	18
UA 5	Deutsche Sprache und Kommunikation	21
UA 6	Interdisciplinary Project Work	23
UA 7	Urban Infrastructure	25
UA 8	Urban Ecology and Environment	30
UA 9	International Exchange Course	34
UA 10	Master Thesis	35

1. Qualification of the programme

The Master Course "Urban Agglomerations" (M.Sc.) offers an international and interdisciplinary formation in sustainable planning, development, management and operation of cities and urban agglomerations. Graduates achieve the following qualifications:

• a broad intercultural perception of urban problems, experiences and practices as well in developed as in developing countries,

• a knowledge of theories and practice, of instruments, and of physical, functional, and infrastructural concepts for urban and city-regional development,

• a knowledge of theories and practice for planning, design, and management of technical infrastructure in urban agglomerations,

• the capacity and methodologies to collect, to analyse and to present information necessary for decision-making

- a broad understanding of project organisation and project management from a scientific as well as a practical point of view,
- the ability to understand, formulate and critically evaluate central concerns of intercultural aspects of urbanisation, of migration, segregation, globalisation,
- a comprehension of various approaches to public participation in urban processes

• the ability to approach and to solve complex urban problems in interdisciplinary teams, in cooperation with local authorities, planning departments, and city-regional corporations.

The Master Programme has an integrated international component with a compulsory International Exchange Course (30 ECTS) at an international partner university.

The degree qualifies for positions in the following fields: public and private services, urban and regional authorities, development corporations, freelance consultants, real estate agencies, research institutes, and others operating in planning, development, management and operation of cities urban agglomerations.

The degree qualifies to apply for admission to doctoral studies.

2. Recommended study programme

Semester 1 (30 ECTS)	UA 1 Urban Planning and Development 10 ECTS	UA 2 Urban Culture and Governance 10 ECTS	UA 3 GIS and Remote Sensing 5 ECTS	UA 4 Scientific Methods and Academic Skills	UA 5 Deutsche Sprache und Kommuni- kation
Semester 2 (30 ECTS)	UA 6 Interdisciplinary Project Work 10 ECTS	UA 7 Urban Infrastructure 10 ECTS	UA 8 Urban Ecology and Environment 5 ECTS	5 ECTS	5 ECTS
Semester 3 (30 ECTS)		UA 9 International Excha 30 ECTS	nge Course		
Semester 4 (30 ECTS)		UA 10 Master The 30 ECTS	sis		

3. Module and ECTS overview

Number	Module Title	ECTS	Duration (in sem.)	Examination of the module	Language
UA 1	Urban Planning and Development	10	1	Project work (12 weeks) and colloquium (min. 20, max. 30 minutes)	English
UA 2	Urban Culture and Governance	10	1	Written assignment (8 weeks)	English
UA 3	GIS and Remote Sensing	5	1	Written exam (150 minutes)	English
UA 4	Scientific Methods and Academic Skills	5	2	Written assignment (8 weeks), partial exam (50%) Oral presentation, partial exam (50%)	English
UA 5	Deutsche Sprache und Kommunikation	5	2	Klausur (150 Minuten) Teilprüfung (50%) Mündliche Prüfung Teilprüfung (50%)	Deutsch
UA 6	Interdisciplinary Project Work	10	1	Project work (12 weeks) and colloquium (min. 20, max. 30 minutes)	English
UA 7	Urban Infrastructure	10	1	Written assignment (8 weeks)	English
UA 8	Urban Ecology and Environment	5	1	Project work (12 weeks) and colloquium (min. 20, max. 30 minutes)	English
UA 9	International Exchange Course	30	1	Depending on the requirements at the partner university	English
UA 10	Master Thesis	30	1	Master Thesis (18 weeks) and colloquium (min. 30, max. 60 minutes)	English

Module title	Urban Planning and Development
Module number	UA 1
Study programme	Urban Agglomerations M.Sc.
Module code	
Units	UA 1.1 UA 1.2 UA 1.3 UA 1.4
Level	Advanced level course
Applicability of the module to other study programmes	Urban Agglomerations
Duration of the module	1 semester
Status of the module	Compulsory module
Recommended semester during the study programme	1
Credit points (Cp) of the module	10 ECTS
Prerequisites for module participation	None
Recommended contents of previous modules	None
Prerequisites for module examination	None
Module examination	Project work (12 weeks) and colloquium (min. 20, max. 30 minutes)
Intended learning outcomes / Acquired competences	Professional qualificationsFamiliarity with trends, characters and problems of global urbanisationAwareness of social, cultural, economic as well as geographic diversity in urbanisation and housing development worldwideKnowledge of theory and practice, of instruments and of physical, functional and infrastructural concepts for urban and city-regional developmentUnderstanding of key problems confronting urban development today and of fundamental approaches of how to develop more ecologically oriented citiesUnderstanding of the concept of Inclusion in the urban planning process and awareness of Universal Design, its theory and practical application in a city- regional contextKey qualificationsCapacity of critical and reflected argumentationFamiliarity with and respect for intercultural diversityCapacity to structure and develop a given project assignmentBasic competences of data analysis, research and academic writing Presentation and communication skillsUrbanization and Housing in a Global Context
	Urban and City-regional Development Sustainable Cities Inclusive Cities and Universal Design
reaching methods of the module	Lectures, seminar, written assignments, project work, field trips
I otal workload	
Language of the module	
Frequency of the module	Once a year
Module coordination	Prof. Dr. Michael Peterek
Further information	

