Built Environment

Study component catalogue

Year 2025-2026

DISCOVER YOUR WORLD

Breda University
OF APPLIED SCIENCES

Foreword

Your Built Environment (BE) bachelor's programme at BUas offers plenty of opportunities to develop as a built environment specialist with a focus on mobility, urban planning or urban design. During this study programme you will lay a strong foundation, delve into industry issues, and gain valuable practical experience.

Whether you have just started your studies or are taking the final steps towards graduation, stay curious, keep growing, and avail yourself of every opportunity offered by your department staff and the industry. We would be happy to guide you in your development towards a BE professional.

This study catalogue contains the programme content of your BE study programme. It contains the following elements:

- All study components, in which you can find a description per study component, including the unit learning outcomes, course content, and types of assessment with AI levels.
- An appendix with the schematic representation of the curriculum for the whole study period (four years of study, four terms per academic year).
- A link to the year schedule containing lecture weeks, 'clean-up weeks', holidays, etc.
- A link to the assessment programme containing an overview of all exams and assignments.

Teaching methods

In your study programme you will come across the following teaching methods:

- In **labs** you will work on a urban planning assignment individually and in a small group with fellow students. You will develop knowledge, skills and the right (professional) attitude within the professional context. The focus will lie on developing professional skills in a practical situation. Lecturers of various backgrounds and disciplines will supervise you as regards content.
- In **modules** you acquire knowledge and skills relevant to the profession by attending lectures and actively working on assignments. The lecturer teaches and guides you as an expert and as a process supervisor.
- For **Personal & Professional Development** (PPD) you will attend a programme of workshops, supporting you in your personal and professional growth during the programme. You will work on various types of assignments. In the PPD track, you will be personally guided by your study coach, who will also discuss your study progress.
- During **Placement** and **Graduation Projects**, you will independently carry out a placement assignment or contribute to a project for the professional field (e.g. a consultancy firm or (local) authorities). You will be supervised by a supervising lecturer of BUas and a company supervisor. You will also participate in return days and peer feedback sessions.

Overview of your studies

This student handbook helps you gain insight into the structure of your study programme. From basic knowledge and practical experience to specialisation and graduation – discover what you can expect per academic year and how you can optimally prepare for your future career.

Year 1: Laying the foundation & choosing a specialisation

The first year consists of four terms of nine or ten weeks[1]. In this year, you will mostly acquire the basic knowledge and skills you need for continuing your studies and professional practice. In addition, you will work on your personal and professional development under the supervision of your coach.

In the second term, you will opt for your specialisation: Mobility, Urban Planning or Urban Design. On the basis of this choice you will attend four specialisation modules spread over years 1 and 2. What's more, your specialisation option will determine your angle in the labs.

Year 2: Profiling and making preparations for your placement

Year 2 is a continuation of year 1, and also consists of four terms of nine or ten weeks. Year 2 consists of modules and labs again. It offers more personal profiling options. There are three personal profiling modules. For these modules you have a number of options, where you can choose to deepen your knowledge within your specialisation, to broaden your knowledge within BE or cross-BE broadening. This year, the focus within PPD will lie on helping students to profile and on making preparations for the placement.

Year 3: Placement and further profiling

In the first half of the third year you will do a placement (at home or abroad). This means that you will carry out (an) assignment(s) or contribute to (a) project(s).

In the second half of year 3 you will again attend a term consisting of nine weeks and a term consisting of ten weeks with modules and labs. Here you will have no less than four profiling options, for which there will be broadening and deepening options again.

Semester 7 (year 4)

In the first semester of year 4 you will take a minor, giving you 18 weeks to deepen or broaden your knowledge in a subject of your choice. You can take a minor within ABEL, at another academy within BUas, at another Dutch higher education institute or abroad. Instead of taking the minor, this semester also offers the possibility of doing an international exchange at a university abroad.

Semester 8 (year 4)

In the last semester of the programme, you will do a graduation placement (at home or abroad) and demonstrate that you have all the necessary competences to graduate.

TER

All rules can be found in the 2025-2026 Teaching and Examination Regulations (TER). Where ABEL uses the term ‘study unit’ or ’study component’, the term ‘course’ is used in the TER. Where ABEL uses various types of assessment, such as ‘written exam’, ‘assignment’ and ‘portfolio assessment’, the term ‘examination’ is used in the TER.
For your information: in each academic year, you can earn 60 ECTS credits (ECs), where 1 credit (1 EC) is equivalent to 28 hours of study.

We wish you an enjoyable and a successful academic year.

The management team of Built Environment, Logistics Engineering and Logistics Management.

This student handbook is part of the Teaching and Examination Regulations of Built Environment and Logistics.

Built Environment 2025 - 2026: year 1

Semester 1

Block A	**Osiris-code**	**ECTS**	**Page**
LAB1A Explore your Environment	BBE1.ALB1-1	5	8
KB1 Introduction into Built Environment	BBE1.AKB1-1	5	9
Personal & Professional Development 1	BBE1.APP1-1	5	11
Block B			
LAB1B Transforming your Environment	BBE1.BLB1-1	5	14
KB2 Analysis & Design	BBE1.BKB2-1	5	16
KB3 Human Society & Built Environment	BBE1.BKB3-1	5	18
	Subtotal	**30**	

Semester 2

Block C	**Osiris-code**	**ECTS**	**Page**
LAB1C Visioning the Neighbourhood	BBE1.CLB1-1	5	21
KB4 Government & Policy	BBE1.CKB4-1	5	24
Specialisation			
MO1 Urban Traffic System	BBE1.CMO1-1	5	25
UP1 Spatial Development	BBE1.CUP1-1	5	27
UD1 Urban Typology	BBE1.CUD1-1	5	28
Block D			
LAB1D Impacting Community Spaces	BBE1.DLB1-1	5	31
KB5 Research & Reporting	BBE1.DKB5-1	5	34
Personal & Professional Development 2	BBE1.DPP2-1	5	36
	Subtotal	**30**	
	Total	**60**	

Built Environment 2025 - 2026: year 2

Semester 3

Block A	**Osiris-code**	**ECTS**	**Page**
LAB2A From City to Region	BBE2.ALB2-1	5	39
Personal & Professional Development 3	BBE2.APP3-1	5	41
Specialisation			
MO2 Mobility Patterns & Data	BBE2.AMO2-1	5	43
UP2 Housing & Livability	BBE2.AUP2-1	5	45
UD2 Spatial Strategy	BBE2.AUD2-1	5	47
Block B			
LAB2B From Region to City	BBE2.BLB2-1	5	50
KB6 Management & Finance	BBE2.BKB6-1	5	52
Profiling modules (1)			
PRO3 Gis & Geo Data	BBE2.BGIS-1PR3	5	53
PRO3 Smart Mobility	BBE2.BSMA-1PR3	5	55
PRO3 Regional Planning	BBE2.BREP-1PR3	5	57
PRO3 Landscape	BBE2.BLAN-1PR3	5	59
	Subtotal	**30**	

Semester 4

Block C	**Osiris-code**	**ECTS**	**Page**
LAB2C High Density Environments	BBE2.CLB2-1	5	61
Personal & Professional Development 4	BBE2.CPP4-1	5	63
Specialisation			
MO3 Mobility Services & Organisation	BBE2.CMO3-1	5	65
UP3 Water Management	BBE2.CUP3-1	5	67
UD3 Spatial Processes & Systems	BBE2.CUD3-1	5	68
Block D			
LAB2D Re-image the Hub	BBE2.DLB2-1	5	71
Profiling modules (2)			
PRO4 Energy Transition	BBE2.DENT-1PR4	5	73
PRO4 Participation in Practice	BBE2.DPAR-1PR4	5	75
PRO4 Traffic & Transport Modelling	BBE2.DTTM-1PR4	5	76
PRO4 Tactical Urbanism	BBE2.DTAC-1PR4	5	78
PRO4 Visualisation: Urban Chronicles	BBE2.DVUR-1PR4	5	80
PRO4 Visualisation: Beyond Blueprints	BBE2.DVBB-1PR4	5	82
PRO4 Academic Literacy & Research	BBE2.DALR-1PR4	5	84
	Subtotal	**30**	
	Total	**60**	

Built Environment 2025 - 2026: year 3

Semester 5

Block A & B	**Osiris-code**	**ECTS**	**Page**
Placement	BBE3.PLAC-1	30	87
	Subtotal	**30**	

Semester 6

Block C	**Osiris-code**	**ECTS**	**Page**
LAB3C Cities of Tomorrow	BBE3.CLB3-1	5	90
Profiling modules (2)			
PRO6 Area Development	BBE3.CADV-1PR6	5	92
PRO6 Challenges & RBI Research	BBE3.CRBI-1PR6	5	94
PRO6 Mobility & Land Use	BBE3.CMOL-1PR6	5	96
PRO6 Individual Proposal	BBE3.CIND-1PR6	5	-
PRO6 Gis & Geo Data	BBE3.CGIS-1PR6	5	(53)
PRO6 Visualisation: Beyond Blueprints	BBE3.CVBB-1PR6	5	(82)
Block D			
LAB3D Opel Lab	BBE3.DLB3-1	5	99
Profiling modules (2)			
PRO6 Design & Construct	BBE3.DDEC-1PR6	5	101
PRO6 Trends & Transitions	BBE3.DTRT-1PR6	5	103
PRO6 Environmental Psychology & Sociology	BBE3.DENV-1PR6	5	105
PRO6 Entrepreneurship	BBE3.DEPS-1PR6	5	108
PRO6 Architecture	BBE3.DARC-1PR6	5	109
PRO6 Challenges & RBI Research	BBE3.DRBI-1PR6	5	(94)
	Subtotal	**30**	
	Total	**60**	

Built Environment 2025 - 2026: year 4

Semester 7

Block A & B	**Osiris-code**	**ECTS**	**Page**
Change Management	BXE4.GROU-1CHM	20	111
	BXE4.INDV-1CHM	10	"
	BXE4.PROC-1CHM	Cond.	"
Crowd Safety in Hubs & Events	BXE4.GROU-1CRS	15	112
	BXE4.INDV-1CRS	15	"
	BXE4.PROC-1CRS	Cond.	"
International Urban Redevelopment	BXE4.GROU-1IUR	15	114
	BXE4.INDV-1IUR	15	"
External Minor ABEL	BEXT.25MINOR	30	-
	Subtotal	**30**	

Semester 8

Block C & D	**Osiris-code**	**ECTS**	**Page**
Graduation	BXX4.GRAD-1	30	117
	Subtotal	**30**	
	Total	**60**	

Built Environment

Year 1

Semester 1 Block A

OSIRIS-code: BBE1.ALB1-1

Course name: LAB1A Explore your Environment

Study load: 5 EC (=140 hours)

Coordinator: Luiz Marcos De Carvalho Filho

Summary: This lab course, the first out of the four labs in year one, sets the basis for understanding, analysing, and proposing for the built environment. The lab program covers the basics skills and tools in terms of representation, analysis and research through the investigation of a site in Breda and the development of three interconnected products:

-Individual site – Analysis
-Article / Case study
-Individual site - Small-scale adaptation

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 To collect and analyse basic information to describe the built environment. You will demonstrate that by the analysis of an individual site. (research 6.3, level 1) (low independence / low complexity);

2 To connect theory and lessons from practice (case study) with the site analysed and to practice basic writing/research skills. You will demonstrate that by an written article. (research 6.3, level 1) (low independence / low complexity);

3 To apply the insights from the research into a small-scale adaptation of the site analysed. You will demonstrate that by a small-scale adaptation project. (design 2.1, level 1) (low independence / low complexity);

4 To communicate your findings in a clear and professional way. You will demonstrate that by the above mentioned products and an oral presentation. (communicate 8.1, level 1) (low independence / low complexity);

Content description: In this study component the following content is covered:

- Basics tools in the representation of the built environment;
- Spatial inventory and analysis;
- Theory review and case study:
- Built environment adaptation (small-scale).

Language: English

Teaching Activities: Instruction and demonstration
Individual independent learning
Student presentations
Formative assessment

Required literature: Provided on Brightspace.

Other required materials: Drawing material (markers, ruler, tracing paper).

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	5

OSIRIS-code:	BBE1.AKB1-1
Course name:	KB1 Introduction into Built Environment
Study load:	5 EC (=140 hours)
Coordinator:	Diaan van der Westhuizen
Summary:	The design of the city and its surrounds impacts our day-to-day life. Together they constitute the built environment: the features of our world attributed to the thinking and making of man. The built environment is shaped, managed and altered by various Built Environment (BE) professions including urban planning, urban design, and mobility. In this module you will be introduced to these professions and learn how they work together in the development of the built environment. As a future BE professional your ability to act on and in the built environment is informed by the rich bank of typologies, precedents, histories, and ideas on which you can draw. We would like for this course to be the first step towards gaining this knowledge. To this aim we will investigate the basic theories and concepts that define our field, engage with key moments in the history of the built environment and look to future trends and challenges that will define it. After completing this course, you will be equipped with the knowledge to look to the world around you with the eyes of a BE professional.
Unit Learning Outcomes::	Upon completion of this study component you are able to:

1. Define and analyse historical and contemporary processes that shape the built environment in the past and present by illustrating the theories through a familiar case study of your choosing.
2. Summarise, compare, and assess the interaction of political, economic, socio-cultural, and natural forces within the built environment through position statements, debates, and case studies.
3. Recall key concepts and terminology of the built environment, recognise them in a familiar context, and explain them in your own words and drawings.
4. Develop an informed stance on important topics shaping the built environment through collaborating and debating with your classmates.
5. Demonstrate your awareness of the differences and similarities between BE's and BE professions through sharing and learning from your classmates and professionals in the field.

Content description: In this study component the following content is covered:

- The evolution of urban form and spatial structures as the result of economic, political, and cultural determinants;
- An overview of key periods and/ or movements in the 20th century that have informed the fields of mobility, urban design and planning;
- The dynamic between the city and its suburban and rural counterparts with a focus on housing, work, recreation and transport;
- Contemporary developments in the built environment: what drives them and what is the impact thereof in the built environment and its inhabitants;
- Inspiring case studies that illustrate the roles of built environment professionals and their cooperative and integrative nature.

Language: English

Teaching Activities: Instruction and demonstration

Individual independent learning

Formative assessment

Required literature: -

Other required materials: Reader, e-book: Introduction to the Built Environment reader published on Brightspace.

