Built Environment

Study component catalogue 2026 - 2027

CREATING MEANINGFUL EXPERIENCES

Academy for Built Environment & Logistics

2026-2027

Breda University OF APPLIED SCIENCES

Foreword

Welcome to the study component catalogue for the Built Environment (BE) programme.

The world around us is changing rapidly. Cities are growing, transport networks are becoming smarter and pressure on space is increasing. As a BE student, you will learn to tackle these complex challenges — and contribute to the future of our living environment. This requires curiosity, specialist knowledge and the ability to collaborate on real-world challenges.
Your BE bachelor's programme at BUas offers plenty of scope for you to develop in these areas, with a focus on Mobility, Urban Planning or Urban Design. You'll build a solid foundation in the subject, delve into current issues and gain valuable practical experience — from your first year right through to graduation.

Whether you're just starting out or taking your final steps towards graduation: stay curious, keep growing and make the most of all the opportunities your degree programme and the professional field have to offer. We're delighted to support you in your development as 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 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 catalogue 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 blocks 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 block, 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 blocks 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 block 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 2026-2027 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 study catalogue is part of the Teaching and Examination Regulations of Built Environment and Logistics.

[1] Blocks A, B and C consist of 9 weeks. Block D consists of 10 weeks.

Built Environment 2026 - 2027: year 1

Semester 1

Block A	**Osiris-code**	**ECTS**	**Page**
KB1 Introduction into Built Environment	BBE1.AKB1-2	5	8
LAB1A Explore your Environment	BBE1.ALB1-2	5	10
Personal & Professional Development 1	BBE1.APP1-2	5	12
Block B			
KB2 Analysis & Design	BBE1.BKB2-2	5	15
KB3 Human Society & Built Environment	BBE1.BKB3-1	5	17
LAB1B Transforming your Environment	BBE1.BLB1-2	5	19
	Subtotal	**30**	

Semester 2

Block C	**Osiris-code**	**ECTS**	**Page**
KB4 Government & Policy	BBE1.CKB4-1	5	22
LAB1C Visioning the Neighbourhood	BBE1.CLB1-2	5	23
Specialisation			
MO1 Urban Traffic System	BBE1.CMO1-2	5	24
UD1 Urban Typology	BBE1.CUD1-2	5	26
UP1 Spatial Development	BBE1.CUP1-1	5	28
Block D			
KB5 Research & Reporting	BBE1.DKB5-2	5	31
LAB1D Impacting Community Spaces	BBE1.DLB1-2	5	33
Personal & Professional Development 2	BBE1.DPP2-2	5	35
	Subtotal	**30**	
	Total	**60**	

Built Environment 2026 - 2027: year 2

Semester 3

Block A	**Osiris-code**	**ECTS**	**Page**
KB6 Data Driven Decision Making	BBE2.AKB6-1	5	38
LAB2A From City to Region	BBE2.ALB2-1	5	40
Specialisation			
MO2 Mobility Patterns & Data	BBE2.AMO2-2	5	42
UD2 Spatial Strategy	BBE2.AUD2-2	5	44
UP2 Housing & Livability	BBE2.AUP2-1	5	45
Block B			
KB7 Management & Finance	BBE2.BKB7-1	5	48
LAB2B From Region to City	BBE2.BLB2-1	5	50
Personal & Professional Development 3	BBE2.BPP3-1	5	52
	Subtotal	**30**	