Name of the unit	UA 1.1 Urbanisation and Housing in a Global Context
Code	
Corresponding module	UA 1 Urban Planning and Development
Lecturer	Prof. Dr. Katrin Golda-Pongratz
Contents of the unit	Theories, models, trends, and processes of worldwide urbanization and urban development Characters and typologies of cities and urban agglomerations in different regions and continents Newly emerging developments, processes and typologies of formal and informal settlements and housing provision Case-studies of selected urban agglomerations and megacities world- wide
Teaching methods	Lectures, seminar, readings, discussions
Contact hours per week (SWS)	2 SWS
Total workload of the unit (h)	75 h
Total time of contact hours (h)	30 h
Total time of examination incl. preparation (h)	25 h
Total time of practical training (h)	
Total time of self-study (h)	20 h
Language of the unit	English
Recommended reading	 Brenner, N. and Keil, R. (eds) (2006) <i>The Global Cities Reader</i>. Routledge, London Brugmann, J. (2009) <i>Welcome to the Urban Revolution. How Cities are Changing the World</i>. Bloomsbury Press, New York et al Burdett, R. and Sudjic, D. (2011) <i>Living in the Endless City</i>. Phaidon, Berlin & London Burdett, R. and Sudjic, D. (2008) <i>The Endless City</i>. Phaidon, Berlin & London Gilbert, A. (ed) (1996) <i>The Mega-city in Latin America</i>. United Nations University Press, Tokyo Jenkins, P. et al (eds) (2007) <i>Planning and Housing in the Rapidly Urbanising World</i>. Routledge, London TRIALOG. A Journal for Planning and Building in the Third World Turner, John F.C. (1976) <i>Housing by People: Towards Autonomy in Building Environments</i>. Marion Boyars Publishing, London UN-Habitat (2003) <i>The Challenge of Slums</i>. Earthscan, London
Type and form of assessment	Project work (12 weeks) and colloquium (min. 20, max. 30 minutes)
Grading of the assessment	Differentiated grading (1,0 to 4,0)
Further information	

Name of the unit UA 1.2 Urban and City-regional Development Code Corresponding module UA 1 Urban Planning and Development Lecturer Prof. Dr. Michael Peterek Contents of the unit Demographic, economic, social and cultural trends as driving-forces of urban and city-regional development Models, theories and practice of urban development since the period of industrialization Potentials and strategies of urban renewal and brownfields conversion The making of city-regions, their functions, image and morphologies Contemporary key-projects, best practices and innovative approaches to urban and city-regional development in Germany and Europe Teaching methods Lectures, seminar, readings, presentations, excursions 2 SWS Contact hours per week (SWS) Total workload of the unit (h) 75 h Total time of contact hours (h) 30 h 25 h Total time of examination incl. preparation (h) Total time of practical training (h) -----Total time of self-study (h) 20 h Language of the unit English Recommended reading Bacon, E. (1976) Design of Cities. Harmondsworth, Middlesex Benevolo, L. (1980) *History of the City.* MIT Press. [German Edition: (2000) Die Geschichte der Stadt. Campus Verlag, Frankfurt am Main] Chen, X. et al (2013) Introduction to Cities. How Place and Space shape Human Experience. Wiley-Blackwell, Chicester Fainstein, S. and Campbell, S. (ed) (2012) Readings in Planning Theory. Wiley-Blackwell, Chicester Gaines, J. and Jäger, S. (2009) A Manifesto for Sustainable Cities: Think Local, Act Global / Albert Speer & Partner. Prestel, München Hall, P. (2002) Urban and Regional Planning. Routledge, London Jacobs, J. (1961) The Death and Life of Great American Cities. Random House, New York Jessen, J. et al (2008) stadtmachen.eu: Urbanity and the Planning Culture in Europe. Karl Krämer Verlag, Stuttgart Landry, C. (2001) The Creative City – A Toolkit for Urban Innovators. Earthscan, London LeGates, R.T. (ed) (2011) The City Reader. Routledge, London Type and form of assessment Project work (12 weeks) and colloquium (min. 20, max. 30 minutes) Differentiated grading (1,0 to 4,0) Grading of the assessment Further information

Name of the unit **UA 1.3 Sustainable Cities** Code Corresponding module UA 1 Urban Planning and Development Lecturer Prof. Jeff Kenworthy PhD Contents of the unit The concept of sustainability, its history and its relationship to cities A transport and urban form history of cities Understanding automobile dependence Problems of automobile dependence Energy use in transport and the "peak oil problem" Traditional transport planning critique and new approaches Best practice in public transport and non-motorised modes New urbanism - the search for alternatives to urban sprawl Transit-oriented development The central city, human design and the role of public space Some case studies in more sustainable cities Teaching methods Lectures, seminar Contact hours per week (SWS) 3 SWS Total workload of the unit (h) 110 h 45 h Total time of contact hours (h) 35 h Total time of examination incl. preparation (h) Total time of practical training (h) ----Total time of self-study (h) 30 h Language of the unit English Recommended reading Beatley, T. (2000), Green Urbanism: Learning from European Cities. Island Press, Washington DC Calthorpe, P. and Fulton, W. (2001) The Regional City: Planning for the End of Sprawl. Island Press, Washington DC Gehl, J. and Rogers, R. (2010) Cities for People. Island Press, Washington, DC Newman, P. and Jennings, I. (2008) Cities as Sustainable Ecosystems: Principles and Practices. Island Press, Washington DC Newman, P. and Kenworthy, J. (1999) Sustainability And Cities: Overcoming Automobile Dependence. Island Press, Washington, DC Schiller, P., Bruun, E. and Kenworthy, J. (2010) An Introduction to Sustainable Transportation: Policy, Planning and Implementation. Earthscan, London Voynovic, I. (ed) (2013) Urban Sustainability. A Global Perspective. Michigan State University Press, East Lansing Type and form of assessment Project work (12 weeks) and colloquium (min. 20, max. 30 minutes) Grading of the assessment Differentiated grading (1,0 to 4,0) Further information