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	1

OSIRIS-code:	BBE1.APP1-1
Course name:	Personal & Professional Development 1
Study load:	5 EC (=140 hours)
Coordinator:	Valerie Lau
Summary:	Your personal and professional development is the common thread throughout the Built Environment programme. In this context, three aspects are central: 1. You will learn to self-manage your learning; 2. You will discover and determine what 'type' of BE student you are / BE professional you want to become; 3. You will develop into a professional. In your own PPD report you will record your development and describe your future (learning) goals.
Unit Learning Outcomes::	Upon completion of this study component you are able to: 1 Take ownership of your studies and make optimal use of the digital and physical environment (communication, 8.1, level 1) 2 Think critically, where you can distinguish between facts and opinions (professionalisation, 8.3, level 1) 3 Demonstrate cultural awareness in dealing with others by being considerate and curious about each other's backgrounds (intercultural understanding, 10.5, level 1) 4 Behave like a student in higher professional education: demonstrating an effective study approach, being curious about knowledge and the professional field, and being open to wanting to develop further with an eye on the future as a professional within the Built Environment (professionalisation, 9.4, level 1) 5 Paint a realistic self-image, reflect on that and based on this you make specific plans to steer your further studies and future career in the desired direction (professionalisation, 9.2, level 1) 6 Deliver a correct PPD report: correct language use, professional layout and meaningful content (communication, 8.3, level 1)
Content description:	In this study component the following content is covered: - Introduction to the BE programme, Buas and the industry; - Introduction of the competencies Professionalisation, Communication and Intercultural Understanding; - Workshops covering essential elements of personal and professional developments; - Development of your Personal Development Plan outlining objectives, goals and ambitions.
Language:	English
Teaching Activities:	Instruction and demonstration

Individual independent learning
Student presentations
Workshops

Required literature: -

Other required materials: Licence Hogeschooltaal

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	P/F	3

Built Environment

Year 1

Semester 1 Block B

OSIRIS-code:	BBE1.BLB1-1
Course name:	LAB1B Transforming your Environment
Study load:	5 EC (=140 hours)
Coordinator:	Luiz Marcos De Carvalho Filho
Summary:	This lab course expands the basis for understanding, analysing, and proposing the built environment, providing the context for the specialization choice. The lab program continues the process of developing a broader and integral understanding of the built environment with the basics in terms of representation, analysis and research through two products: -Inventory and analysis -Transformation plan

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1. To understand the process of urban transformation in Breda. You will demonstrate that by the analysis of current projects and the official planning from the city of Breda. (Initiate 1.1, level 1) (low independence / low complexity);
2. To collect and analyse basic information to describe the built environment. You will demonstrate that by the inventory and analysis of a site. (research 6.3, level 1) (low independence / low complexity);
3. To connect develop a SWOT analysis and formulate key development objectives. You will demonstrate that by the inventory and analysis of a site. (research 6.4, level 1) (low independence / low complexity);
4. To understand the specific requirements of basic products for design, mobility and planning. You will demonstrate that by a massing study, a circulation plan and a land use distribution. (design 2.2, level 1) (medium independence / lmedium complexity);
5. To communicate your findings in a clear and professional way. You will demonstrate that by the above mentioned products, a poster and an oral presentation. (communicate 8.3, level 1) (low independence / medium complexity);

Content description: In this study component the following content is covered:

- The continuous process of urban transformation of the built environment;
- Spatial inventory and analysis;
- SWOT analysis and formulation of key development objectives;
- Transformation plan.

Language:	English
Teaching Activities:	Instruction and demonstration Group work Student presentations Formative assessment

Required literature: Provided on Brightspace.

Other required materials: Drawing material (markers, tracing paper)

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	100%	Numerical mark	1

OSIRIS-code:	BBE1.BKB2-1
Course name:	KB2 Analysis & Design
Study load:	5 EC (=140 hours)
Coordinator:	Thomas Oorschot
Summary:	During this study component, we go through the different steps in the process of a spatial development. You will learn different methodologies and ways of thinking that all aim for the best use of an area/location. We do this by analysing areas, structures, policies and data. We then translate that into insights that can be used as starting points and preconditions (framework) for setting the ambition. This framework forms the basis for the next step in the process, the vision/design phase. During this phase, various spatial concepts or variants are investigated within the established framework by means of design-design research, in order to arrive at a choice that will be elaborated and realised in the follow-up phases.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 To apply the cyclical character of both the spatial planning process and the process of practice-based research within a given case study. This is evident from the quality of your sub-assignments, which are essential to be on time and in the correct order. (Research 6.3, level 1; medium autonomy / low complexity);

2 To develop different perspectives (spatial, policy and mobility perspectives) and various spatial solutions for a given case study. You demonstrate this with your sub-concepts. (Design 2.1, level 1;medium autonomy, low complexity);

3 Apply and document the analysis techniques for your (design) research (according to spatial, policy and mobility perspectives) in such a way that they are reproducible. You demonstrate this with a complete documentation (final report) (Research 6.4, level 1 ; (medium autonomy / low complexity)

4 Design an integral spatial concept (based on various spatial concepts) that is ready for further development and that clearly responds to the client's demand. You demonstrate this with reference studies, specific analysis maps and relevant explanations. (Specify 3.1, level 1; medium autonomy / low complexity)

5 Substantiate and justify the given integral spatial concept from different perspectives, taking into account the various disciplines and preconditions from the client's perspective. You demonstrate this with different concept drawings. (Design 2.2, level 1; medium independence / low complexity)

Content description: In this study component the following content is covered:

- -Introduction to the cyclical process of spatial planning and applied research.
- Key analysis methods: spatial, historical, policy analysis, multi-layer approach, parking and capacity research, traffic safety, and Lynch's method.
- Understanding the spatial structure hierarchy and applying "Sustainably Safe" principles in the design of street and road profiles, in different contexts.
- Use of graphical techniques to support and communicate integrated analysis results and design.
- Vision and concept development through reference studies, handbooks, and research into spatial concepts, variants, and design principles.

Language: English

Teaching Activities: Instruction and demonstration

Formative assessment

Individual independent learning

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	1

OSIRIS-code:	BBE1.BKB3-1
Course name:	KB3 Human Society & Built Environment
Study load:	5 EC (=140 hours)
Coordinator:	Luiz Marcos De Carvalho Filho
Summary:	This course covers critical processes such as urbanization, globalization, sustainability and digitization, along with the principles of environmental psychology. The course goes beyond the mere placement of infrastructure within a city. It delves into understanding how individuals interact with the urban elements we introduce into their environment. These interactions are crucial in shaping both behaviours and the space itself. The heart of urban development lies in comprehending these interactions. The course aims to understand human behaviour and how the built environment influences, regulates, and facilitates various behaviours. This understanding paves the way for broader ideas about planning and decision-making that impact people's lives more ethically and responsibly, particularly in urbanisation, digitisation, and globalisation processes. The course also offers practical training in the use of Geographic Information System (GIS) tools, enabling students to apply theoretical knowledge in real-world scenarios. This comprehensive approach ensures that students are well-equipped to address the complex challenges of urban development.
Unit Learning Outcomes::	Upon completion of this study component you are able to: 1 Recognize the mutual influence between urban development process, society, human behaviour and the built environment. You will demonstrate this in a written exam (initiate 1.1 level 1) (low independence/medium complexity) 2 Investigate and interpret social trends and developments that influence behavior and the design of the built environment, with a focus on globalization, sustainability and digitalization. You demonstrate this trough mapping and spatial analysis; (research 6.3, level 1) (medium independence / low complexity) 3 Present the result in a structured report combining a reflection on theory and mapping exercises. You demonstrate this in an individual report. (communicating 8.1, level 1) (medium independence, low complexity).
Content description:	In this study component the following content is covered: - Impact of Social Trends on the Built Environment: Examine how globalisation and urbanisation shape the built environment; - Influencing Human Behaviour: Explore the mutual influence between society, human behaviour, and the built environment; - Dimensions of Sustainability: Understand the social, economic, and environmental pillars of sustainability and their connections to the built environment; - Digitisation and the Built Environment: Analyze the influence of digitisation, including smart cities and network society, on urban

development and the built environment;

- Theory in Practice: Apply theoretical concepts from lectures to analyze the built and social environment of Rotterdam South;
- GIS Tools and Mapping: Utilize Geographic Information System (GIS) tools to map and understand Rotterdam South, deriving research questions from theoretical topics.

Language: English

Teaching Activities: Instruction and demonstration

Individual independent learning

Student presentations

Required literature: Provided on Brightspace.

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Written exam	50%	Numerical mark	1
Individual assignment	50%	Numerical mark	1

Built Environment

Year 1

Semester 2 Block C

OSIRIS-code:	BBE1.CLB1-1
Course name:	LAB1C Visioning the Neighbourhood
Study load:	5 EC (=140 hours)
Coordinator:	Diaan van der Westhuizen
Summary:	What does “Living in Cities" mean globally? Trends change geographically, according to local needs and how each region is facing exponential urbanization. LAB1C & LAB1D present students with an opportunity to gain in depth knowledge of their elected specialization: Urban Design (UD), Urban Planning (UP) or Mobility (MO). The emphasis and focus of the LAB is twofold: 1. Equipping students with the core skillset and foundational knowledge required by their specialism for practical application. 2. Orientating students with regards to their (future) role in the professional ecology.
Unit Learning Outcomes::	Upon completion of this study component you are able to:

1. ILO 1 : 10.3(1) | INTERCULTURAL UNDERSTANDING Demonstrate an awareness of intercultural issues about different BE environments by recognizing and classifying different typologies in an unfamiliar context using BE methods.
2. ILO 1 : 10.3(1) | INTERCULTURAL UNDERSTANDING Empathize by analyzing beneficiary/community needs in an international context by developing personas.
3. ILO2 : 6.3(1) | RESEARCH Formulate a research focus by applying specialization-related tools to analyze site aspects through a series of analytical maps.
4. ILO2 : 6.3(1) | RESEARCH Develop a vision and spatial strategies, individually and collectively, through iterative design research.
5. ILO3 : 7.1(1) | MANAGE PROJECTS & PROCESSES Deduce land development opportunities by conducting a suitability analysis for a selected site area.
6. ILO3 : 7.1(1) | MANAGE PROJECTS & PROCESSES Develop layered and principle diagrams to link site conditions with clear concept ideas.
7. ILO4 : 8.3(1) | COMMUNICATE Synthesize information into textual development goals/objectives and a vision summarizing the results from the site- and suitability analysis.
8. ILO4 : 8.3(1) | COMMUNICATE Communicate ideas effectively verbally, visually, receive feedback, and answer questions during a live poster presentation.
9. ILO5 : 2.2(1) | DESIGN Apply well-developed solutions and justify design decisions using reference project, density calculations, land use functions, public space-and mobility network plans.
10. ILO5 : 2.2(1) | DESIGN Demonstrate technical proficiency and accuracy in the use of graphic representation tools, including scaled master plans, sections, hand sketches, 3D visualizations, and physical and/or

digital models.

Content description: In this study component the following content is covered:

Mobility

- Urban Mobility systems and structures;
- Accessibility, traffic safety, and traffic livability;
- Policy directives;
- Road users;
- Infrastructural mobility improvements;
- Visualization in process and product;
- Narrative and argumentation;
- Professional collaboration.

Urban Design

- Tools for analyzing and design;
- Framework for design (concept masterplan);
- Visualization in process and product;
- Urban Design proposal;
- Narrative and argumentation;
- Professional collaboration;
- Iterative design process.

Urban Planning

- International city and spatial planning;
- Neighbourhood and society;
- Physical interventions in the Built Environment;
- Spatial research;
- Planning across scales;
- Geography;
- Networks & systems;
- Housing, economic and demography;
- Land uses and functions;
- Policies;
- Sustainability.

Language: English

Teaching Activities: Group work
Individual independent learning
Student presentations

Required literature: -

Other required materials: Sketching paper, (scale) ruler, fineliners (different thicknesses) and markers (different colors).

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	100%	Numerical mark	1

OSIRIS-code: BBE1.CKB4-1

Course name: KB4 Government & Policy

Study load: 5 EC (=140 hours)

Coordinator: Stephen Narsoo

Summary: In the field of built environment the government is never far away. They guide and steer development, allow or deny building permits, construct infrastructure, protect monuments and nature, etc. During your career you will either deal with governments, or work at a government. This study component will provide you the basics of the functioning of governments and the role they play in the field of built environment.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 Describe basic terms related to municipal government and land-use management and accurate recall this knowledge in a theory based exam.

2 Differentiate between the concepts of government and governance in a theory based exam.

Content description: In this study component the following content is covered:

- History of Government & Society interaction;
- Term definition (on policy, law, Trias Politica);
- Hierarchy (levels of government);
- The role of government in planning;
- Main elements of planning systems;
- Planning processes & procedures;
- Theory & process of policy making;
- Policy development and implementation.

Language: English

Teaching Activities: Instruction and demonstration

Group work

Individual independent learning

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Written exam	60%	Numerical mark	1
Group assignment	40%	Numerical mark	5

OSIRIS-code:	BBE1.CMO1-1
Course name:	MO1 Urban Traffic System
Study load:	5 EC (=140 hours)
Coordinator:	Sjors Martens
Summary:	In this first expertise module of mobility we will reflect on the urban traffic system, or all the elements of the built environment that influence how you can travel once you get out the door. The most everyday elements such as roads, traffic lights and signs, and modes of travel will be discussed. You will learn design principles of these elements, the methods to gather required parking and counting data, safety- and behavioural rules, and how to design these infrastructural measures using different pieces of software. Ultimately, you'll be able to offer a weighted advice on the best layout of a location based on studied traffic situations. Going out for a walk will never be the same!

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1. Define unsafe infrastructural situations based on design, behavioural or communication characteristics of the environment. You demonstrate this by means of a presented improvement proposal for an unsafe situation of your choice. (1.1; level 1: Medium Autonomy & Low Complexity)
2. Design and compare an intersection design using traffic light control regulations in COCON and roundabout capacity calculations. You demonstrate this by means of a self-made and substantiated design in an advisory report. (2.1; L level 1: ow Autonomy & Medium Complexity)
3. Develop a redesign advice for an intersection that considers the interests of the surrounding stakeholders and the political vision. You demonstrate this by means of an advisory report on an intersection in Breda. (3.1; level 1: Medium Autonomy & Low Complexity)
4. To set up quantitative and qualitative guidelines for the assessment of an intersection design within the provided preconditions for liveability, safety, accessibility, use of space, and cost estimates. You demonstrate this by means of a multi-criteria analysis within an advisory report. (5.2; level 1: Low Autonomy & Medium Complexity)
5. Report on the redesign process of an intersection according to reproducible data collection methods from the field of mobility. You demonstrate this in a written advisory report on an intersection redesign in Breda. (6.4; level 1: Medium Autonomy & Low Complexity)

Content description: In this study component the following content is covered:

- Traffic user behaviour;
- Urban Traffic Flows
- Unsafe situations and infrastructure;
- Key Mobility concepts and formulas;
- Traffic policy influences;
- Traffic light programmes and roundabout designs;
- Standard Mobility Data Gathering Practices;
- Visualisation of spatial designs.

Language: English

Teaching Activities: Instruction and demonstration
Group work
Individual independent learning
Excursion / company visit

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	1

OSIRIS-code: BBE1.CUP1-1

Course name: UP1 Spatial Development

Study load: 5 EC (=140 hours)

Coordinator: Luiz Marcos De Carvalho Filho

Summary: The aim is to introduce students to the different roles that an urban planner can fulfill in the process of spatial development. This includes the associated tasks, the instruments that are available to the planner and the products that are delivered. The course covers the theory associated with urban planning and the action of a planner as well as practical exercises to apply the tools and instruments to a case study.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 Recognize the objectives and scope of urban planning as well as the action and roles of an urban planner and the tools and products involved. You will demonstrate this in a written exam (initiate 1.1 level 1) (low independence/medium complexity)

2 Understand the scope and limitations of planning tools and instruments. You demonstrate this through a series of exercise applied to a case; (research 6.3, level 1) (medium independence / low complexity)

3 Communicate the limitations and advantages in the application of planning tools. You demonstrate this in an group report. (communicating 8.1, level 1) (medium independence, low complexity).

Content description: In this study component the following content is covered:

- Spatial development;
- Planning objectives, processes and phases;
- Roles & tasks in planning;
- Specific products from urban planning;
- Planning Tools and Urban Codes.

Language: English

Teaching Activities: Instruction and demonstration

Group work

Individual independent learning

Formative assessment

Workshops

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Written exam	50%	Numerical mark	1
Individual assignment	50%	Numerical mark	1

OSIRIS-code:	BBE1.CUD1-1
Course name:	UD1 Urban Typology
Study load:	5 EC (=140 hours)
Coordinator:	Maurizio Scarciglia
Summary:	What are the basic tools for the Urban Designer? As the discipline continuously changes according to urbanization and social trends, this course aims at offering the Urban Design student the basic tools to analyse, recognize and reproduce basic urban developments. The course, through an excursus in History of the discipline, equips the student with the foundational knowledge of the elements that compose the urban built environment; public space typologies, building types and building densities. This is achieved by combining inventorizing, analysis, model making as methodologies to investigate how urban design can improve the quality of life.
Unit Learning Outcomes::	Upon completion of this study component you are able to: 1 Identify, analyse and define the components that make up an urban environment in the role of an urban designer. You demonstrate this by describing and illustrating these components for a given urban plan. (Initiate 1.1 level 1: low complexity, medium independence) 2 Collect and analyse information about the components of an urban plan in their interrelationships. You demonstrate this by making descriptions, drawings and calculations based on given themes. (Investigate 6.3 level 1: low complexity, medium independence) 3 As an urban designer, you develop partial solutions within a given context and argue for them. You demonstrate this by drawing and describing adjustments to an existing public space and incorporating consequences of a densification task into a plan. (Design 2.1 level 1: low complexity, medium independence) 4 Communicate the results purposefully and target group oriented, both in text and image professionally . You show this by producing a report in which the products produced are presented with care and in a way that is recognisable to colleagues. (Communication 8.1 level 1: low complexity, medium independence)
Content description:	In this study component the following content is covered: - Structuring elements in the public realm; - Building typologies in history; - Public space and transition public/private in history; - Standard dimensions; - Spatial quality in reference plans; - Densities; - Physical models; - Profiles.