Name of the unit	UA 1.4 Inclusive Cities and Universal Design
Code	
Corresponding module	UA 1 Urban Planning and Development
Lecturer	DiplIng. Caroline Günther M.Sc.
Contents of the unit	Demographic challenges of the cities in the future Analysis of the meaning of Inclusion and Universal Design Qualities of urban districts and neighbourhoods in terms of inclusion Standards and legal regulations Differences between developed and developing cities Looking at the cities potentials and future perspectives
Teaching methods	Lectures, seminar, excursions
Contact hours per week (SWS)	1 SWS
Total workload of the unit (h)	40 h
Total time of contact hours (h)	15 h
Total time of examination incl. preparation (h)	15 h
Total time of practical training (h)	
Total time of self-study (h)	10 h
Language of the unit	English
Recommended reading	A reading list will be communicated at the beginning of the course.
Type and form of assessment	Project work (12 weeks) and colloquium (min. 20, max. 30 minutes)
Grading of the assessment	Differentiated grading (1,0 to 4,0)
Further information	

Module title	Urban Culture and Governance
Module number	UA 2
Study programme	Urban Agglomerations M.Sc.
Module code	
Units	UA 2.1 UA 2.2 UA 2.3
Level	Advanced level course
Applicability of the module to other study programmes	Urban Agglomerations
Duration of the module	1 semester
Status of the module	Compulsory module
Recommended semester during the study programme	1
Credit points (Cp) of the module	10 ECTS
Prerequisites for module participation	None
Recommended contents of previous modules	None
Prerequisites for module examination	None
Module examination	Written assignment (8 weeks)
Intended learning outcomes / Acquired competences	Professional qualificationsAbility to understand, formulate and critically evaluate the central concerns of social and intercultural aspects of urbanization, urbanity and diversity, identity and place, including the ongoing demographic changes and the effects of a globalizing worldKnowledge of different international, national and local models and transdisciplinary approaches to city-regional organization and planning, concepts of governance and administration, legal instruments, financial tools, future challengesKnowledge of problems, potentials, strategies and instruments of land
Contents of the module	Social and Cultural Challenges of Cities Urban and City-regional Governance Practice and Instruments of Land Management
Teaching methods of the module	Lectures, seminar, readings, discussions, presentations
Total workload	300 hours
Language of the module	English
Frequency of the module	Once a year
Module coordination	Prof. Dr. Kathrin Golda-Pongratz
Further information	

Name of the unit	UA 2.1 Social and Cultural Challenges of Cities
Code	
Corresponding module	UA 2 Urban Culture and Governance
Lecturer	Prof. Dr. Therese Neuer-Miebach
Contents of the unit	Theories on cities and urban agglomerations Demography, social structure and urban development Effects of globalisation and migration on urban agglomerations The reciprocal socio-spatial relationship: segregation and marginalisation processes Citizenship, identity, diversity and the role of place in urban settings
Teaching methods	Lectures, seminar, discussions, presentations
Contact hours per week (SWS)	3 SWS
Total workload of the unit (h)	120 h
Total time of contact hours (h)	45 h
Total time of examination incl. preparation (h)	30 h
Total time of practical training (h)	
Total time of self-study (h)	45 h
Language of the unit	English
Recommended reading	 Brenner, N. and Keil, R. (eds) (2006) <i>The Global Cities Reader</i>. Routledge, London Fainstein, S. and Campbell, S. (ed) (2011) <i>Readings in Urban Theory</i>. Wiley-Blackwell, Chicester Harvey, D. (2009) <i>Social Justice and the City</i>. University of Georgia Press, Athens (Georgia) Lees, L. et al (2010) <i>The Gentrification Reader</i>. Routledge, London. Sassen, S. (2001) <i>The Global City</i>. Princeton University Press, New York et al
Type and form of assessment	Written assignment (8 weeks) with 45 % valence of total module assessment
Grading of the assessment	Differentiated grading (1,0 to 4,0)
Further information	

Name of the unit	UA 2.2 Urban and City-regional Governance
Code	
Corresponding module	UA 2 Urban Culture and Governance
Lecturer	Prof. Dr. Kathrin Golda-Pongratz
Contents of the unit	Legal, administrative and financial framework of city-regions and urban agglomerations Models of governance of cities and urban agglomerations Actors and stake-holders in the planning process Public-private-partnership and project management on the city-regional scale New actors, NGOs, Community-Based Organisations and public participation Future challenges of regional governance
Teaching methods	Lectures, seminar, readings, discussions, excursions
Contact hours per week (SWS)	2 SWS
Total workload of the unit (h)	90 h
Total time of contact hours (h)	30 h
Total time of examination incl. preparation (h)	25 h
Total time of practical training (h)	
Total time of self-study (h)	35 h
Language of the unit	English
Recommended reading	 Angel, S., Parent, J., Civco D.L. and A. M. Blei (2010) Atlas of Urban <i>Expansion</i>. Lincoln Institute of Land Policy, Cambridge (MA) Birch, E. (2008) <i>The Urban and Regional Planning Reader</i>. Routledge Urban Readers Series, London Sieverts, T. (2003) <i>Cities without cities: An interpretation of the Zwischenstadt</i>. Spon Press, London. Simmonds, R. and Hack, G. (2000) <i>Global City Regions: Their Emerging Forms</i>. Spon Press, London Soja, Edward W. (2006) <i>Postmetropolis: Critical Studies of Cities and Regions</i> [Reprint.]. Blackwell, Oxford Ruble, B.A., Stren, R., Tulchin, J.S. and Varat, D.H. (eds.) (2001) <i>Urban Governance around the World</i>. Woodrow Wilson International Center for Scholars, Washington DC
Type and form of assessment	Written assignment (8 weeks) with 27,5 % valence of total module assessment
Grading of the assessment	Differentiated grading (1,0 to 4,0)
Further information	

Name of the unit	UA 2.3 Practice and Instruments of Land Management
Code	
Corresponding module	UA 2 Urban Culture and Governance
Lecturer	Prof. Dr. Fabian Thiel
Contents of the unit	Legal instruments, hierarchies and procedures of regional and urban planning and land management Land management and land administration processes Land Policy Strategic land management Property rights and social responsibility in an international perspective
Teaching methods	Lectures, seminar
Contact hours per week (SWS)	2 SWS
Total workload of the unit (h)	90 h
Total time of contact hours (h)	30 h
Total time of examination incl. preparation (h)	25 h
Total time of practical training (h)	
Total time of self-study (h)	35 h
Language of the unit	English
Recommended reading	 Cole, D. H. and Ostrom, E. (eds.) (2012) Property in Land and Other Resources. Lincoln Institute of Land Policy, Cambridge (MA) Deininger, K. (2003) Land Policies for Growth and Poverty Reduction. The World Bank research report. Washington DC George, H. (1879) Progress and Poverty. Robert Schalkenbach Foundation, Reprint 1940, New York Gray, K. and Gray, S. F. (2008) Elements of Land Law, 5th edition. Oxford University Press, Oxford Priemus, H. (ed) (2007) Land Use Planning. Elgar, Cheltenham Williamson, I., Enemark, S., Wallace, J. and Rajabifard, A. (2010) Land Administration for Sustainable Development. Redlands (CA)
Type and form of assessment	Written assignment (8 weeks) with 27,5 % valence of total module assessment
Grading of the assessment	Differentiated grading (1,0 to 4,0)
Further information	

Module title	GIS and Remote Sensing
Module number	UA 3
Study programme	Urban Agglomerations M.Sc.
Module code	
Units	UA 3.1 UA 3.2
Level	Advanced level course
Applicability of the module to other study programmes	Urban Agglomerations
Duration of the module	1 semester
Status of the module	Compulsory module
Recommended semester during the study programme	1
Credit points (Cp) of the module	5 ECTS
Prerequisites for module participation	None
Recommended contents of previous modules	None
Prerequisites for module examination	None
Module examination	Written exam (150 minutes)
Intended learning outcomes /	Professional qualifications
Acquired competences	Knowledge of theory and practice of Geographical Information Systems (GIS) within the context of urban agglomerations
	Understanding the key concepts of Remote Sensing, the efficient selection, pre-processing and classification of Remote Sensing data
	Knowledge of the optimal analysis of image data for purposes of urban and city-regional development
	Key qualifications
	General IT competences
	Ability to capture, visualize and interpret digital data
Contents of the module	GIS Remote Sensing
Teaching methods of the module	
Total workload	
Frequency of the module	Unce a year
Module coordination	Prof. Dr. René Thiele
Further information	

Name of the unit	UA 3.1 GIS
Code	
Corresponding module	UA 3 GIS and Remote Sensing
Lecturer	Prof. Dr. René Thiele
Contents of the unit	Concepts of GIS, combining data from different sources, interaction, applications Converting data to information GIS practical applications for urban agglomerations
Teaching methods	Lectures, exercises
Contact hours per week (SWS)	3 SWS
Total workload of the unit (h)	110 h
Total time of contact hours (h)	45 h
Total time of examination incl. preparation (h)	25 h
Total time of practical training (h)	
Total time of self-study (h)	40 h
Language of the unit	English
Recommended reading	A reading list will be communicated at the beginning of the course.
Type and form of assessment	Written exam (150 minutes)
Grading of the assessment	Differentiated grading (1,0 to 4,0)
Further information	

Name of the unit **UA 3.2 Remote Sensing** Code Corresponding module UA 3 GIS and Remote Sensing Lecturer Prof. Dr. Ansgar Greiwe Contents of the unit Introduction to the physical basics of remote sensing: visible and near infrared spectrum, sensors Analysis techniques: radiometric indices and supervised classification methods Lab exercises: overview of the capacity of remote sensing to identify and monitor land surfaces and environmental conditions as well as change detection in urban environments Teaching methods Lectures, exercises Contact hours per week (SWS) 1 SWS Total workload of the unit (h) 40 h Total time of contact hours (h) 15 h 10 h Total time of examination incl. preparation (h) Total time of practical training (h) ____ Total time of self-study (h) 15 h Language of the unit English Recommended reading Campbell, James B. und Wynne, Randolph H. (2011) Introduction to Remote Sensing. The Guilford Press, New York Lillesand, Thomas M., Kiefer, Ralph W. and Chipman, Jonathan W. (2008) *Remote Sensing and Image Interpretation*, 6th Edition. John Wiley and Sons, Hoboken (NJ) Schowengert, R. (2007) Remote Sensing - Models and Methods for Image Processing. Elsevier, Oxford Type and form of assessment Written exam (150 minutes) Differentiated grading (1,0 to 4,0) Grading of the assessment Further information

Module title	Scientific Methods and Academic Skills
Module number	UA 4
Study programme	Urban Agglomerations M.Sc.
Module code	
Units	UA 4.1 UA 4.2
Level	Advanced level course
Applicability of the module to other study programmes	Urban Agglomerations
Duration of the module	2 semesters
Status of the module	Compulsory module
Recommended semester during the study programme	1 + 2
Credit points (Cp) of the module	5 ECTS
Prerequisites for module participation	None
Recommended contents of previous modules	None
Prerequisites for module examination	None
Module examination	Written assignment (8 weeks), partial exam (50%)
	Oral presentation, partial exam (50%)
Intended learning outcomes / Acquired competences	Professional qualifications Profound knowledge about scientific tools and different methods of academic research Competences of academic writing and thesis development Ability to present a self-developed topic in front of a public audience Ability to moderate group meetings and public discussions Key qualifications Substantial know-how of the research, presentation and moderation related computer programmes and digital technologies
Contents of the module	Methods of Scientific Research and Academic Writing Presentation and Moderation Skills
Teaching methods of the module	Lectures, seminar, exercises
Total workload	150 hours
Language of the module	English
Frequency of the module	Once a year
Module coordination	Prof. Dr. Kathrin Golda-Pongratz
Further information	