Language:	English
Teaching Activities:	Group work
	Individual independent learning
	Formative assessment
Required literature:	-
Other required materials:	Sketching paper, Fine Liners (black, multiple thicknesses)

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	1

Built Environment

Year 1

Semester 2 Block D

OSIRIS-code:	BBE1.DLB1-1
Course name:	LAB1D Impacting Community Spaces
Study load:	5 EC (=140 hours)
Coordinator:	Diaan van der Westhuizen
Summary:	What does "Living in Cities" mean globally? Trends change geographically, according to local needs and how each region is facing exponential urbanization. LAB1C & LAB1D present students with an opportunity to gain in depth knowledge of their elected specialization: Urban Design (UD), Urban Planning (UP) or Mobility (MO). The emphasis and focus of the LAB is twofold: 1. Equipping students with the core skillset and foundational knowledge required by their specialism for practical application. 2. Orientating students with regards to their (future) role in the professional ecology.
Unit Learning Outcomes::	Upon completion of this study component you are able to:

1 ILO 1 : 10.3(1) | INTERCULTURAL UNDERSTANDING Demonstrate an awareness of intercultural issues about different BE environments by recognizing and classifying different typologies in an unfamiliar context using BE methods.

2 ILO 1 : 10.3(1) | INTERCULTURAL UNDERSTANDING Empathize by analyzing beneficiary/community needs in an international context by developing personas.

3 ILO2 : 6.3(1) | RESEARCH Formulate a research focus by applying specialization-related tools to analyze site aspects through a series of analytical maps.

4 ILO2 : 6.3(1) | RESEARCH Develop a vision and spatial strategies, individually and collectively, through iterative design research.

5 ILO3 : 7.1(1) | MANAGE PROJECTS & PROCESSES Deduce land development opportunities by conducting a suitability analysis for a selected site area.

6 ILO3 : 7.1(1) | MANAGE PROJECTS & PROCESSES Develop layered and principle diagrams to link site conditions with clear concept ideas.

7 ILO4 : 8.3(1) | COMMUNICATE Synthesize information into textual development goals/objectives and a vision summarizing the results from the site- and suitability analysis.

8 ILO4 : 8.3(1) | COMMUNICATE Communicate ideas effectively verbally, visually, receive feedback, and answer questions during a live poster presentation.

9 ILO5 : 2.2(1) | DESIGN Apply well-developed solutions and justify design decisions using reference project, density calculations, land use functions, public space-and mobility network plans.

10 ILO5 : 2.2(1) | DESIGN Demonstrate technical proficiency and accuracy in the use of graphic representation tools, including scaled master plans, sections, hand sketches, 3D visualizations, and physical and/or

digital models.

Content description: In this study component the following content is covered:

Mobility

- Urban Mobility systems and structures;
- Accessibility, traffic safety, and traffic livability;
- Policy directives;
- Road users;
- Infrastructural mobility improvements;
- Visualization in process and product;
- Narrative and argumentation;
- Professional collaboration.

Urban Design

- Tools for analyzing and design;
- Framework for design (concept masterplan);
- Visualization in process and product;
- Urban Design proposal;
- Narrative and argumentation;
- Professional collaboration;
- Iterative design process.

Urban Planning

- International city and spatial planning;
- Neighbourhood and society;
- Physical interventions in the Built Environment;
- Spatial research;
- Planning across scales;
- Geography;
- Networks & systems;
- Housing, economic and demography;
- Land uses and functions;
- Policies;
- Sustainability.

Language: English

Teaching Activities: Group work
Individual independent learning
Student presentations

Required literature: -

Other required materials: Sketching paper, (scale) ruler, fineliners (different thicknesses) and markers (different colors).

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	1

OSIRIS-code:	BBE1.DKB5-1
Course name:	KB5 Research & Reporting
Study load:	5 EC (=140 hours)
Coordinator:	Rana Habibi
Summary:	Research and reporting are essential skills for creating effective designs, plans, and policies. They are valuable throughout your bachelor program—especially in labs, internships, and your graduation project. For students in the built environment, strong research and reporting skills help you make informed decisions and engage critically with professional literature. In practice, you'll often rely on research reports, and this module equips you to understand and use them effectively. In KB5 Research and Reporting you will learn how to set up a research project and write a research project proposal. And get familiar with different research methods including qualitative, and quantitative. You will learn how to find reliable sources and references to support your research and how to write a good research report including structure and language.
Unit Learning Outcomes::	Upon completion of this study component you are able to: 1 Formulate the context, goals and methodologies to underpin a good research structure by given a series of knowledge and article analysis. This will be tested by an online Exam. (Initiate1.2, level 1) 2 Formulate a research question related to the field of Built Environment by given a series of knowledge and article analysis. This will be tested by a project submission. (Research 6.1, level 1) 3 Choose one or more appropriate research methodologies by given a series of knowledge and setting some interactive workshops . This will be tested by a project submission. (Research 6.2, level 1) 4 Formulate a professional structure for a research report, and identify the difference between refencing and citation in different styles by given a series of knowledge, article analysis, interactive workshops. This will be tested by a project submission. (Research 6.4, level1)
Content description:	In this study component the following content is covered: - Literature research: online and offline (BUAS library); reliability and validity of literature, and data sources and source finding; - Research report structure and APA references; - Qualitative research method: interview, questionnaire, case study, observation, desk study, and research by design; - Quantitative research: survey and experiment design, unit of analysis: sampling techniques, data collection techniques; - Professional writing style.
Language:	English
Teaching Activities:	Instruction and demonstration Individual independent learning

	Formative assessment
	Group work
	Student presentations
	Workshops
Required literature:	Reader will be provided
Other required materials:	-

Examination:

Assessments	Weightage	Mark	AI Level
Written exam	100%	Numerical mark	1

OSIRIS-code:	BBE1.DPP2-1
Course name:	Personal & Professional Development 2
Study load:	5 EC (=140 hours)
Coordinator:	Valerie Lau
Summary:	Your personal and professional development is the common thread throughout the Built Environment programme. In this context, three aspects are central: 1. You will learn to self-manage your learning. 2. You will discover and determine what 'type' of BE student you are / BE professional you want to become. 3. You will develop into a professional. In your own PPD report you will record your development and describe your future (learning) goals.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1. Present your work, both orally and in writing, in a way that suits the target group and context of the assignment (communication, 8.1, level 1: low complexity, medium autonomy). You demonstrate this with the various presentations to your own group in this semester.
2. Record your talents and development points in a Personal Development Plan (professionalisation, 9.3, level 1: low complexity, low autonomy). You demonstrate this in your PDP.
3. To be aware of and deal with moral dilemmas, taking into account other cultures and backgrounds in your environment by adjusting your communication style accordingly (intercultural understanding, 10.3, level 1: medium complexity, low autonomy)
4. Behaving like a college student: showing an effective study approach, being curious about knowledge and the professional field and being open to wanting to develop yourself further with a view to your future as a professional within the Built Environment. (professionalisation, 9.4, level 1: low complexity, medium autonomy). You demonstrate this with your active attitude in class and in your individual conversation with your study coach.
5. Paint a realistic self-image, reflect on it and, based on this, make concrete plans to steer your further study and future career in the desired direction (professionalisation, 9.2, level 1: low complexity, medium autonomy). You demonstrate this in your PPD report.
6. To produce a correct report: correct language, professional formatting and meaningful content (communication, 8.3, level 1: low complexity, medium autonomy). This is thus demonstrated with your PPD report.

Content description: In this study component the following content is covered:

- Further development of the competencies: Professionalisation, Communication and Intercultural Understanding;
- Workshops covering essential elements of personal and professional developments;
- Field trips;
- Further development of your Personal development plan outlining objectives, goals and ambitions.

Language: English

Teaching Activities: Instruction and demonstration

Individual independent learning

Student presentations

Workshops

Required literature: -

Other required materials: License Hogeschooltaal

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	P/F	3
Hogeschooltaal exam	Conditional	P/F	1

Built Environment

Year 2

Semester 3 Block A

OSIRIS-code:	BBE2.ALB2-1
Course name:	LAB2A From City to Region
Study load:	5 EC (=140 hours)
Coordinator:	Maurizio Scarciglia
Summary:	Urbanization in the last few decades has meant exponential urban growth so massive as to merge cities into entire regions. One of the most emblematic examples is the Greater Bay Area in China. Here, a massive flow of migrants from rural China is transforming a necklace of cities around the Pearl River Delta into the biggest world metropolitan conurbation, estimated to soon host up to 100 million inhabitants. This Lab will enable the collaboration between Planning students, mobility students, and Urban Design students to disentangle the complexity of regional developments and unravel their potential and threads for the future in light of the major challenges that our society will face, such as the climate crisis, technology innovations, and globalization.
Unit Learning Outcomes::	Upon completion of this study component you are able to:

1. 1.1. You identify, analyse, and define an issue or task relevant to society and/or the profession. Initiate (2)
2. 1.2. You formulate the context, the preconditions, the requirements, and the objective to underpin a well-founded decision or action to be taken. Initiate (2)
3. 3.1 You develop the chosen solution in detail from an integral approach, considering other disciplines and preconditions: technical, legal, and economic feasibility, as well as social responsibility and inclusiveness. Specify (2)
4. 6.1 You formulate and validate a research question based on a task that is relevant to society and/or the profession. Research (2)
5. 6.2 You collect and analyze data to provide substantiated answers to the question. Research (2)
6. 8.1 You communicate in a way that shows you are aware of the environment and your role and position in it. (Communicate (2)
7. 9.1 You are aware of the effect of your actions on your professional environment. (Professionalize (2)
8. 10.1 You actively seek opportunities to learn about different cultures and engage in cultural exchange opportunities. Intercultural understanding (1)

Content description: In this study component the following content is covered:

- The relevance of the regional scale for urban developmet;
- The historical, spatial, socio-economic, demographic, and political trends and developments in the Pearl River Delta urban region;
- Housing shortage and local welfare policies (e.g. Hukou household registration system)/ urban villages vs. speculation and densification;
- Migration from rural areas/left behind children/education/employment policies and social inclusion;
- Shenzhen-Hong Kong region: One Country two systems and the future of regional integration- political implications;
- Social and psychological implications of economic growth on society: entering capitalism;
- Water management/land reclamation/river design/pollution-sanitation/parks and natural reserves /pressure on agriculture/rural-urban fringes;
- Integrated Regional and urban Transportation (road, railway, metro, ferries, airport);
- Transportation poverty & Future sustainable mobility
- Ethics and critical thinking by comparing Chinese and European cases

Language: English

Teaching Activities: Group work

Individual independent learning

Student presentations

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	100%	Numerical mark	2

OSIRIS-code:	BBE2.APP3-1
Course name:	Personal & Professional Development 3
Study load:	5 EC (=140 hours)
Coordinator:	Valerie Lau
Summary:	Your personal and professional development is the common thread throughout your studies for BE. Three things are central to this: 1. You will learn to shape your learning process in a self-directed way; 2. You will discover and determine which "type" of BE professional you are and want to become; 3. You will develop into a professional. You will record your development in your PPD report, and you will formulate future (learning) goals.
Unit Learning Outcomes::	Upon completion of this study component you are able to: 1 Behave like a student in higher professional education: showing increasing ownership for your personal and professional development, showing curiosity for the professional field and being open to wanting to develop yourself further with a view to your future as a professional within Built Environment (professionalisation, 9.4, level 2) 2 Based on a realistic self-image (propagate using qualities, motivations and ambitions), describe and substantiate concrete study choices, study plans and personal learning objectives (up to and including the internship in semester 5 (year 3.1) and a look ahead to the rest of years 3 and 4) (professionalisation, 9.2, level 2) 3 To deliver a well-written and pleasantly readable PPD report (communication, 8.3, level 2)
Content description:	In this study component the following content is covered: - Further development of the competencies: Professionalisation and Communication; - Further development of your Personal development plan outlining objectives, goals and ambitions; - Building your own professional branding/identity; - Building of your professional network; - Getting acquainted with foreign projects and companies in the field during the international fieldtrip.
Language:	English
Teaching Activities:	Instruction and demonstration Individual independent learning Formative assessment Workshops
Required literature:	-

Other required materials: Licence Hogeschooltaal

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	3
Individual assignment	Conditional	P/F	5

OSIRIS-code:	BBE2.AMO2-1
Course name:	MO2 Mobility Patterns & Data
Study load:	5 EC (=140 hours)
Coordinator:	Elly Khademi
Summary:	Travel patterns describe human mobility, including when, why, and how people move between different places. With a good understanding of travel patterns, we can estimate the travel demand and accordingly make strategic decisions in transport planning. In this expertise module of mobility, we will investigate the relationship between Individual needs, opportunities, and travel behavior (the transport system). We also identify factors and measures that effectively influence travelers' behavior for a more green and sustainable cities (policy). Through modelling, and data analysis we will discuss the connection between supply and demand to steer and predict mobility patterns

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1. Identify the importance of travel patterns in the process of transport planning given a series of knowledge (initiate, Low autonomy & medium complexity) ;
2. Formulate a research question related to a transport planning assignment in the given context (research, medium autonomy & medium complexity);
3. Identify and analyse mobility related issues using standard travel survey data(initiate, Low autonomy & medium complexity);
4. Independently develop solutions for policy makers, using the identified travel patterns for a given context (design, Low autonomy & medium complexity);
5. You communicate the solutions to specific policy makers, using professional industry products to ensure knowledge, and decision making (Communicate, , medium autonomy & medium complexity).

Content description: In this study component the following content is covered:

- Part I (Travel behavior, Pattern, and Theories): Introduction to the transport system, its impacts and transport policies:
  In the first part of this module, the transport system and its impacts are investigated, and we will review the state of the art r
- Part 2 (Data and Decision): the importance of data in identifying travel patterns and strategic decision making.
  In the second part, you will learn about equilibrium of supply and demand for having a good transport system and how data and modelling help this process as a supporting tool and helps government in planning and decision-making process.

Language:	English
Teaching Activities:	Instruction and demonstration Workshops

Individual and group assignments

Individual independent learning

Formative assessment

Required literature: The Transport System and Transport Policy: An Introduction edited by Bert vanWee,
Jan Anne Annema, David Banister.

Other required materials: Reader will be provided.