Name of the unit	UA 4.1 Methods of Scientific Research and Academic Writing
Code	
Corresponding module	UA 4 Scientific Methods and Academic Skills
Lecturer	Prof. Jeff Kenworthy, PhD Prof. Dr. Kathrin Golda-Pongratz Dr. Ulrike Reichardt
Contents of the unit	General introduction to scientific research, including research design, research standards, project proposals, empirical research methods, such as surveys, questionnaires, working with data, map-based analytical tools Critical reading and text analysis Key elements of academic essays, projects and theses Scientific writing in style and form Working with databanks and the internet, correct referencing Ethical questions Short academic writing exercises
Teaching methods	Lectures, seminar, exercises
Contact hours per week (SWS)	2 SWS (winter semester)
Total workload of the unit (h)	100 h
Total time of contact hours (h)	30 h
Total time of examination incl. preparation (h)	30 h
Total time of practical training (h)	
Total time of self-study (h)	40 h
Language of the unit	English
Recommended reading	Booth, W.C., Colomb, G.G. and Williams, J.M. (2008) <i>The Craft of Research</i> . The University of Chicago Press, Chicago & London Denscombe, M. (2007) <i>The Good Research Guide for Small-Scale Social Research Projects</i> . Open University Press, Maidenhead Eco, U. (1977) <i>Come si fa una tesi di laurea</i> [How to Write a Thesis]. Bompiani, Milano
Type and form of assessment	Written assignment (8 weeks), partial exam (50%)
Grading of the assessment	Differentiated grading (1,0 to 4,0)
Further information	

Name of the unit	UA 4.2 Presentation and Moderation Skills
Code	
Corresponding module	UA 4 Scientific Methods and Academic Skills
Lecturer	NN
Contents of the unit	Techniques of presentation Techniques of moderation Practical exercises and training in presentation and moderation
Teaching methods	Seminar, exercises, presentations
Contact hours per week (SWS)	1 SWS (summer semester)
Total workload of the unit (h)	50 h
Total time of contact hours (h)	15 h
Total time of examination incl. preparation (h)	15 h
Total time of practical training (h)	
Total time of self-study (h)	20 h
Language of the unit	English
Recommended reading	A reading list will be communicated at the beginning of the course.
Type and form of assessment	Oral presentation, partial exam (50%)
Grading of the assessment	Differentiated grading (1,0 to 4,0)
Further information	

Modultitel	Deutsche Sprache und Kommunikation
Modulnummer	UA 5
Studiengang	Urban Agglomerations M.Sc.
Modulcode	
Units	UA 5.1
Niveaustufe / Level	Basic and intermediate level
Verwendbarkeit des Moduls	Urban Agglomerations
Dauer des Moduls	2 Semester
Status	Pflichtmodul
Empfohlenes Semester im Studienverlauf	1 + 2
Credits des Moduls	5 ECTS
Voraussetzungen für die Teilnahme am Modul	Keine
Inhaltlich erforderliche Voraussetzungen	Keine
Voraussetzungen für die Teilnahme an der Modulprüfung	None
Modulprüfung	Klausur (150 Minuten), Teilprüfung (50%) Mündliche Prüfung, Teilprüfung (50%)
Lernergebnis / Kompetenzen	Fachkompetenzen Befähigung in deutscher Sprache im beruflichen Kontext kommunizieren, lesen und schreiben zu können Überfachliche Kompetenzen Besondere Kompetenzen in verbaler Kommunikation und freiem Sprechen Präsentationsfähigkeiten
Inhalte des Moduls	Deutsche Sprache und Kommunikation
Lehrformen des Moduls	Seminar, Übungen, Präsentationen
Arbeitsaufwand (h) / Gesamtworkload des Moduls	150 Stunden
Sprache	Deutsch
Häufigkeit des Angebots	Jährlich
Modulkoordination	Prof. Dr. Michael Peterek
Hinweise	Deutsche Muttersprachler und Studierende mit bereits umfassenden Deutschkenntnissen können das Modul "Deutsche Sprache und Kommunikation" durch ein anderes Sprache- und Kommunikationsmodul ersetzen. Dazu ist die Zustimmung des Prüfungsausschusses einzuholen.

Name der Unit **UA 5.1 Deutsche Sprache und Kommunikation** Code Name des zugehörigen Moduls UA 5 Deutsche Sprache und Kommunikation Lehrende/r Sonja Altmüller (Fachsprachenzentrum) Inhalt der Unit Kommunikation in deutscher Sprache im Alltag und im beruflichen Kontext Schreiben auf Deutsch Lesen von deutschen Texten und berufsbezogenen Dokumenten Lehrform Seminar, Übungen, Präsentationen SWS der Unit 2 SWS über 2 Semester Arbeitsaufwand (h) / Workload 150 Stunden 60 Stunden Anteil der Präsenzzeit Anteil Prüfungszeit inkl. 30 Stunden Prüfungsvorbereitung Anteil Praxiszeit ----Anteil Selbststudium 60 Stunden Sprache der Unit Deutsch Basis-Literatur Die zu verwendenden Lehrbücher werden zu Beginn der Lehrveranstaltung bekannt gegeben. Art und Form des Klausur (150 Minuten), Teilprüfung (50%) Leistungsnachweises Mündliche Prüfung, Teilprüfung (50%) Differenziert (1,0 bis 4,0) Bewertung des Leistungsnachweises Hinweise

Module title	Interdisciplinary Project Work
Module number	UA 6
Study programme	Urban Agglomerations M.Sc.
Module code	
Units	UA 6.1
Level	Advanced level course
Applicability of the module to other study programmes	Urban Agglomerations
Duration of the module	1 semester
Status of the module	Compulsory module
Recommended semester during the study programme	2
Credit points (Cp) of the module	10 ECTS
Prerequisites for module participation	None
Recommended contents of previous modules	None
Prerequisites for module examination	None
Module examination	Project work (12 weeks) and colloquium (min. 20, max. 30 minutes)
Intended learning outcomes /	Professional qualifications
Acquired competences	Ability to carry out scientific work and research on a given professional topic, following a sound methodology and with respect to the different technical, social and cultural dimensions of city-regions and urban agglomerations
	Competence to work individually as well as within interdisciplinary and intercultural teams and projects, to organize individual and group project work, and to finalize the results in a scientific report and project documentation
	Key qualifications
	Capacity to structure and develop a given assignment
	Croup mederation and mediation capacities
	Competences in intercultural communication
	Leadership competences
	Project management skills
	Presentation skills
Contents of the module	Interdisciplinary Project Work
Teaching methods of the module	Seminar, project work, presentations
Total workload	300 hours
Language of the module	English
Frequency of the module	Once a year
Module coordination	Prof. Dr. Kathrin Golda-Pongratz
Further information	

Name of the unit	UA 6.1 Interdisciplinary Project Work
Code	
Corresponding module	UA 6 Interdisciplinary Project Work
Lecturer	Prof. Dr. Kathrin Golda-Pongratz Prof. Jeff Kenworthy PhD.
Contents of the unit	Systematic project work, with an either more theoretical/conceptual weight or more empirical, practical orientation, partly done in interdisciplinary groups, on selected issues out of the different fields and scales (from the neighbourhood to the region) of urban agglomerations Context analysis, formulation of project objectives and intended methodologies, collection, evaluation and synthesis of information, finalising of concepts, conclusions and recommendations, scientific
	report and public presentation of the project
Teaching methods	Seminar, project work, intermediate and final presentations
Contact hours per week (SWS)	4 SWS
Total workload of the unit (h)	300 h
Total time of contact hours (h)	60 h
Total time of examination incl. preparation (h)	180 h
Total time of practical training (h)	
Total time of self-study (h)	60 h
Language of the unit	English
Recommended reading	Depending on the specific project, recommended literature will be communicated at the beginning of the course.
Type and form of assessment	Project work (12 weeks) and colloquium (min. 20, max. 30 minutes)
Grading of the assessment	Differentiated grading (1,0 to 4,0)
Further information	Definition of the specific topic depending on the interests of the students and student groups and the particular teaching and research activities of the involved professors of "Urban Agglomerations"

Module title	Urban Infrastructure
Module number	UA 7
Study programme	Urban Agglomerations M.Sc.
Module code	
Units	UA 7.1 UA 7.2 UA 7.3 UA 7.4
Level	Advanced level course
Applicability of the module to other study programmes	Urban Agglomerations
Duration of the module	1 semester
Status of the module	Compulsory module
Recommended semester during the study programme	2
Credit points (Cp) of the module	10 ECTS
Prerequisites for module participation	None
Recommended contents of previous modules	None
Prerequisites for module examination	None
Module examination	Written assignment (8 weeks)
Intended learning outcomes /	Professional qualifications
Acquired competences	Knowledge of theories and practice of technical infrastructure in water supply and sewage systems, with a particular focus on management, operation and finance possibilities
	Knowledge of theories and practice of technical infrastructure in waste management within the context of city-regions and urban agglomerations
	Knowledge of scientific methods and practical applications for planning, design and services of transportations systems for the flowing and the parking traffic, public transport, bicycle and pedestrian traffic in city-regions
	Key qualifications
	Competences of academic writing Procontation skills
	Teamwork competences
Contents of the module	Water Management
	Wastewater Management
	Waste Management
	i raffic Management
leaching methods of the module	Lectures, seminar
lotal workload	
Language of the module	
Frequency of the module	Unce a year
Module coordination	Prof. Dr. Antje Welker
Further information	

Name of the unit	UA 7.1 Water Management
Code	
Corresponding module	UA 7 Urban Infrastructure
Lecturer	Prof. Dr. Monika Horster
Contents of the unit	Water demand and potentials to reduce demand Water sources, quality and treatment Water distribution, net types, controlling and maintaining of pipe network Health and environmental impact aspects of water pollution
Teaching methods	Lectures, seminar
Contact hours per week (SWS)	2 SWS
Total workload of the unit (h)	75 h
Total time of contact hours (h)	30 h
Total time of examination incl. preparation (h)	20 h
Total time of practical training (h)	
Total time of self-study (h)	25 h
Language of the unit	English
Recommended reading	A reading list will be communicated at the beginning of the course.
Type and form of assessment	Written assignment (8 weeks) with 25 % valence of total module assessment
Grading of the assessment	Differentiated grading (1,0 to 4,0)
Further information	

Name of the unit	UA 7.2 Wastewater Management
Code	
Corresponding module	UA 7 Urban Infrastructure
Lecturer	Prof. Dr. Carsten Dierkes
Contents of the unit	Components of sewage, sewerage systems, stormwater management Quantity of sewage and requirements of wastewater treatment, mechanical and biological treatment, sludge treatment, reuse of sewage and sludge Health and environmental impact aspects of wastewater pollution from an engineering point of view Stormwater treatment and infiltration, rainwater harvesting methods International examples of wastewater and stormwater projects
Teaching methods	Lectures, seminar
Contact hours per week (SWS)	2 SWS
Total workload of the unit (h)	75 h
Total time of contact hours (h)	30 h
Total time of examination incl. preparation (h)	20 h
Total time of practical training (h)	
Total time of self-study (h)	25 h
Language of the unit	English
Recommended reading	Butler, D. and Davies, J. (2010) <i>Urban Drainage</i> , 3 rd Edition. Spon Press, London Water Environment Federation (2012) <i>Wastewater Treatment Plant</i> <i>Design Handbook</i> . Water Environment Federation, Alexandria (USA) Aarne Vesilind, P. (2003) <i>Wastewater Treatment Plant Design</i> . IWA Publishing
Type and form of assessment	Written assignment (8 weeks) with 25 % valence of total module assessment
Grading of the assessment	Differentiated grading (1,0 to 4,0)
Further information	