Examination:

Assessments	Weightage	Mark	AI Level
Written exam	70%	Numerical mark	1
Individual assignment	30%	Numerical mark	1

OSIRIS-code:	BBE2.AUP2-1
Course name:	UP2 Housing & Livability
Study load:	5 EC (=140 hours)
Coordinator:	Frank Jocobs
Summary:	UP2 Housing & Livability is the second Specialization module for Urban Planning. The aim of UP2 Housing and livability is to build on the knowledge of UP1 Spatial Development where you were introduced to the different roles that an urban planner can fulfill in the process of spatial development. UP2 Housing and livability focuses on housing in which the relationship is established with demographic developments, housing for different target groups, livable and sustainable development of residential areas in relation to permits and policy control.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1. Purposefully collecting and analyzing data at regional, urban, and neighborhood levels, using at least the provided themes. (6.3)
2. Explaining and applying relevant theory related to housing and livability across different spatial scales. (6.3)
3. Developing a spatial proposal for a specific location aimed at improving the housing and living situation, based on self-formulated principles. (2.1)
4. Independently formulating and demonstrably weighing different solution options in order to provide an appropriate spatial recommendation, using multiple perspectives. (2.2)
5. Embedding a spatial proposal within relevant policies and legislation in preparation for the actual implementation of the proposed solutions. (4.1)

Content description: In this study component the following content is covered:

- Urban and neighbourhood developments;
- Urbanization and globalization;
- Demography with a focus on developing and developed countries;
- Housing (perspectives and challenges);
- Social housing and the role of housing associations in the Netherlands;
- Environmental liveability;
- Sustainability dimensions and impacts (People, Planet, Profit);
- Housing permit systems and policy control.

Language:	English
Teaching Activities:	Instruction and demonstration Group work Individual independent learning

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Written exam	60%	Numerical mark	1
Group assignment	40%	Numerical mark	1

OSIRIS-code:	BBE2.AUD2-1
Course name:	UD2 Spatial Strategy
Study load:	5 EC (=140 hours)
Coordinator:	Rana Habibi
Summary:	UD | SO 01 was cantered on the individual components of the constructed surroundings in the scale of neighbourhood and block, whereas UD | SO 02 delves into the spatial strategies and structure of cities and regions. This course's main objective is to understand how cities are shaped and the spatial strategies that help us address urban issues at local, national, and global levels. Cities and regions are evolved over decades based on several socio-political and economic circumstances. Hence, urban structures encompassed not only physical forms and spatial arrangements, but also reflected the socioeconomic and political evolution of different nations and their lifestyles over time. The urban morphology, and typologies are influenced by the spatial strategies and methods used to design them, which vary depending on each region's socioeconomic and cultural conditions. Different economic and environmental crises require different strategies compared to periods of stability and certainty. As urban designers, having various tools and strategies is essential to effectively handle every upcoming situation. This course aims to acquire knowledge and skills in identifying and applying various spatial strategies and analysing diverse spatial structures of the cities

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 Initiate 1.1_level 2
Identify different types of ensembles (including buildings and open spaces) in a specific area using a provided template.(initiate 1.1; level 2)

2 Initiate 1.1_level 2
Analyze complex context (city) through given layers using a provided template (initiate1.1, level 2)

3 Research 6.3_level 2
Analyze the process of design and strategies that have been used in a given project using a provided template (research 6.3, level 2)

4 Design 2.2_level 2
Develop your own urban design strategy based on a given context using a provided template (Design 2.2, level 2)

5 Design 2.2_level 2
Justify your design strategies and substantiate them based on the design steps/organs introduced to you (Design 2.2, level 2)

6 Adapt your communication style to accommodate the cultural preferences of team members (Inter-Cultural understanding 10.2, level 2)

7 Inter-Cultural Understanding 10.2_Level 2
Adapt your communication style to accommodate the cultural preferences of team members (Inter-Cultural understanding 10.2, level 2)

Content description: In this study component the following content is covered:

- This course aims to acquire knowledge and skills in identifying and applying various spatial strategies and analysing diverse spatial structures of the cities.
- A) Analytical Framework
  Through examples of the cities, you will learn how the city shaped and how one can analyse different layers of the city?
- B) Urban Design Strategies
  In the first part of the course, we explain and examine the three main parts of urban design strategy. In the second part we focus a little bit more on the higher level of urban design strategy as this is something that you also need in your LAB work

Language: English

Teaching Activities: Workshops

Lectures

Group work

Individual independent learning

Required literature: RECOMMENDED : Advermaete - Urban Design in the 20th Century, Zurich: gta, 2021. De Meulder - Water Urbanism East, Zurich: Park Books, 2013. Ferrao - Sustainable Urban Metabolism. MIT Press, 2013.

Other required materials: RECOMMENDED - Ingaramo - Topics and Methods for Urban and Landscape Design- From the river to the project. Switzerland:Springer, 2016.
Lejeune - Rural Utopia and Water Urbanism – The Modern Village in Franco's Spain, Berlin: Dom Publishers, 2021

Examination:

Assessments	Weightage	Mark	AI Level
Written exam	70%	Numerical mark	1
Group assignment	30%	Numerical mark	1

Built Environment

Year 2

Semester 3 Block B

OSIRIS-code:	BBE2.BLB2-1
Course name:	LAB2B From Region to City
Study load:	5 EC (=140 hours)
Coordinator:	Maurizio Scarciglia
Summary:	Urbanization in the last few decades has meant exponential urban growth so massive as to merge cities into entire regions. One of the most emblematic examples is the Greater Bay Area in China. Here, a massive flow of migrants from rural China is transforming a necklace of cities around the Pearl River Delta into the biggest world metropolitan conurbation, estimated to soon host up to 100 million inhabitants. This Lab will enable you to deepen your specialization skills into solving a specific urban challenge in a context undergoing massive urban transformation. After crafting a planning-mobility or design solution for the given area, you will reflect on its validity within the regional context in which you operate.
Unit Learning Outcomes::	Upon completion of this study component you are able to:

1. 3.1 You develop the chosen solution in detail from an integral approach, considering other disciplines and preconditions: technical, legal, and economic feasibility, as well as social responsibility and inclusiveness. Specify (2)
2. 2.1 You develop a future-proof solution based on various perspectives and a project definition, a process, frameworks, guidelines and/or requirements. Design (2)
3. 2.2 You justify your approach, weigh alternatives, and substantiate your choice, taking into account the wishes of the stakeholder(s). Design (2)
4. 6.1 You formulate and validate a research question based on a task that is relevant to society and/or the profession. Research (2)
5. 6.2 you choose one or more appropriate methods. Research (2)
6. 8.1 You communicate in a way that shows you are aware of the environment and your role and position in it. Communicate (2)
7. 9.1 You are aware of the effect of your actions on your professional environment. Professionalize (2)
8. 10.1 You actively seek opportunities to learn about different cultures and engage in cultural exchange opportunities. Intercultural understanding (1)

Content description: In this study component the following content is covered:

- The relevance of the regional scale for urban development;
- Housing shortage and local welfare policies (e.g., Hukou household registration system)/ urban villages vs. speculation and densification;
- Migration from rural areas/left behind children/education/employment policies and social inclusion;
- Shenzhen-Hong Kong region: One Country, two systems and the future of regional integration- political implications;
- Social and psychological implications of economic growth on society: entering capitalism;
- Integrated Regional and urban Transportation (road, railway, metro, ferries, airport);
- Transportation poverty & Future sustainable mobility.

Language: English

Teaching Activities: Individual work

Individual independent learning

Student presentations

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	2

OSIRIS-code: BBE2.BKB6-1

Course name: KB6 Management & Finance

Study load: 5 EC (=140 hours)

Coordinator: Stephen Narsoo

Summary: This study component examines project management within the process of spatial development. This will be the basis of the financial aspects of the development.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 Recall basic concepts related to project management in the built environment through a theory based exam.

2 Apply project management principles to a site development by compiling a project management plan.

Content description: In this study component the following content is covered:

- Project based working with complex spatial projects;
- Process based working;
- Program management;
- Phases of spatial development;
- The financial aspects of the process of spatial development;
- Financial calculation of land development;
- Spatial use;
- Costs and revenues;
- Phasing and calculation.

Language: English

Teaching Activities: Instruction and demonstration

Group work

Individual independent learning

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Written exam	70%	Numerical mark	1
Group assignment	30%	Numerical mark	5

OSIRIS-code:	BBE2.BGIS-1PR3 / BBE2.CGIS-1PR6
Course name:	PRO3 Gis & Geo Data
Study load:	5 EC (=140 hours)
Coordinator:	Luiz Marcos De Carvalho Filho
Summary:	In this study component, you will explore using GIS and geodata analysis in the urban environment domain. You will learn to select, clean, and analyse datasets using Geographic Information Systems (GIS). Throughout the course, you will learn how to identify patterns and trends in spatial data at different scales and conduct statistical and geographical analyses. The course will encourage you to look beyond spatial analysis's technical aspects and translate data into valuable insights that can be used for decision-making. The core competencies of this module are (6) Research at Level 3 and (4) Specifying at Level 2. These competencies are translated into learning objectives we will assess throughout the module.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 Identify, analyze and define a socially relevant issue or task related to the combination of GIS and geodata. This is demonstrated by a well-defined topic and research question within the final product based on social and academic relevance. (Initiate 1.1. Level 3) high autonomy, medium complexity)

2 Perform statistical and geographic analysis using QGIS tools and methodologies. You will demonstrate this by formulating key conclusions for a given city in the Netherlands. (Research 6.2. Level 3) high autonomy, medium complexity).

3 Identify patterns and trends in spatial data, interpreting the results to deliver meaningful insights with high complexity due to your chosen topic/interest in the Built Environment. (Research 6.3. Level 3) high autonomy, medium complexity).

4 Position GIS and geodata analysis individually within the context of the Built Environment domain, demonstrating a personal understanding of its applications in urban planning and development through the development of a poster in which you explain a chosen topic/subject/interest in a selected city in the Netherlands from an integrative approach. (Specify 3.1. Level 2) medium autonomy, medium complexity).

5 Communicate your conclusions using text, maps and graphs, ensuring a clear and compelling presentation of data using a (pre-structured) a1 poster. (Communicating 8.3. Level 2) average autonomy, average complexity).

Content description: In this study component the following content is covered:

- GIS theory
- Spatial analysis
- Statistics
- Communication tools
- Reporting

Language: English

Teaching Activities: Instruction and demonstration
Individual independent learning
Formative assessment

Required literature: Will be provided in the course.

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	4

OSIRIS-code: BBE2.BSMA-1PR3

Course name: PRO3 Smart Mobility

Study load: 5 EC (=140 hours)

Coordinator: Sjors Martens

Summary: Self-driving Cars, Artificial intelligence, smart ovens, the Internet of Things; you've probably heard these terms get thrown around during your studies plenty of times. All these innovations in the city are grouped under the header of Smart Cities: the innovative use of technology to increase efficiency, safety, sustainability and democracy in the urban system. However, use of technology does not necessarily benefit the planet or the citizen. Analyzing and distinguishing smart city projects on their debt to ethics, sustainability and responsibility allows you as a built environment specialist to contribute to the future of the city by guiding it towards more citizen centered systems. We will pursue what is smart in smart cities, focusing instead on the question "who is smart in the smart city".

Apart from approaching smart development with a critical lens, the future should be regarded with similar suspicion as well. A BE specialist now has to navigate within broader smart city management that requires data skills, systems thinking, marketing and lobbying. This requires understanding the networks of stakeholders and what drives them to make decisions – their values. To get everyone's nose in the same direction regarding technology innovations, requires a critical professional. In this course, we will explore value based decision making, taking a stand in a stakeholder network, and organizing stakeholder interaction through the development of a board or card game. You will walk away from this course knowing how to play people in the smart city – because you can play games in more way than one.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 Organise the main stakeholders and their relations within a self-selected existing project or pilot. For this, you will perform a stakeholder analysis using a provided stakeholder matrix. (7.2; Medium Autonomy & Complexity)

2 Identify values within existing innovation projects and define personal values within a self-designed project. (1.1; Low autonomy & High Complexity)

3 Critically assess innovation cycles and promises of provided and self-selected projects or pilots, through the innovation curve model. This requires a professional positioning as a smart city manager. (9.3; Medium Autonomy & Complexity)

4 Develop a value-driven innovation project in smart mobility through a provided scenario-based game methodology. (3.1; Medium autonomy & low complexity)

5 Substantiate design choices, stakeholder involvement, and future actions of a self-made scenario-based game. (2.2; Medium Autonomy & Complexity)

6 Interpret playtest data in order to reflect on smart mobility scenario applications in a defined context. This interpretation will address

mobility value and -ethics. (6.3; Medium Autonomy & Complexity)

Content description: In this study component the following content is covered:

- Researching state of the art innovations in smart cities;
- Managing the key stakeholders in smart city management;
- Critically assessing the management of innovation in the city;
- Ethical & value based approach to stakeholder analysis;
- Board/Card game/Role play game design;
- Games as playful participation methodology;
- Focus Group Interviews

Language: English

Teaching Activities: Instruction and demonstration
Formative assessment
Individual independent learning

Required literature: Relevant readings will be provided in class.

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	100%	Numerical mark	5

OSIRIS-code:	BBE2.BREP-1PR3
Course name:	PRO3 Regional Planning
Study load:	5 EC (=140 hours)
Coordinator:	Stephen Narsoo
Summary:	Regional planning deals with the efficient placement of land-use activities (zoning), infrastructure &-economic development, management of natural resources for sustainable settlement growth across a larger area of land than an individual city or town. We can thus define regional planning as the integrated management of a spatially bounded area, strengthening integrated development encompassing ecological principles and economic growth. This PRO module examines what regional development is, the types of regions that exist and the relationship between regional planning and more conventional land use planning, stressing the need for regional development accompanied with the functioning and coordination of government at multiple scales (metropolitan to local scale) while preparing the regional plan. The module covers the experiences of Regional Planning & Development both from the Global North and South.
Unit Learning Outcomes::	Upon completion of this study component you are able to: 1 Students will recall basic concepts of land value capture through theory based exam; 2 Students will foster inter-cultural understanding by proposing project/programme elements that align with and support the cultural values and traditions of the Sierra Nevada Native American community, ensuring that the revitalization efforts are culturally sensitive and sustainable.
Content description:	In this study component the following content is covered: - Understanding of regional planning and development: regions as an important entity for regional development and planning, history and evolution of regional plans, types of regions: formal, functional and planning region; - Focus on metropolitan development and planning: what is a metropolitan region? Major metropolitan regions in the world, metropolitan issues and challenges from developed and developing societies; - Case study: implication of regional (metropolitan) development and planning: cities and metropolitan planning in the Netherlands, metropolitan planning.
Language:	English
Teaching Activities:	Instruction and demonstration Group work Individual independent learning
Required literature:	-
Other required materials:	Materials (articles, book chapters) will be provided during the course work

Examination:

Assessments	Weightage	Mark	AI Level
Written exam	100%	Numerical mark	1

OSIRIS-code: BBE2.BLAN-1PR3

Course name: PRO3 Landscape

Study load: 5 EC (=140 hours)

Coordinator: Michiel Mulderij

Summary: "I find it striking that the quality of the urban habitat of homo sapiens is so weakly researched compared to the habitats of gorillas, elephants, and Bengal tigers and panda bears in China…you hardly see anything on the habitat of man in the urban environment." Jan Gehl In this learning component students will learn to read geomorphological, natural, and cultural underlayers to understand the make-up of the living environment they work on. They will experience how these underlayers can inform design on various scales.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 Formulate the context of a landscape in the Netherlands, based on provided literature. You will demonstrate this by interpreting landscape layers.

2 Provide a substantiated answer to the question of how a landscape system works, by overlaying various landscape layers (analyzing), using demonstrated methods.

3 >Communicate your analysis process and outcomes in a target-oriented way, based on given and independently sourced best-practice examples. You will demonstrate this by compiling your findings in a well-documented and self-explanatory analysis booklet.

Content description: In this study component the following content is covered:

- Geomorphology;
- Ecosystems;
- Archetypical cultural landscapes;
- Archetypical settlement patterns;
- Regional landscape design;
- City scale landscape design;
- Local landscape design.

Language: English

Teaching Activities: Workshops

Individual independent learning

Formative assessment

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	2

Built Environment

Year 2

Semester 4 Block C

OSIRIS-code:	BBE2.CLB2-1
Course name:	LAB2C High Density Environments
Study load:	5 EC (=140 hours)
Coordinator:	Rana Habibi
Summary:	LAB 4 - High Density Urban Hub, is a project for second-year students from the bachelor Built Environment (BE) International track at Breda University of applied sciences in the Netherlands. As a 2nd-year student in the Urban Design Specialization, drawing on your existing knowledge of the built environment (Lab 02)and regional development (Lab 03), this lab aims to elevate your understanding to the scale of detail design. We'll explore the challenges and opportunities of high-density urban development, delving into various design strategies and techniques to foster livable and sustainable urban environments. In this lab, we'll delve into higher-density urban development, a crucial aspect of today's expanding cities. Creating more living spaces within existing urban environments becomes imperative as populations grow. At least in The Netherlands, we have a major challenge to build over 950.000 houses till 2030. In 14 significant projects, 200.000 houses will be built within the next decade. Some of them will be built in an existing urban environment, creating high-density urban hubs. Urban designers and planners face the challenge of finding innovative and sustainable solutions to accommodate this demand. The project site is located in the Haven- Stad area. Haven-Stad includes 12 projects, and we focus solely on Melkweg.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1. You define the clients' relevant wishes, requirements, preconditions and issues. (Initiate 1.1 level 2)
2. You develop a detailed Action Plan, Program of Requirements (PoR), Project Assignment and/or Research/Design Proposal. (Initiate 1.2 level 2)
3. You collect information about the region and site through maps, documentaries, website of municipality and other publications. (Research 6.3 level 2)
4. You analyse the area and site through the collected information, design question and focus point that you have chosen. (Research 6.3 level 2)
5. You develop concepts, goals, programs, and visions through a series of scenarios and design methodologies based on the previous research that you have done. (Design 2.1 level 2)
6. You are focused on interaction and cooperation to get everyone involved and engaged through group-working and conducting collective project. (Communicate 8.2 level 2)

Content description: In this study component the following content is covered:

Mobility

- In Block 1, students will focus on foundational mobility and spatial analysis. They'll explore traffic and transport network analysis, hub function analysis using the butterfly model, and modal shift/split analysis and prognosis to understand current and

Urban Design

- In Block 1, students will learn how to analyze the context of a site, helping them understand its physical, social, and environmental conditions. They will then move on to defining goals and programs, where they identify key objectives and user needs for

Urban Planning

- In Block 1, students will gain foundational skills to support strategic urban planning. They'll learn to conduct stakeholder and trend analyses to understand key influences and actors, apply multi-criteria analysis and variation studies to compare plannin

Language: English

Teaching Activities: Group work

Individual independent learning

Student presentations

Required literature: -

Other required materials: ArcGIS, SketchUp, AutoCAD, Adobe: Illustration, Photoshop and InDesign

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	100%	Numerical mark	1

OSIRIS-code:	BBE2.CPP4-1
Course name:	Personal & Professional Development 4
Study load:	5 EC (=140 hours)
Coordinator:	Valerie Lau
Summary:	Your personal and professional development is the common thread throughout your studies for BE. Three themes are central to this: 1. You will learn to shape your learning process in a self-directed way. 2. You will discover and determine which "type" of BE professional you are and want to become. 3. You will develop into a professional. You will record your development in your PPD report, and you will formulate future (learning) goals.
Unit Learning Outcomes::	Upon completion of this study component you are able to: 1 Presenting yourself to the professional field and applying for internship positions that suit you. You demonstrate this by writing a motivation letter with CV appropriate to a chosen and desired internship position. (professionalisation, 9.2, level 2: medium complexity and medium autonomy) 2 Building up a professional network and being visible (online) as a professional in order to find a suitable internship position (professionalisation, 9.4, level 2: medium complexity, medium autonomy). You demonstrate this by attending guest lectures and actively using a LinkedIn profile. 3 On the basis of a realistic self-image (propagate using qualities, motivation and ambitions), describe and substantiate concrete study choices, study plans and personal learning objectives. (professionalisation, 9.2, level 2: low complexity, medium a lot of autonomy) You demonstrate this in a PPD report in which you make plans up to and including the work placement in semester 5 (year 3.1) and give a look ahead to the rest of years 3 and 4 4 Deliver a linguistically well-written and pleasantly readable report (communication, 8.3, level 2: medium complexity, medium autonomy). You will demonstrate this in a PPD report.
Content description:	In this study component the following content is covered: - Further development of the competencies: Professionalisation and Communication; - Workshops and guest lectures from the industry, especially aimed at preparation your placement in year 3; - Building of your professional network; - Building your CV and letter of application; - Acquiring a suitable placement and assignment for semester 5.

Language:	English
Teaching Activities:	Instruction and demonstration Individual independent learning Formative assessment Workshops
Required literature:	License for Hogeschooltaal
Other required materials:	Edubook (licence of this e-book bought in year 1 is valid) For those who need to reach the level of B2 for English and for those who want to reach the level of C1 for English, purchase of college language English is mandatory.

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	3
Individual assignment	Conditional	P/F	3
Hogeschooltaal exam	Conditional	P/F	1

OSIRIS-code:	BBE2.CMO3-1
Course name:	MO3 Mobility Services & Organisation
Study load:	5 EC (=140 hours)
Coordinator:	Jeroen Weppner
Summary:	Sustainablity is often linked to a decrease of (car) ownership, and an increase of (car, bycicle or scooter) sharing opportunities. But what how are these services organised? And what is the role of governmental and commercial organisations? In this course we will explore the value of an increasing sharing society on the urban and rural challenges.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1. Explain the difference between a market-driven and government-driven mobility service, including the role distribution between the transport authority, transport provider, and traveler. You understand how these parties are involved in the development, offering, and management in both urban and rural areas. (Competency: specifying 3.2, medium complexity and autonomy)
2. Go through the tendering process for concession granting and develop a proposal that takes into account the tasks, roles, and responsibilities of the most relevant stakeholders. You demonstrate this by going through the process steps in a case study and setting out and substantiating the proposal from the stakeholders' perspective. (Competency: managing projects and processes (7.4), high complexity and medium autonomy)
3. Propose and position a new mobility service. You demonstrate this by outlining the playing field in which the service will operate based on the social context, mobility needs and preferences of consumers, the arrangement of roles and responsibilities, and opportunities/risks (in terms of quality management and legislation). (Competency: specifying, 3.1, medium autonomy and medium complexity)
4. Set up a simple business case for a new mobility service. You demonstrate this in a sales pitch where you focus on the unique selling point, product features, strategic approach, and revenue model. (Competency: designing, 2.1, medium autonomy and medium complexity)

Content description: In this study component the following content is covered:

- Governmental and commercial focused mobility services;
- The relationship between government, private companies (supplier) and consumer (demands);
- (common) rules and regulations, concession grants and parking regulations;
- Customer needs and preferences;
- Business cases and use cases;
- Current and forecasted policy on (shared) mobility services and technological innovations.

Language:	English
Teaching Activities:	Instruction and demonstration Group work Individual independent learning
Required literature:	Provided during class
Other required materials:	Business modal template (explained during class)

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	60%	Numerical mark	1
Group assignment	40%	Numerical mark	5

OSIRIS-code: BBE2.CUP3-1

Course name: UP3 Water Management

Study load: 5 EC (=140 hours)

Coordinator:

Summary: This study component examines the role of water management within the process of spatial development. Both national and international examples will be dealt with.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 Produce a spatial design and advice within the spatial domain based on inventory and analysis. (Design 2.1, level 2, medium complexity, medium independence)

2 Make a connection between climate change, landscape and water management. You demonstrate this by demonstrably taking climate- and landscape-specific preconditions into account in the chosen solution. (Specify 3.1 , level 2, medium complexity, medium independence)

3 Collaborate with fellow students and stakeholders/target groups on a spatial design and advice from an external client. (Communicate 8.2, level 2, medium complexity, medium independence)

4 Name and understand the underlying aspects of water management and the role of different levels of government and actors within water management. (Initiation 1.2, level 1, low complexity, medium independence)

Content description: In this study component the following content is covered:

- Climate change, - adaptation and -mitigation;
- Urban water management;
- Different actors concerning water management;
- Water safety, -quality and -quantity;
- Water governance – legislation and -policy.

Language: English

Teaching Activities: Instruction and demonstration

Group work

Individual independent learning

Required literature: Water Governance in the Netherlands; OECD Report; 'Deltaprogramma 2023 (download)

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Written exam	50%	Numerical mark	1
Group assignment	50%	Numerical mark	2

OSIRIS-code:	BBE2.CUD3-1
Course name:	UD3 Spatial Processes & Systems
Study load:	5 EC (=140 hours)
Coordinator:	Luiz Marcos De Carvalho Filho
Summary:	Will self-driving cars be the norm in 10 years? Will the sharing economy overtake private ownership? Will remote work reduce the need for office space? Are we moving away from natural gas for heating? Will agriculture become high-tech or more nature-inclusive? These questions impact the future organization of our living environment, yet their development remains uncertain. In UD3 Spatial Processes and Systems, you will learn how to design with these uncertainties.
Unit Learning Outcomes::	Upon completion of this study component you are able to: 1 Explain how cultural, technological and governance processes impact cities and induce changes in their urban fabric by elaborating a timeline and comparative mapping. (Competency: research 6.3, medium complexity and autonomy) 2 Explain how urban systems operate by understanding their parts and interconnections by selecting one urban system and mapping it out. (Competency: Research 6.3, medium complexity and autonomy) 3 Elaborate on issues related to the future of the city of your choice by selecting topics to be investigated in a scenario exercise. (Competency: Initiate 1.1, medium complexity and autonomy) 4 Use scenario planning as a tool for designing and planning by elaborating different scenarios for the city of your choice. (Competency: Research 6.3, medium complexity and autonomy) 5 Summarise your findings into a clear and appealing narrative through a poster. (Competency: Communicate 8.3, medium complexity and autonomy
Content description:	In this study component the following content is covered: - History of urbanism: learning from past ideas about the future, how changes in culture, technology and governance impacted cities; - Urban systems: unpacking the complexities behind urban systems and exploring their structural elements and spatial components; - Scenarios planning: how to design with uncertainty, what are the tools at disposal of urban designers to come up with future-proof solutions?
Language:	English
Teaching Activities:	Instruction and demonstration Individual independent learning Formative assessment
Required literature:	-
Other required materials:	-

Examination:	Assessments	Weightage	Mark	AI Level
	Individual assignment	100%	Numerical mark	2

Built Environment

Year 2

Semester 4 Block D

OSIRIS-code:	BBE2.DLB2-1
Course name:	LAB2D Re-image the Hub
Study load:	5 EC (=140 hours)
Coordinator:	Rana Habibi
Summary:	LAB 4 - High Density Urban Hub, is a project for second-year students from the bachelor Built Environment (BE) International track at Breda University of applied sciences in the Netherlands. As a 2nd-year student in the Urban Design Specialization, drawing on your existing knowledge of the built environment (Lab 02)and regional development (Lab 03), this lab aims to elevate your understanding to the scale of detail design. We'll explore the challenges and opportunities of high-density urban development, delving into various design strategies and techniques to foster livable and sustainable urban environments. In this lab, we'll delve into higher-density urban development, a crucial aspect of today's expanding cities. Creating more living spaces within existing urban environments becomes imperative as populations grow. At least in The Netherlands, we have a major challenge to build over 950.000 houses till 2030. In 14 significant projects, 200.000 houses will be built within the next decade. Some of them will be built in an existing urban environment, creating high-density urban hubs. Urban designers and planners face the challenge of finding innovative and sustainable solutions to accommodate this demand. The project site is located in the Haven- Stad area. Haven-Stad includes 12 projects, and we focus solely on Melkweg.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 You ensure that your strategies and visions align with the demands of density. (Specify 3.2 Level 2)

2 You justify your vision based on the density, urban typologies and sustainable aspects of the site by developing your master plan and physical model. (Design 2.2 level 2)

3 You are focused on interaction and cooperation to get everyone involved and engaged through group-working and conducting collective project. (Communicate 8.2 level 2)

4 You communicate in a professional, purposeful and a target-oriented way matching the expectations of your audience. (Communicate 8.3 level 2)

Content description: In this study component the following content is covered:

Mobility

- In Block 2, students apply this knowledge to develop concrete designs and plans. They'll integrate mobility plans into their masterplans, focusing on networks, shared mobility solutions, and parking balance calculations to ensure functional and sustainabl

Urban Design

- In Block 2, students will apply their vision by translating density into spatial form, working with typologies for built and open spaces to shape functional and aesthetic environments. They will also develop detailed drawings and visualizations of public

Urban Planning

- In Block 1, students will gain foundational skills to support strategic urban planning. They'll learn to conduct stakeholder and trend analyses to understand key influences and actors, apply multi-criteria analysis and variation studies to compare plannin

Language: English

Teaching Activities: Group work

Individual independent learning

Student presentations

Required literature: -

Other required materials: ArcGIS, SketchUp, AutoCAD, Adobe: Illustration, Photoshop and InDesign

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	1

OSIRIS-code:	BBE2.DENT-1PR4
Course name:	PRO4 Energy Transition
Study load:	5 EC (=140 hours)
Coordinator:	Rana Habibi
Summary:	Energy Transition Sustainability is a school of thought that includes a multi-disciplinary discourse such as economy, sociology and built environment. Global warming, radical climate changes, cause massive impacts in our socio-economic situations and therefore our built environment in upcoming years. According to many scholars and practitioners' sustainability is an approach that requires constant actions from various experts, stakeholders, decision makers and users of space. Hence, as a built environment expert we must take into the account, the different aspects of sustainability in our spatial planning and design of future cities, in various scales. Hence, the pro-module of sustainability mainly focuses on "how do we as a built environmental expert designate a future-proof neighborhood?" While we will explore the different aspects of sustainability within spatial planning, design and mobility in different scales, we will be working with different metaphors such as metabolism and energy consumption as a digestive system of the cities and will explore how different flows of energy can effect the rate of sustainability within our spatial decisions. You will receive several interactive lectures and activities within the class which will give you insight in different aspects of innovative urban management and a sustainable spatial organization/ design of a built environment. You can find more details about the lectures and the teaching methodologies in the lecture series section. The last five weeks of the semester will be allocated to the assignment. As an assignment you will receive a neighborhood called "Spaanse Polder" in Rotterdam, we will specifically focus on neighborhood scale and will examine how a neighborhood can be equipped and sustained for future. Therefore, you will be asked to provide a sustainable environmental plan based on the energy supply and consumption of the neighborhood and propose an innovative urban management and user behavioral changes for future maintenance of the neighborhood.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 You develop future-proof principles for a business park neighborhood. You demonstrate this by analyzing the given site, providing strategies and performing energy calculations for the new proposal. (Design, level 2, medium complexity, medium independenence)

2 You chose a visual podcast as you research methodology to elaborate on your research about the Energy Transition discussion. You will demonstrate this by analyzing the given projects and literature reviews in the form of a video. (Research, level 2, medium complexity, medium independenence)

3 You develop a comprehensive sustainable strategy that takes into account the economic, environmental and social aspects of urban development. You will demonstrate this by participating in the Climate

Game and the decision-making process and series of workshops. (Specify, level 2, medium complexity, medium independenence)

4 You are focused on interaction and cooperation to get everyone involved and engaged. You demonstrate it by signing and agreement form and have a reflection afterwards. (Communication, level 2, medium complexity, medium independenence)

Content description: In this study component the following content is covered:

- Formulating future-proof solutions in the field of sustainability at neighborhood level, in which you make integral proposals;
- Analyzing existing (digital) spatial plans;
- Embedding sustainability proposals in the Environmental Plan;
- Identifying required behavioral changes aimed at various stakeholders in sustainability at neighborhood level;
- Compare and discuss four major concepts related to the global energy transition.
- Calculate energy demand and supply of renewal energy at a neighbourhood level

Language: English

Teaching Activities: Instruction and demonstration

Group work

Formative assessment

Required literature: RECOMMENDED: Sijmons, Dirk, Jasper Hugtenburg, A. van Hoorn, and Fred Feddes. 2014. Landscape and Energy : Designing Transition. Nai010 Publishers

Other required materials: RECOMMENDED: Cody, Brian. 2017. Form Follows Energy : Using Natural Forces to Maximize Performance. Birkhäuser.
Sim, David, and Jan Gehl. 2019. Soft City : Building Density for Everyday Life

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	50%	Numerical mark	3
Group assignment	50%	Numerical mark	3

OSIRIS-code: BBE2.DPAR-1PR4

Course name: PRO4 Participation in Practice

Study load: 5 EC (=140 hours)

Coordinator: Loek Hellebrekers

Summary: This module focuses on the user of the physical living environment in a residential area: the residents. In what ways can they themselves participate in the development of a liveable neighborhood? Students are introduced to different participation methods and learn to apply them in practice. Together with residents and other stakeholders, they look for tools that they can use themselves.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 Understand the complexity of participation within spatial projects and processes and identify, analyze and define an issue or task that is relevant to society and/or the profession. (1.1)

2 Choose a participation tool that is suitable for the intended purpose. (6.2)

3 Communicate purposefully and in a target group-oriented manner, showing that you are aware of the environment and your role and position in it. (8.1)

4 Focus on interaction and cooperation in order to apply participation within the spatial domain. (8.2)

5 Communicate purposefully with a view to knowledge and opinion formation and/or decision-making. (8.3)

Content description: In this study component the following content is covered:

- Participation methods at different scale levels;
- In-depth stakeholder analysis;
- Application of participation methods to a specific case (neighbourhoud level);
- Target group-oriented use of communication tools;
- Reflection and evaluation of applied participation method(s).