Name of the unit	UA 7.3 Waste Management
Code	
Corresponding module	UA 7 Urban Infrastructure
Lecturer	Prof. Dr. Antje Welker
Contents of the unit	Type and quantities of waste Waste prevention, collection systems, recycling techniques Biological and thermal treatment, landfills
Teaching methods	Lectures, seminar
Contact hours per week (SWS)	2 SWS
Total workload of the unit (h)	75 h
Total time of contact hours (h)	30 h
Total time of examination incl. preparation (h)	20 h
Total time of practical training (h)	
Total time of self-study (h)	25 h
Language of the unit	English
Recommended reading	Hoornweg, D. and Bhada-Tata, P. (2012) <i>What a Waste: a Global</i> <i>Review of Solid Waste Management</i> , Urban Development Series, Knowledge Papers No. 15. The World Bank, Washington, D.C. [Online resource:http://documents.worldbank.org/curated/en/2012/03/165372 75/waste-global-review-solid-waste-management] Chandrappa, R. and Busan Das, D. (2012) <i>Solid Waste Management:</i> <i>Principles and Practice</i> . Springer Verlag, Berlin
Type and form of assessment	Written assignment (8 weeks) with 25 % valence of total module assessment
Grading of the assessment	Differentiated grading (1,0 to 4,0)
Further information	

Name of the unit	IIA 7 4 Traffic Management
Code	
Corresponding module	UA 7 Urban Infrastructure
Lecturer	Prof. Dr. Petra Schäfer
Contents of the unit	Traffic management systems Efficient public transport in city-regions by bus, tram, underground, railway Bicycle and pedestrian traffic Street capacities, quality of life and traffic-reducing concepts New communication technologies and traffic guidance systems Parking management, road pricing, general pricing strategies Best practices and case-studies of transport projects and policies
Teaching methods	Lectures, seminar
Contact hours per week (SWS)	2 SWS
Total workload of the unit (h)	75 h
Total time of contact hours (h)	30 h
Total time of examination incl. preparation (h)	20 h
Total time of practical training (h)	
Total time of self-study (h)	25 h
Language of the unit	English
Recommended reading	Iles, R. (2005) <i>Public Transport in Developing Countries.</i> Elsevier, Amsterdam
Type and form of assessment	Written assignment (8 weeks) with 25 % valence of total module assessment
Grading of the assessment	Differentiated grading (1,0 to 4,0)
Further information	

Module title	Urban Ecology and Environment
Module number	UA 8
Study programme	Urban Agglomerations M.Sc.
Module code	
Units	UA 8.1 UA 8. 2 UA 8.3
Level	Advanced level course
Applicability of the module to other study programmes	Urban Agglomerations
Duration of the module	1 semester
Status of the module	Compulsory module
Recommended semester during the study programme	2
Credit points (Cp) of the module	5 ECTS
Prerequisites for module participation	None
Recommended contents of previous modules	None
Prerequisites for module examination	None
Module examination	Project work (12 weeks) and colloquium (min. 20, max. 30 minutes)
Intended learning outcomes / Acquired competences	Professional qualifications Knowledge of the technical, functional, ecological and aesthetic basics of landscape and environmental development and greening in urban agglomerations
	Knowledge of theories and practice of energy supply and energy efficiency within cities
	Key qualifications
	Capacity to structure and develop a given project assignment
	Ability to organize and moderate teamwork
	Presentation and communication competences
Contents of the module	Urban and Regional Open Spaces
	Urban Climate and Environmental Management
	Energy Efficiency and Supply for Cities
Teaching methods of the module	Lectures, seminar, project work, field trips
Total workload	150 hours
Language of the module	English
Frequency of the module	Once a year
Module coordination	DiplIng. Ulla Schuch
Further information	

Name of the unit	UA 8.1 Urban and Regional Open Spaces
Code	
Corresponding module	UA 8 Urban Ecology and Environment
Lecturer	DiplIng. Ulla Schuch
Contents of the unit	Elements, functions and network systems of urban and city-regional landscapes Technical knowledge of the elements contributing to the urban and regional ecology (plants, animal, water, climate etc.) Examples and best-practices of urban and city-regional landscape and open spaces development
Teaching methods	Seminar, presentations, excursions
Contact hours per week (SWS)	2 SWS
Total workload of the unit (h)	75 h
Total time of contact hours (h)	30 h
Total time of examination incl. preparation (h)	25 h
Total time of practical training (h)	
Total time of self-study (h)	20 h
Language of the unit	English
Recommended reading	 Tate, A. (2001) <i>Great City Parks.</i> Spon Press, London Turner, T. (2007) <i>Landscape Planning and Environmental Impact Design</i>. Routledge, London Waldheim, C. (ed) (2006) <i>The Landscape Urbanism Reader.</i> Princeton Architectural Press, New York Woolley, H. (2006) <i>Urban Open Spaces.</i> Spon Press, London
Type and form of assessment	Project work (12 weeks) and colloquium (min. 20, max. 30 minutes)
Grading of the assessment	Differentiated grading (1,0 to 4,0)
Further information	

Name of the unit	UA 8.2 Urban Climate and Environmental Management
Code	
Corresponding module	UA 8 Urban Ecology and Environment
Lecturer	Prof. Dr. Martina Klärle Prof. Jeff Kenworthy PhD.
Contents of the unit	Knowledge-based methods of environmental monitoring Potentials of renewable energies in urban and regional development Green cities and green design
Teaching methods	Seminar
Contact hours per week (SWS)	1 SWS
Total workload of the unit (h)	37,5 h
Total time of contact hours (h)	15 h
Total time of examination incl. preparation (h)	10 h
Total time of practical training (h)	
Total time of self-study (h)	12,5 h
Language of the unit	English
Recommended reading	 Berg, J. (ed) (2007) <i>Environmental Planning.</i> Elgar, Cheltenham Beatley, T. (2000), <i>Green Urbanism: Learning from European Cities</i>. Island Press, Washington DC Tang, Z. (ed.) (2013) <i>Eco-City and Green Community: The Evolution of</i> <i>Planning Theory and Practice</i>. Nova Science Publishers, Hauppauge (NY)
Type and form of assessment	Project work (12 weeks) and colloquium (min. 20, max. 30 minutes)
Grading of the assessment	Differentiated grading (1,0 to 4,0)
Further information	