Language: English

Teaching Activities: Instruction and demonstration

Group work

Formative assessment

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	100%	Numerical mark	2

OSIRIS-code: BBE2.DTTM-1PR4

Course name: PRO4 Traffic & Transport Modelling

Study load: 5 EC (=140 hours)

Coordinator: Elly Khademi

Summary: Transport planning operates at three levels: macro, meso, and micro. At the macro level, planning focuses on large-scale, long-term strategies, such as national or regional transportation networks, aiming to optimize connectivity and accessibility across vast areas. The meso level deals with intermediate-scale planning, such as city or metropolitan area transportation systems, addressing issues like traffic flow and public transit efficiency. The micro level involves detailed, localized planning, such as street design and pedestrian pathways, ensuring safety and convenience for individual users. Modelling is crucial at all levels as it allows planners to simulate different scenarios, predict outcomes, and make informed decisions to improve overall transportation efficiency and sustainability.

In this module you will be introduced to Micro and Macro models. Micro models simulate traffic on a crossing scale - you can see individual vehicles driving over a network you created according to pre-set parameters. Macro models rely on great mathematical input to be able to predict effects on a network when a change occurs (like a closed off exit). The two types of models each have their own application and limits. In this module you will use them to evaluate a more complex traffic light regulation you will design, and to give advice on a larger infrastructural project.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 Design a traffic simulation model from provided data in the VISSIM program. You demonstrate this by means of a tutorial network and executing a network assignment. (design, Low autonomy & medium complexity)

2 Define the basic knowledge of traditional (4-step) macro models and formulate them in a model. You demonstrate this by forming the data provided into a model on the basis of self-chosen calculation rules. (initiate; Medium autonomy & complexity)

3 Explain the differences between micro and macro transport models and elaborate the selection procedure of the type of model. You can demonstrate this by setting up a synthetic model study. (specify, Medium Autonomy & complexity)

4 Formulate and report a model study based on model choice, policy preferences, and traffic management interventions. You can demonstrate this by carrying out a model study for the traffic situation of Breda in VISSIM or VISUM. (research, Low autonomy & high complexity)

5 Test the results of a micro and macro model study on the basis of policy frameworks and traffic management standards. You demonstrate this with a content reflection in the model study report. (manage project and processes, Medium Autonomy & complexity)

Content description: In this study component the following content is covered:

- Microsimulation theory and software (VISSIM)
- Macrosimulation theory and software (VISUM)
- Vehicle-Dependent traffic light regulations
- Detector and Processing software (COCON, ATB)

Language: English

Teaching Activities: Instruction and demonstration
Group work
Individual independent learning

Required literature: Reader will be provided.

Other required materials: BUas computers with PTV software.

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	50%	Numerical mark	1
Group assignment	50%	Numerical mark	1

OSIRIS-code:	BBE2.DTAC-1PR4
Course name:	PRO4 Tactical Urbanism
Study load:	5 EC (=140 hours)
Coordinator:	Tomas Mahu
Summary:	The built environment of urban areas is generally strictly regulated. However, cities still continuously have to deal with issues such as liveability, safety and sustainability. Tackling such issues is often approached through large scale interventions. In contrast, Tactical Urbanism (TU) is an alternative approach in tackling urban issues. It does so through short term and flexible interventions aimed at exploring long term solutions. TU concerns low budget, temporary, spontaneous and low risk interventions, intended to improve neighborhoods and public space in cities in order to make them more liveable, sustainable and pleasant. TU centers on action and is also known as Do It Yourself (DIY) urbanism, Planning-by-Doing, Urban Acupuncture and Urban Prototyping. It concerns either governmental or citizen initiatives for neighborhood improvement by short term, low budget and scaleable interventions to catalyze long term change. The module will focus on the question how an urban problem can be solved through a TU-intervention.
Unit Learning Outcomes::	Upon completion of this study component you are able to:

1. Develop interventions that could lead to future-proof solutions to improve the liveability, safety and sustainability of neighbourhoods and public space in cities. You demonstrate this by setting up interventions for several urban (design 2.1 level: average complexity, average autonomy).
2. Prepare implementation of short term, low budget and scalable interventions to catalyze long term change. You demonstrate this by a detailed plan of approach for. (implement 4.1: average complexity, average autonomy).
3. Perform implementation actions necessary to ensure that the result demonstrably meets the specifications. You demonstrate this by a presentation including pictures, inventory of results, an evaluation and a reflection report. (implement 4.2, level: average complexity, average autonomy).
4. Professionalise 9.2 You consider your own actions and their results and show that you can learn from them

Content description: In this study component the following content is covered:

- Urban issues, both social and physical
- Tactical urbanism
- Connective communication

Language:	English
Teaching Activities:	Group work Individual independent learning Formative assessment

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	50%	Numerical mark	5
Individual assignment	50%	Numerical mark	5

OSIRIS-code:	BBE2.DVUR-1PR4
Course name:	PRO4 Visualisation: Urban Chronicles
Study load:	5 EC (=140 hours)
Coordinator:	Tomas Mahu
Summary:	In the PRO-module Urban Chronicles, you will discover the power of storytelling by creating a short documentary related to the field of Built Environment. You will learn how to use visual communication to inform, activate, and investigate. During this module, you will work in small groups on a self-chosen topic. You will gain insights into story structure and delve into important aspects such as camera angles, editing, colour usage, composition, and sound. Additionally, you will learn how to analyze visual material to convey your message as effectively as possible. Urban Chronicles provides you with the tools and techniques to tell your story in an engaging and professional manner. You will develop not only technical skills but also your creative and analytical abilities. Discover the power of visual storytelling and deepen your knowledge of the Built Environment.
Unit Learning Outcomes::	Upon completion of this study component you are able to:

1. Initiate and develop a storyline that addresses social or professional issues through visual communication.
   You demonstrate this through an informative documentary.
   Research / 6.1 Level 2: average complexity, average autonomy.
2. Design and produce video content that incorporates visual and technical elements of storytelling to effectively convey a message.
   You demonstrate this through an informative documentary.
   Communicate / 8.1 Level 3: high complexity, high autonomy.
3. Implement a comprehensive final project in video that demonstrates mastery in storytelling and visual communication.
   You demonstrate this through an informative documentary.
   Manage / 7.1 Level 3: average complexity, average autonomy.
4. Communicate critically and reflect on your creative and professional development in visual communication.
   You demonstrate this through an informative documentary.
   Professionalize / 9.2 Level 3: high complexity, high autonomy.
5. Collaborate and disrupt cultural awareness in your storytelling, where you reverse the social context of the built environment.
   You demonstrate this through an informative documentary.
   Show an intercultural mindset / 10.4 Level 2: average complexity, average autonomy.

Content description: In this study component the following content is covered:

- Storytelling;
- Learning to communicate visually through video footage;
- Creating your own visual material;
- Selecting and creating the right content in relation to a plan/design/idea;
- Working with various visualization programs such as: Adobe Premiere, Adobe Audition, Adobe After Effects.

Language: English

Teaching Activities: Instruction and demonstration

Student presentations

Group work

Required literature: -

Other required materials: Adobe package CC-Camera (Photo & Video)

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	5

OSIRIS-code:	BBE2.DVBB-1PR4 / BBE3.CVBB-1PR6
Course name:	PRO4 Visualisation: Beyond Blueprints
Study load:	5 EC (=140 hours)
Coordinator:	Tomas Mahu
Summary:	Welcome to Beyond Blueprints, where urban, mobility and spatial plans come to life through visual arts, atmospheres, and stories. In this module, we shift the focus from traditional blueprints and technical drawings to a more creative and expressive way of visualizing. Here, we go beyond the blueprints; we aim to establish a profound connection between your vision as a designer and the emotions of those who experience these plans. Discover how Beyond Blueprints bridges the gap between the world of (urban) planning and the art of storytelling, and experience the harmony between functionality and aesthetics in the built environment. Welcome to a new dimension of urban development, where imagination leads the way.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1. Master a graphic design program at a professional level by demonstrating the necessary skills. (2.1 Design – level 2 - average complexity and high independence). You will demonstrate this with multiple visuals.
2. Develop multiple ideas about how certain concepts can be visualized in an innovative and substantiated way (for example; by effectively communicating them to others). (2.2 Design – level 2 - average complexity and high independence). You will demonstrate this with multiple visuals.
3. Visualize a specific topic or theme in a unique way using still images, so that even a layman understands what is happening or becomes interested in knowing more. (2.2 Design – level 2 - average complexity and high independence). You will demonstrate this with multiple visuals.
4. Choose the right communication tools to create a powerful story using images, with which you can impress, convince or shock your audience (at a professional level for the intended communication). (8.1 Communicating – Level 3 - High Complexity and High Independence).
5. Using the right software that fits the content and understanding why certain applications do or do not work. (8.1 Communicating – Level 3 - High Complexity and High Independence).

Content description: In this study component the following content is covered:

- Choosing and creating the right content i.r.t. a plan/design/idea;
- Working with Adobe CC;
- Working with 3D visualization programs;
- Working with Render programs.

Language:	English
Teaching Activities:	Instruction and demonstration
	Student presentations
Required literature:	-
Other required materials:	3D program (Sketchup/REVIT)-Render program (n.t.b)-Adobe package CC-Camera (Photo & Video)

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	5

OSIRIS-code:	BBE2.DALR-1PR4
Course name:	PRO4 Academic Literacy & Research
Study load:	5 EC (=140 hours)
Coordinator:	Diaan van der Westhuizen
Summary:	Research allows us to test ideas and assumptions in a structured way. It is for this reason that research, more specifically scientific research, develops a body of knowledge that is always refined, based on the rejection or confirmation of ideas and beliefs. Based on the knowledge you have gained in KB5 and the research skill line, this PRO module aims to build on those basics of good research in a formal approach and scientific manner. The study component introduces you to a process of acquiring, managing, evaluating, and reporting good quality research on a given topic. The intention is to work through a desktop research process that will improve your research management skills, writing and reporting skills: that you are able to investigate literature and sources and a systematic way and report back to a client, conference audience, or research community. Part of this process is to advise others about the quality of research conducted and make informed decisions about how this research can be applied, translated, or taken forward.
Unit Learning Outcomes::	Upon completion of this study component you are able to:

1. Outline research questions by narrowing down your field of interest within the context of a research brief. You will do this by developing a relevant abstract and annotated bibliography.
2. Demonstrate an understanding of the research project brief and willingness to collectively contribute to a group mind map.
3. Evaluate and assess the quality of research approaches by outlining your research storyline in a self-steering manner.
4. Demonstrate this with an analysis of a literature study and a detailed table of contents
5. Structure and organize your research contribution with convincing justification of the current literature as a draft literature review.
6. Modify and summarize your literature review using appropriate and effective academic style and writing through communicative means.
7. Communicate your outputs through a research report and poster exhibition.

Content description: In this study component the following content is covered:

- Scientific literature research approach;
- Academic reading & writing styles;
- Setting up scientific research project;
- Report structuring;
- Reliability and validity of literature, and data sources;
- Research strategies & planning;
- Effective and correct referencing style (APA);
- Applying quantitative and qualitative knowledge to inform empirical discoveries;
- Functions of research (observing, generalizing, reasoning, re-evaluation).

Language: English

Teaching Activities: Instruction and demonstration

Individual independent learning

Formative assessment

Required literature: 1.Academic Writing: A Handbook for International Students Author: Stephen Bailey Publication Information: Fifth edition. London: Routledge. 2017 2.Architectural Research Methods: Second Edition. Authors: Linda Groat & David Wang. 2nd Edition, Wiley. 2013

Other required materials:

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	30%	Numerical mark	2
Individual assignment	70%	Numerical mark	2

Built Environment

Year 3

Semester 5 Block A & B

OSIRIS-code:	BBE3.PLAC-1
Course name:	Placement
Study load:	30 EC (=840 hours)
Coordinator:	Loek Hellebrekers
Summary:	This study component involves: Working in practice for 18 weeks and carrying out an assignment for the placement organization. You record the results in an end product consisting of a professional product, and an additional competency/process reflection. In the competency section, you reflect on your learning outcomes. Coordinators: -UP: Loek Hellebrekers -MO: Elly Khademi -UD: Rana Habibi Admission for placement: You arrange the placement yourself, whereby the placement organization and placement assignment must be approved by the placement coordinator. The conditions for admission for the placement are listed in the Teaching and Examination Regulations (TER) ABEL.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 Identify, analyze, and define an issue or task relevant to the project brief and scope of the placement organization through a plan of approach and translate this into the final product(s). (Initiate 1.1, level 2: Complexity medium, independency medium);

2 Formulate the context, the preconditions, the requirements, and the objective within your placement assignment to underpin a well-founded decision or action to be taken, described in the end-product(s). (Initiate 1.2, level 2: Complexity medium, independency medium);

3 Collect and analyze information and/or data to provide substantiated answers to the question from the placement assignment in the end-product(s). (Research 6.3, level 2: Complexity medium, independency medium);

4 Report on all activities, data, and findings in such a way that they are reproducible in the end-product(s). (Research 6.4, level 2: Complexity medium, independency medium);

5 Manage and facilitate the process/project for the purpose of creating value for your own professional learning and for the placement organization in your end-product(s). (Manage projects and processes 7.1, level 2: Complexity medium, independency medium);

6 Adequately deal with risks and clarify and monitor the interests of all people and parties involved in your placement environment, demonstrated through your end-product(s). (Manage projects and processes 7.2, level 2: Complexity medium, independency medium);

7 Communicate in a way that shows you are aware of the environment and your role and position in it, during your placement and in your end-

product(s). (Communicate 8.1, level 2: Complexity medium, independency medium);

8 Communicate in a target-oriented way, verbally and textually, to ensure quality during your placement and in your end-product(s). (Communicate 8.3, level 2: Complexity medium, independency medium);

9 Take a critical view/reflection of the professional culture and your own behavior within the placement environment, discussed in your end-product(s). (Professionalize 9.3, level 2: Complexity medium, independency medium);

10 In addition to the above-mentioned competencies, you choose an additional competency that you want to develop during your internship. For Urban Design, this has to be the Design competence. The learning outcomes are assessed during the process of the placement, and in the end with a final report and a presentation.

Content description: In this study component the following content is covered:

Language: English

Teaching Activities: Individual independent learning

Formative assessment

Student presentations

Required literature: -

Other required materials: Placement handbook

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	3

Built Environment

Year 3

Semester 6 Block C

OSIRIS-code:	BBE3.CLB3-1
Course name:	LAB3C Cities of Tomorrow
Study load:	5 EC (=140 hours)
Coordinator:	Menno Slijboom
Summary:	In this fifth and final lab, you will apply your skills developed in the first three years of the programme. You will focus on one of the challenges of the city of the future presented in the lab. In this integral lab, you will not only apply your skills as a mobility expert, spatial planning specialist or urban designer, but also your personal skills gained through your unique experience with your selection of PROs and your placement.
Unit Learning Outcomes::	Upon completion of this study component you are able to:

1. Integral approach (level III)
   You can use your knowledge within the broad spatial domain. In addition, you can establish connections with other domains to arrive at integrated solutions (and synergy).
2. Manage & innovate (level II)
   You guide and manage processes and projects to achieve an objective in the spatial context. You are able to see new connections and create innovative solutions for the future of a city or region.
3. Initiate & stear (level II)
   You identify relevant spatial-societal problems, from a bird's eye view vision and based on societal and other trends and developments. You can formulate the prerequisites, requirements, and objectives for this purpose, and translate these into an approach and/or vision. You can describe, monitor, and adjust the required process.
4. Communicate & collaborate (level III)
   You communicate profession-oriented information to the target groups (customers, commissioners, other stakeholders) in the spatial domain (both internally and externally). You can cooperate and liaise constructively with various target groups about spatial-societal problems.

Content description: In this study component the following content is covered:

- Future urban challenges with societal relevance
- Project brief and plan of approach
- Stakeholders
- Risk management

Language:	English
Teaching Activities:	Individual independent learning Formative assessment Student presentations
Required literature:	-
Other required materials:	-

Examination:	Assessments	Weightage	Mark	AI Level
	Individual assignment	100%	Numerical mark	5

OSIRIS-code:	BBE3.CADV-1PR6
Course name:	PRO6 Area Development
Study load:	5 EC (=140 hours)
Coordinator:	Ellen Stoppels
Summary:	Area development is an integral process. Many actors are involved. Those actors have common goals, but also their own specific goals. A good cooperation between all those actors is of great importance for a succesfull area development. In earlier study components, especially in KB6, this has allready been handled with. Especially the role of advisory organizations and municipalties has been steressed. In this study component this will be extended. Attention will also be focused on end users, real estate developers and real estate exploiters. Central issues are finance and ways of cooperation.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1. Specify 3.1 You detail the chosen solution from an integral approach, taking into account other disciplines and preconditions: technically, legally and economically feasible as well as socially responsible and socially inclusive.
2. Manage 7.1 You manage and facilitate the process/project with the aim of creating value.
3. Manage 7.2 You deal adequately with risks and clarify and monitor the interests of all people and parties involved.
4. Communicate 8.2 You are focused on interaction and collaboration so that everyone is involved and engaged.
5. Communicate 8.3 You communicate purposefully with a view to forming knowledge and opinions and/or decision-making.

Content description: In this study component the following content is covered:

- Environment management
- Ways of cooperation
- Project management
- Real estate exploitation
- Calculation of land development
- Calculate and design
- Participation

Language:	English
Teaching Activities:	Instruction and demonstration Group work
Required literature:	-
Other required materials:	-

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	100%	Numerical mark	2

OSIRIS-code:	BBE3.CRBI-1PR6 / BBE3.DRBI-1PR6
Course name:	PRO6 Challenges & RBI Research .
Study load:	5 EC (=140 hours)
Coordinator:	Joost van de Pas
Summary:	During this module you will take part in a challenge. Each year we aim to offer a rich collection of challenges for students to join. These can be linked to events like workshops/ hackathons/ fresh brains/ competitions and other activities organized by BUas or by external organizers. The module consists of two components: The event itself (about 20% of the module) and preparation/ follow-up research or design activities (80% of the module). The PRO Challenges & RBI Research is customized module, which means that every year there will be different challenges with different activities and learning outcomes.
Unit Learning Outcomes::	Upon completion of this study component you are able to:

1 Initiate: (Level 2)
The student is able to formulate the context, preconditions, requirements and the objectives for the research challenge when needed.

2 Communicate: (Level 2)
The student is able to communicate in a purposeful and target-oriented way, showing awareness of the environment, their role and position in it.

3 Communicate: (Level 2)
The student is able to interact and cooperate, contributing to knowledge and opinion formation and/ or decision making in research challenges.

4 Professionalize: (Level 3)
The student is able to learn from their own actions and results while working on a research challenge.

5 Professionalize: (Level 3)
The student is able to critique the professional culture and the ethical and societal standards of the profession within the context of the research challenge.

6 Professionalize: (Level 3)
The student is able to construct your personal and professional identity as a researcher.

Content description: In this study component the following content is covered:

- Variable, depending on the available challenges.

Language:	English & Dutch
Teaching Activities:	Individual independent learning
	Formative assessment
Required literature:	-
Other required materials:	-

Examination:	Assessments	Weightage	Mark	AI Level
	Individual assignment	100%	Numerical mark	4

OSIRIS-code:	BBE3.CMOL-1PR6
Course name:	PRO6 Mobility & Land Use
Study load:	5 EC (=140 hours)
Coordinator:	Paul van de Coevering
Summary:	Mobility and urbanization are intertwined on many and different dimensions. In fact, these seemingly separated worlds are more as one then you might expect. Therefore, planning for and interventions in the urban environment should be aligned thoroughly.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1. Identify the potential of integrated land use and transport strategies to promote sustainability and livability in neighborhoods (initiate 1.2). You demonstrate your understanding by creating a detailed outline for an individual article (level 3) high complexity and medium autonomy.
2. Collect and analyze literature and additional sources to provide substantiated answers to research questions on a specific topic of choice (Research 6.3). You will demonstrate this with an individual paper (level 3) high complexity and high autonomy.
3. Develop packages of measures and an integrated design to reduce car dependency and encourage sustainable mobility and livability in a complex case study (Design 2.1). You will demonstrate this in a group project (level 3) high complexity and average autonomy.
4. Substantiate the packages of measures and the design by the knowledge in the individual papers (Design 2.2). You will demonstrate this in a group project (level 3) high complexity and average autonomy.
5. Develop professional pitches, reports, and other forms of visual communication (Communicate 8.3). You will demonstrate this in a group project (level 3) high complexity and average autonomy.

Content description: In this study component the following content is covered:

- The mutual dependence between mobility and land use and the key role of accessibility;
- Robust principles for urban compaction, mixing functions, multimodal/ inclusive design and accessibility planning;
- Planning concepts like Transit Oriented Development, Bicycle Oriented Development, urban compaction, location policies and retail policies;
- Daily Urban Systems and location selection processes (mobility and land use cycle);
- Multimodal urbanization (balance between accessibility, economy and liveability);
- Stakeholders, governance and planning processes;
- Current challenges, like housing, urban transformation and downsizing of inner city infrastructure for car traffic.

Language: English

Teaching Activities: Instruction and demonstration
Group work
Individual independent learning

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	50%	Numerical mark	5
Group assignment	50%	Numerical mark	5
Individual assignment	Conditional	P/F	5

Built Environment

Year 3

Semester 6 Block D

OSIRIS-code:	BBE3.DLB3-1
Course name:	LAB3D Opel Lab
Study load:	5 EC (=140 hours)
Coordinator:	Menno Slijboom
Summary:	In this fifth and final lab, you will apply your skills developed in the first three years of the programme. You will focus on one of the challenges of the city of the future presented in the lab. In this integral lab, you will not only apply your skills as a mobility expert, spatial planning specialist or urban designer, but also your personal skills gained through your unique experience with your selection of PROs and your placement.
Unit Learning Outcomes::	Upon completion of this study component you are able to:

1. Integral approach (level III)
   You can use your knowledge within the broad spatial domain. In addition, you can establish connections with other domains to arrive at integrated solutions (and synergy).
2. Manage & innovate (level II)
   You guide and manage processes and projects to achieve an objective in the spatial context. You are able to see new connections and create innovative solutions for the future of a city or region.
3. Initiate & stear (level II)
   You identify relevant spatial-societal problems, from a bird's eye view vision and based on societal and other trends and developments. You can formulate the prerequisites, requirements, and objectives for this purpose, and translate these into an approach and/or vision. You can describe, monitor, and adjust the required process.
4. Communicate & collaborate (level III)
   You communicate profession-oriented information to the target groups (customers, commissioners, other stakeholders) in the spatial domain (both internally and externally). You can cooperate and liaise constructively with various target groups about spatial-societal problems.

Content description: In this study component the following content is covered:

- Future urban challenges with societal relevance
- Project brief and plan of approach
- Stakeholders
- Risk management

Language:	English
Teaching Activities:	Individual independent learning Formative assessment Student presentations
Required literature:	-
Other required materials:	-

Examination:	Assessments	Weightage	Mark	AI Level
	Individual assignment	100%	Numerical mark	5

OSIRIS-code: BBE3.DDEC-1PR6

Course name: PRO6 Design & Construct

Study load: 5 EC (=140 hours)

Coordinator: Joost van de Pas

Summary: “This module is the most realistic one of the whole educational programme.” “Now I understand the importance of proper designing and Project work.” These are just two reactions of students and graduates of our education.

This module deals with a realistic case from the municipality of Breda, where the public domain (space/infrastructure, etc.) needs to be changed. The challenges are plenty: designing and repurposing public space, designing functional infrastructure, weighing expected cost with desired/required quality, etc.

How do you tackle functional and practical design objectives according to specifications, in cooperation with various specialisms, with each person having their own project-role to produce a coherent total concept that the/your client will want to choose over that of your competition? A complete challenge you will not easily forget! The product, a total spatial concept, of your project group has to compete with that of other groups to ultimately obtain the order. You are in to win it.

This module is for deepening and broadening your Design skills. It will also teach you how to combine these with some general (civill) engineering parts to get a feeling for the realisation phase.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 Understanding the way of working within a larger project:
You demonstrate this with a detailed Plan of Approach. (Managing 7.1, Level 3 high independence, high complexity)

2 Creating and producing various parts of the project:
You demonstrate this with a phasing plan and/or design. (Designing 2.1, Level 3 high independence, high complexity)

3 Understanding different types/forms of contact between clients and advisors:
You demonstrate this by using various types or forms of (in)formal contact with clients and advisors. (Level 2 medium independence, medium complexity)

4 Collaborating both internally within the project team and externally with the client:
You demonstrate this through collaboration documents and oral presentations (or pitches) or written documents (emails, letters). (Communicating 8.2)

5 Making confident choices within varying uncertainty margins based on expected costs and benefits:
You demonstrate this by working out the chosen solution in detail from an integral approach and making project choices based on financial-economic feasibility, presented in a Trade-off matrix. (Specifying 3.1, Level 3 high independence, high complexity)

Content description: In this study component the following content is covered:

- Design of urban area;
- Level separated junctions;
- 3D design;
- EMBO (Economically Most Beneficial Offer; EMVI);
- BIM (Building Information Modelling and Management);
- Staging, traffic and stakeholder management with operational (traffic) safety;
- Contracting (different forms; also buying knowledge);
- Tender process.

Language: English

Teaching Activities: Instruction and demonstration

Group work

Individual independent learning

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	100%	Numerical mark	2

OSIRIS-code:	BBE3.DTRT-1PR6
Course name:	PRO6 Trends & Transitions
Study load:	5 EC (=140 hours)
Coordinator:	Maurizio Scarciglia
Summary:	In 1896, the first two cars were introduced in the Netherlands. Forty years later, the Dutch roads served 100.000 cars, and today, just 80 years later, we have already more than 8.3 million private cars in the Netherlands. It is evident that the car has completely disrupted the use of the street and the way we plan our cities. Horses were displaced. Pedestrians and cyclists were pushed to the margins. The gradual increase in car ownership is one of the most prominent examples of a trend causing major transitions in our built environment. However, a similar story can be told about first the exodus to the suburbs and later the gentrification of our cities, the emergence of remote working, increasingly smaller family nuclei, and the list goes on. In this module, you will explore trends in our society that have caused transitions in our BE. You will also study current trends and reflect on how these trends may affect our BE in the future. This knowledge and understanding will help you as a mobility specialist, urban planner, and urban designer alike to better grasp and respond to the constant changes in our society.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1. 1.1 You identify, analyze, and define an issue or task relevant to society and/or the profession.
2. 1.2 You formulate the context, the preconditions, the requirements, and the objective to underpin a well-founded decision or action to be taken. You analyze historic and spatial data (GIS) to identify historic transitions in society and the built environment;
3. 6.1 You formulate and validate a research question based on a task that is relevant to society and/or the profession. You extrapolate historic transitions in society and the built environment to identify current trends and societal urgencies;
4. 6.3 You collect and analyze data to provide substantiated answers to the question.
5. 9.3 You take a critical view of the professional culture and the ethical and social standards of the profession
6. 9.4 You develop a good image of your personal and professional identity.

Content description: In this study component the following content is covered:

- Data collection from various sources;
- Data processing;
- Monitoring social trends and societal urgencies;
- Data analysis techniques;
- Data visualization;
- Storytelling;
- Spatial strategies.

Language: English

Teaching Activities: Instruction and demonstration

Group work

Formative assessment

Required literature: Word Economic Forum_The_Global_Risks_Report_2024 (supplied by the course and available every year online)

Other required materials: --

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	2

OSIRIS-code:	BBE3.DENV-1PR6
Course name:	PRO6 Environmental Psychology & Sociology
Study load:	5 EC (=140 hours)
Coordinator:	Karina Iurkova
Summary:	Environmental psychology and urban sociology are related fields that both study the interaction between individuals and groups and their surroundings, but they have distinct focuses and areas of emphasis. The field of Environmental Psychology primarily examines the psychological and emotional relationship between individuals and their physical environment. It delves into how people perceive, interact with, and are affected by the physical aspects of cities, such as architecture, green spaces, noise, and pollution. Urban Sociology, on the other hand, is a subfield of sociology that specifically concentrates on the social structures, processes, and dynamics within urban areas or cities. It looks at the collective experiences, social structures, and processes that shape urban life. This PRO module dives into foundational themes of both disciplines which are interconnected through a continuous assignment with iterative cycles. The course's structure is based on student-led lectures, discussions, workshops, literature and site analysis, and iterative peer evaluation sessions and feedback sessions. The course provides a comprehensive and multidisciplinary perspective on the complex relationship between people and the urban environments they inhabit. The students will continuously work on creating an assessment strategy, conducting analysis of the chosen project location through the lens of specific personas and coming up with design and policy solutions identified through their investigation. They will also analyse the city's and district's policies and visions and status of societal networks to feed in and modify their proposed solutions and designs so that they not only correspond to the individual needs of their personas but also to the city and society as a whole.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 Define the preconditions for future urban and social developments through understanding the challenges and ambitions of the project site and wider city's context, and perspectives of different socio-economic groups on their surroundings. You will demonstrate this by analyzing experiences and needs of chosen personas using different methodologies (desk research, interviews, observations, etc.), analyzing city's development history and future ambitions, and visiting the project site.
(1.1 Initiate)

2 Formulate the assessment criteria and the analysis strategy for the chosen project site by critically looking at the relationship between the built environment, foundational theories and concepts, and perceptions of the chosen personas. You will demonstrate this with methodological choice of assessment criteria, identifying their relevance for the personas with supporting arguments based on personas analysis, and the ranking structure.
(6.3 Research)

3 Conduct assessment based on defined criteria to underpin well-founded recommendations and actions to be taken for developing a design/plan strategy. You will demonstrate this with a complete assessment and comparisons based on chosen personas, and derived conclusions and design and planning guidelines for site development vision.
(1.2 Initiate)

4 Create a development proposal that meets contextual factors and responds to the needs of diverse socio-demographic groups. You will demonstrate this with well-argued (re)redevelopment plan/design for the project site, positive impact definition in relation to the core topics of the course and assessment conclusions.
(2.1 Design)

5 Critically evaluate and justify proposed plans in the light of larger sociological trends and substantiate the relevance of your design and plan choices for diverse socio-economic groups. You will demonstrate this with thematic reflections on the proposed plan/design based on the selected urban sociology topics, and fictional yet well-grounded personas interviews in the newspaper article.
(2.2 Design)

Content description: In this study component the following content is covered:

- Foundational concepts of environmental psychology and their influence on urban plans, designs and policy decisions;
- Assessment of urban areas and identification of differences in interactions between various societal groups and the surrounding environment;
- Societal trends and evolution and structure of the urban community as a socio-spatial system;
- Creation of integrated sustainable and inclusive solutions based on the theoretical and practical knowledge to specific context;
- Adaptation of the design strategies focusing on increasing well-being and positive environmental impact to the city's societal trends, such as gentrification, segregation, and the shadow economy, to address the social factors underlying urbanization and

Language: English

Teaching Activities: Instruction and demonstration
Individual independent learning
Student presentations
Formative assessment
Group work
Workshops

Required literature: -

Other required materials: Recommended 1.Environmental Psychology: an introduction" (Steg, L. E., Van Den Berg, A. E., & De Groot, J. I., 2019)
2.Cities for People" (Jan Gehl, 2010)
3.Urban Theory. A Critical Introduction to Power, Cities and Urbanism in the

21st Century 2014 Harding & Blokland
4. The Urban Sociology Reader" (Jan Lin and Christopher Mele, 2013)
5. Environmental Psychology for Design" by Dak Kopec (second or fourth edition).
6. Handbook of Environmental Psychology and Quality of Life Research (Ghozlane Fleury-Bahi, Enric Pol, Oscar Navarro, 2017)

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	4

OSIRIS-code: BBE3.DEPS-1PR6

Course name: PRO6 Entrepreneurship

Study load: 5 EC (=140 hours)

Coordinator: Stephen Narsoo

Summary: In the work field, you often encounter hiring consultancy firms, working for a consultancy firm and/or investor, or starting a consultancy firm yourself. An understanding of entrepreneurship is therefore important. It gives you a better grip on the processes that take place or helps you to work on a business case yourself. This module will address current issues and business model Canvas. You are going to apply the basic principles of entrepreneurship to a concrete task, the central idea being to approach this problem from the perspective of an entrepreneur. You will deal with the (professional) content, as well as business and financial aspects.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 You will discover and develop your personal intra-/entrepreneurial skills.