Name of the unit	UA 8.3 Energy Efficiency and Supply for Cities
Code	
Corresponding module	UA 8 Urban Ecology and Environment
Lecturer	Dr. Werner Neumann
Contents of the unit	Fossil and renewable energies Risks and challenges of climate change Energy demand and energy provision in cities Energy-reducing potentials and concepts for more energy efficient cities
Teaching methods	Lecture, seminar
Contact hours per week (SWS)	1 SWS
Total workload of the unit (h)	37,5 h
Total time of contact hours (h)	15 h
Total time of examination incl. preparation (h)	10 h
Total time of practical training (h)	
Total time of self-study (h)	12,5 h
Language of the unit	English
Recommended reading	Droege, P. (2008) Urban Energy Transition. From Fossil Fuels to Renewable Power. Elsevier, Amsterdam
Type and form of assessment	Project work (12 weeks) and colloquium (min. 20, max. 30 minutes)
Grading of the assessment	Differentiated grading (1,0 to 4,0)
Further information	

Module title	International Exchange Course
Module number	UA 9
Study programme	Urban Agglomerations M.Sc.
Module code	
Units	Depending on the courses offered at the chosen international partner university
Level	Advanced level course
Applicability of the module to other study programmes	Urban Agglomerations
Duration of the module	1
Status of the module	Compulsory module
Recommended semester during the study programme	3
Credit points (Cp) of the module	30 ECTS
Prerequisites for module participation	None
Recommended contents of previous modules	None
Prerequisites for module examination	Depending on the requirements at the partner university
Module examination	Depending on the examination requirements at the partner university
Intended learning outcomes / Acquired competences	Professional qualificationsDeepened knowledge in selected matters and specialized fields of urban agglomerations – such as social-cultural aspects, public participation, project management, sustainable urban and regional development, infrastructure provision, planning methods and others – depending on the selected master programme at one of the international partner universities <i>Key qualifications</i> Competences of intercultural reflection and sensibility Awareness of diversities and/or similarities of the global development
Contents of the module	Studies at a postgraduate level with contents referring to urban agglomerations, depending on the specific lectures, seminars or projects offered at the chosen partner university
Teaching methods of the module	Depending on the courses offered at the partner university
Total workload	900 hours
Language of the module	English or other, depending on the language of the programme at the partner university
Frequency of the module	Each semester
Module coordination	DiplIng. Caroline Günther, M.Sc.
Further information	The international Exchange Course and the relative exams have to be given at one of the international partner universities of "Urban Agglomerations". For further information see the relative list of partner universities and their specific course options.

Module title	Master Thesis
Module number	UA 10
Study programme	Urban Agglomerations M.Sc.
Module code	
Units	UA 10.1
Level	Advanced level course
Applicability of the module to other study programmes	Urban Agglomerations
Duration of the module	1 semester
Status of the module	Compulsory module
Recommended semester during the study programme	4
Credit points (Cp) of the module	30 ECTS
Prerequisites for module participation	Passed modules UA 1 UA 2 UA 3 UA 4 UA 5 UA 6 UA 7 UA 8 Written Report on International Exchange Course
Recommended contents of previous modules	UA 1 UA 2 UA 3 UA 4 UA 5 UA 6 UA 7 UA 8 UA 9
Prerequisites for module examination	UA 1 UA 2 UA 3 UA 4 UA 5 UA 6 UA 7 UA 8 UA 9
Module examination	Master Thesis (18 weeks) and colloquium (min. 30, max. 60 minutes)
Intended learning outcomes /	Professional qualifications
Acquired competences	Competence to carry out individual and independent scientific work on a specific topic, applying scientific methods and developing solutions with respect to the different technical, social and cultural dimensions of cities and urban agglomerations.
	Key qualifications
	Capacity to synthesize information, build new knowledge and draw conclusions to attain a higher level understanding
	Capacity to design a research proposal and to use a set of different research tools
	Academic writing skills
	Presentation and communication skills
Contents of the module	Elaboration of the Master Thesis
Teaching methods of the module	Individual research work
Total workload	900 hours
Language of the module	English
Frequency of the module	Each semester
Module coordination	Prof. Dr. Michael Peterek
Further information	

Name of the unit	UA 10.1 Master Thesis
Code	
Corresponding module	UA 10 Master Thesis
Lecturer	All professors of the Master Programme "Urban Agglomerations"
Contents of the unit	The Master Thesis shall synthesise the different knowledge gained in the previous modules of "Urban Agglomerations" and proof that the candidate is capable of pursuing a scientific career. It consists of conceiving and writing a thesis and/or developing a conceptual planning study under the supervision of a professor involved in the master programme "Urban Agglomerations". The thesis can be co-supervised by a professor of one of the partner universities. Each student develops his/her topic independently in consultation with the supervisors.
Teaching methods	Individual research work
Contact hours per week (SWS)	0,4 SWS
Total workload of the unit (h)	900 h
Total time of contact hours (h)	10 h
Total time of examination incl. preparation (h)	890 h
Total time of practical training (h)	
Total time of self-study (h)	
Language of the unit	English
Recommended reading	Depending on the topic of the Master Thesis
Type and form of assessment	Master Thesis and colloquium (min 30 min. max. 60 minutes)
Grading of the assessment	Differentiated grading (1,0 to 4,0)
Further information	