2 You set up a business model, from the perspective of new concepts related to the knowledge domain (LG or BE) and/or your own area of interest.

Content description: In this study component the following content is covered:

- Entrepreneurship
- Current spatial issues
- Business model Canvas
- Presentation

Language: English

Teaching Activities: Instruction and demonstration

Formative assessment

Group work

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	30%	Numerical mark	5
Group assignment	70%	Numerical mark	5

OSIRIS-code: BBE3.DARC-1PR6

Course name: PRO6 Architecture

Study load: 5 EC (=140 hours)

Coordinator: Luiz Marcos De Carvalho Filho

Summary: In this study component, you will delve into the world of architecture, exploring the journey from hand drawings and representation to conceptual models, and ultimately, to understanding design principles, composition, and the ideologies behind the design of emblematic houses.

Unit Learning Outcomes:: Upon completion of this study component you are able to:

1 Use sketches and other hand drawing techniques to represent the urban environment and architectural elements. You will demonstrate this in a portfolio. Communicate 8.1 (medium complexity, medium autonomy)

2 Represent an architectural concept through model-making, exploring several methods. You demonstrate this in three conceptual models. Communicate 8.1(medium complexity, medium autonomy)

3 Explain building composition and program distribution by analysing an emblematic house. You will demonstrate this in a series of analytical drawings and text. Initiate 1.2 (medium complexity, medium autonomy)

4 Explore the knowledge acquired in redesigning a simple standard commercial house. You will demonstrate this in drawings and text. Design 2.2 (medium complexity, high autonomy)

Content description: In this study component the following content is covered:

- Hand drawing techniques;
- The use of scale models;
- How to express an architectonic concept through hand drawing and models;
- An introduction to architectonic drawing (blueprints);
- Learning from emblematic projects and the way of working of influential architects.

Language: English

Teaching Activities: Instruction and demonstration

Individual independent learning

Formative assessment

Required literature: Reader provided on Brightspace

Other required materials: Drawing material (markers, ruler, tracing paper) Model making material (scissors, box cutter, glue)

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	5

Built Environment

Year 4

Semester 7 Block A & B

OSIRIS-code: BXE4.GROU-1CHM / BXE4.INDV-1CHM / BXE4.PROC-1CHM

Course name: Change Management

Study load: 30 EC (=840 hours)

Coordinator: Karolien Kampstra

Content description: During this minor you will develop the competence to successfully plan, execute, and evaluate organizational change. You will develop this competence by participating in what we call a 'Change experience': an 18-week project where you work with four or five fellow students on a real-life case of an organization, city, or industry that is on the eve of a major change. In that project your goal is to make real impact by making stakeholders enthusiastic for your change plans, to the extent that they want to carry your plans forward.

The overall goal of this minor is to learn all about how to deal with change in future work settings.

This encompasses the following topics:

- Change Management
-Project Management
-Learning & Development
-Business Development
-Organisational Behaviour

Learning outcomes:

1 Plan and execute change initiatives: Successfully plan, implement, and evaluate change initiatives within an organization;

2 Substantiate change strategy choices: Justify the selection of change strategies based on the issue, organizational history, change agents, and stakeholder dynamics;

3 Diagnose and analyse: Utilize diagnostic models to understand complex situations and analyse organizational strengths and weaknesses;

4 Formulate and implement strategies: Develop strategic objectives, create intervention and communication plans, and establish business models;

5 Assess feasibility and manage resistance: Evaluate the feasibility of change initiatives and develop plans to handle resistance effectively.

Language: English

Teaching Activities: Project with coaching

LAB with coaching

Workshop

Required literature: Leading Change (Kotter, ISBN 9781422186435)

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	20 EC	Numerical mark	3/4
Individual assignment	10 EC	Numerical mark	3
Process assessment	Conditional	P/F	1

OSIRIS-code: BXE4.GROU-1CRS / BXE4.INDV-1CRS / BXE4.PROC-1CRS

Course name: Crowd Safety in Hubs & Events

Study load: 30 EC (=840 hours)

Coordinator: Justin van de Pas

Content description: In this minor the following content is covered:

-crowd safety backgrounds and dynamics;
-crowd safety, modelling and monitoring;
-crowd safety, design & organization;
-crowd simulations and the use of simulation;
-crowd behavior & psychology;
-crowd safety, decisions & response;
-crowd simulations;
-(event) logistics, mobility and accessibility;
-complexity theory & innovations;
-law, permits and regulations.

Learning outcomes:

1 Clear understanding of important concepts within event logistics and application of logistics analysis, process management and capacity calculation;

2 Clear understanding of important concepts within mobility and urban design by applying and analysing integral alignment, design and planning processes and urban and spatial design;

3 Ability to discuss the application of crowd simulations by analysing crowd simulations, applying measuring and monitoring tools, queuing theories and crowd simulations.

4 Ability to discuss application of stakeholder analysis, procedures and permits and law and regulations;

5 Clear understanding of important concepts of Crowd Management and application of crowd modelling;

6 Ability to discuss application of crowd safety management (with concepts such as planning, licensing and operations) and its relevance to the wider legal, organisational, regulatory and risk management framework;

7 Ability to discuss appropriate risk assessment methodologies for crowd safety, how this impact on legislation and guidance, and/or which areas of crowd safety need improvement;

8 Recognise group behavior and understanding causality;

9 Clear understanding of important concepts of Crowd Management and application of crowd modelling to the chosen event/venue;

10 Ability to discuss application of crowd safety management (with concepts such as planning, licensing and operations) and its relevance to the wider legal, regulatory and risk management framework;

11 Analysing an event or venue, including four core modelling elements;

12 Demonstrating understanding of core principles and applications of the tools. Providing some detail of use of models, information they provide and how this assist in the risk analysis of crowd dynamic;

13 Use of clear graphics;

14 Communicate the information about the tools to users and/or team, with the goal to communicate with the audience.

Language: English

Teaching Activities: Lecture,

Workshop

Project with coaching

Excursion

Excursion/Company visit

Required literature: Introduction to Crowd Science (Still, ISBN 9780367866709)

Other required materials: --

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	15 EC	Numerical mark	4
Individual assignment	15 EC	Numerical mark	4
Process assessment	Conditional	P/F	1

OSIRIS-code: BXE4.GROU-1IUR / BXE4.INDV-1IUR

Course name: International Urban Redevelopment

Study load: 30 EC (=840 hours)

Coordinator: Paul van de Coevering

Content description: Tackle global urban challenges in this internationally-oriented minor. Explore a topic of your choice and work in teams to create bold, practical solutions for car-dependent cities through real-world case studies. Blending urban design, mobility, community engagement, and behavioral change, this minor welcomes students from diverse backgrounds eager to shape the sustainable cities of tomorrow. Top teams have to opportunity to present their work abroad.

The following content is covered:

- The transition from car-dependent urban sprawl to sustainable urban environments;
- Key differences in land use, mobility patterns, and planning approaches across global cities;
- Societal issues such as air quality, obesity, social cohesion, and public space quality;
- Hardware, software, and orgware interventions—and how they reinforce one another;
- Developing visions and concepts through STEEP and SWOT analyses;
- Designing at multiple scales—from strategic masterplans to detailed street-level solutions;
- Tactical Urbanism and Urban Guerrilla actions as tools for real-life impact;
- Visual communication techniques including posters, interactive media, and stakeholder presentations.

Learning objective(s):

1 You identify and critically assess the societal and spatial impacts of urban sprawl and car dependency across international contexts (Initiate 1.1) by conducting a SWOT and STEEP analysis. (Level 3 – high complexity, medium autonomy).

2 You research and analyze a specific topic related to sustainable urban redevelopment, such as tactical urbanism, car dependency, or public space design (Research 6.3) by individually writing a thematic paper based on solid academic and grey literature. (Level 3 – high complexity, high autonomy)

3 You co-develop an integrated spatial, behavioral, and governance-based strategy to retrofit a real-world urban area (Design 2.1) by developing a vision, concepts and detailed designs combining hardware, software, and orgware. (Level 3 – high complexity, medium autonomy)

4 You substantiate and align the group's urban redevelopment concept using insights and findings from the individual research papers (Design 2.2).

5 •You develop compelling communication tools to present your vision to local and international audiences stakeholders including pitches, visuals, posters, or interactive formats (Communicate 8.3). You demonstrate this

through a group pitch and supporting materials for local and international audiences. (Level 3 – high complexity, average autonomy).

Language: English

Teaching Activities: Project with coaching

Lecture

Workshop

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	15 EC	Numerical mark	5
Group assignment	15 EC	Numerical mark	5

Built Environment

Year 4

Semester 8 Block C & D

OSIRIS-code:	BXX4.GRAD-1
Course name:	Graduation
Study load:	30 EC (=840 hours)
Coordinator:	Monique van Herpen
Summary:	You have to arrange your own internship and assignment. You will work in practice for 18 weeks and independently conduct a research. You will document the results in a final product/professional product. During the graduation period you will work on location. For content approval on scope, complexity and depth, please contact: - MO: - UP: Monique van Herpen - UD: Rana Habibi Admission to Graduation: The requirements for starting graduation are listed in the TER ABEL.
Unit Learning Outcomes::	Upon completion of this study component you are able to:

1 Identify, analyse, and define an issue or task relevant to the graduation organization through a plan of approach and translated into the final product.
(Initiate 1.1, Level 3, Complexity high, Independency high);

2 Formulate the context, the preconditions, the requirements, and the objective in your graduation assignment, to underpin a well-founded decision or action to be taken described in the end product.
(Initiate 1.2, Level 3, Complexity high, Independency high);

3 Develop a future-proof solution translated to your final graduation product, based on various perspectives and a project definition, a process, frameworks, guidelines and/or requirements .
(Design 2.1, Level 3, Complexity high, Independency high);

4 Justify your approach in your final graduation product, weigh alternatives, and substantiate your choice, taking into account the wishes of the stakeholder(s), social developments and consequences during all phases: realization, use, management and demolition.
(Design 2.2, Level 3, Complexity high, Independency high)

5 Develop the chosen solution in your final graduation product, in detail from an integral approach, taking into account other disciplines and preconditions: technical, legal, and economical feasibility, as well as social responsibility and inclusiveness.
(Specify 3.1, Level 3, Complexity high, Independency high)

6 Formulate and validate a research question, to choose one or more appropriate methods, to collect and analyse data and translate this in the end product.
(Research 6.1, 6.2, 6.3, 6.4, Level 3, Complexity high, Independency high)

7 Communicate in a way that shows you are aware of the environment and your role within the graduation organization and position in it during the process and the presentation.
(Communicate 8.1, Level 3, Complexity high, Independency high)

8 Communicate in a target-oriented way, verbally and textually, to ensure quality during your graduation and in your end product. Communicate 8.3, Level 3, Complexity high, Independency high)

9 Take a critical view of the professional culture and the ethical and social standards of the profession within the graduation organization in relation to the assignment (Professionalise 9.3, Level 3, Complexity high, Independency high)

Content description: In this study component the following content is covered:

Language: English

Teaching Activities: Graduation supervision

Required literature: -

Other required materials: Graduation manual

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	100%	Numerical mark	2

Appendices

- Curriculum overview
- Link to year planning & assessment programme

Curriculum BE

2025 | 2026

YEAR 1

Block A	Block B	Block C	Block D
LAB 1.A Exploring your Environment	LAB 1.B Transforming your Environment	LAB 1.C Visioning the Neighbourhood	LAB 1.D Impacting Community Spaces
KB 1 Introduction to Built Environment	KB 2 Analysis & Design	KB 4 Government & Policy	KB 5 Research & Reporting
PPD 1	KB 3 Human Society & BE	MO SPC 1 Urban Traffic Sytems	PPD 2
		UP SPC 1 Spatial Development	
		UD SPC 1 Urban Typologies + Landscape	

YEAR 2

Block A	Block B	Block C	Block D
LAB 2.A From City to Region	LAB 2.B From Region to City	LAB 2.C High-density Environments	LAB 2.D Re-imagine the Hub
MO SPC 2 Mobility Patterns & Data	KB 6 Management & Finance	MO SPC 3 Mobility Services and Organisation	2 out of 7: PRO Participation in Practice
UP SPC 2 Housing and Livability	1 out of 4: PRO GIS & Geo data	UP SPC 3 Water Management	PRO Traffic & Transport Modelling
UD SPC 2 Spatial Strategy	PRO Smart Mobility	UD SPC 3 Spatial Processes and Systems	PRO VIS Urban Chronicles
PPD 3	PRO Regional Planning	PPD 4	PRO VIS Beyond Blueprint
	PRO Landscape		PRO Energy Transition
			PRO Tactical Urbanism
			PRO Academic Literacy & Research

YEAR 3

Block A	Block B	Block C	Block D
Placement		LAB 3.C Cities of Tomorrow	LAB 3.D Open Lab
		2 out of 6: PRO Area Development	2 out of 7: PRO Design & Construct
		PRO VIS Beyond Blueprint	PRO Environmental Psychology
		PRO GIS & Geo data	PRO Trends & Transitions
		PRO Mobility & Landuse	PRO Enterpreneurship
		PRO Challenges & RBI Research	PRO Architecture
		PRO Individual	PRO Challenges & RBI Research
		Alternative Placement period	PRO Individual

YEAR 4

Block A	Block B	Block C	Block D
Minor/ Exchange		Graduation	
Alternative Graduation period		Alternative Minor (external) / Exchange	

Link to year planning:

Year planning 2025 - 2026

Link to assessment programme:

Assessment programme Built Environment 2025 - 2026

Games

Media

Hotel

Facility

Built Environment

Logistics

Tourism

Leisure & Events

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