Semester 4

Block C	**Osiris-code**	**ECTS**	**Page**
LAB2C High Density Environments	BBE2.CLB2-1	5	55
Specialisation			
MO3 Mobility Services & Organisation	BBE2.CMO3-2	5	57
UD3 Concept & Performance	BBE2.CUD3-1	5	59
UP3 Water Management	BBE2.CUP3-1	5	61
Profiling modules (1)			
PRO3 Gis & Geo Data	BBE2.CGIS-1P2C	5	63
PRO3 Landscape	BBE2.CLAN-1P2C	5	65
PRO3 Regional Planning	BBE2.CREP-1P2C	5	66
PRO3 Smart Mobility	BBE2.CSMA-1P2C	5	68
Block D			
LAB2D Re-image the Hub	BBE2.DLB2-1	5	71
Specialisation			
MO4 Mobility Projects	BBE2.DMO4-1	5	73
UD4 Spatial Processes & Systems	BBE2.DUD4-1	5	75
UP4 Applied Spatial Planning Instruments	BBE2.DUP4-1	5	77
Profiling modules (1)			
PRO2D Participation in Practice	BBE2.DPAR-1P2D	5	79
PRO2D Tactical Urbanism	BBE2.DTAC-1P2D	5	81
PRO2D Traffic & Transport	BBE2.DTTM-1P2D	5	82
PRO2D Visualisation: Beyond Blueprints	BBE2.DVBB-1P2D	5	84
PRO2D Visualisation: Urban Chronicles	BBE2.DVUR-1P2D	5	85
	Subtotal	**30**	
	Total	**60**	

Built Environment 2026 - 2027: 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 the Future 1	BBE3.CLB3-2	5	90
Profiling modules (2)			
PRO3C Academic Literacy & Research	BBE3.CALR-1P3C	5	91
PRO3C Area Development	BBE3.CADV-1P3C	5	93
PRO3C Design & Construct	BBE3.CDEC-1P3C	5	95
PRO3C Mobility & Land Use	BBE3.CMOL-1P3C	5	97
PRO3C Challenges & RBI Research	BBE3.CRBI-1P3C	5	99
PRO3C Cityspeak	BBE3.CCIS-1P3C	5	100
PRO3C Individual Proposal	BBE3.CIND-1P3C	5	-
Block D			
LAB3D City of the Future 2	BBE3.DLB3-1	5	103
Profiling modules (2)			
PRO3D Trends & Transitions	BBE3.DTRT-1P3D	5	104
PRO3D Architecture	BBE3.DARC-1P3D	5	106
PRO3D Energy Transition	BBE3.DENT-1P3D	5	108
PRO3D Entrepreneurship	BBE3.DEPS-1P3D	5	110
PRO3D Environmental Psychology & Urban Sociology	BBE3.DENV-1P3D	5	111
PRO3D Challenges & RBI Research	BBE3.DRBI-1P3C	5	99
PRO3D Cityspeak	BBE3.DCIS-1P3C	5	100
PRO3D Individual Proposal	BBE3.DIND-1P3C	5	-
	Subtotal	**30**	
	Total	**60**	

Built Environment 2026 - 2027: year 4

Semester 7

Block A & B	**Osiris-code**	**ECTS**	**Page**
Change Management	BXE4.GROU-1CHM	20	115
	BXE4.INDV-1CHM	10	"
	BXE4.PROC-1CHM	Cond.	"
Crowd Safety in Hubs & Events	BXE4.GROU-1CRS	15	116
	BXE4.INDV-1CRS	15	"
	BXE4.PROC-1CRS	Cond.	"
International Urban Redevelopment	BXE4.GROU-1IUR	15	118
	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	121
	Subtotal	**30**	
	Total	**60**	

Built Environment

Year 1

Semester 1 Block A

Osiris-code:	BBE1.AKB1-2
Course name:	KB1 Introduction into Built Environment
Study load:	5 EC (= 140 uur)
Coördinator:	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.

Learning Outcomes:

		Zelcom:
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. (Research 6.3)	1
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. (Communicate 8.3)	1
3.	Recognise key concepts and terminology of the built environment by analysing a familiar context, and explain your findings in your own words and drawings. (Communicate 8.3, Research 6.3)	1
4.	Develop an informed stance on important topics and specializations shaping the built environment through collaborating and debating with your classmates. (Communicate 8.2)	1
5.	Demonstrate your awareness of the cultural differences and similarities between BE's/BE professions through sharing with and learning from your classmates and professionals in the field. (Intercultural understanding 10.1, Professionalisation 9.1)	1

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

Required literature: -

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, MO	1

Osiris-code:	BBE1.ALB1-2
Course name:	LAB1A Exploring your Environment
Study load:	5 EC (= 140 uur)
Coördinator:	Geert de Leeuw
Summary:	LAB 1Aserves as the cornerstone practical course in your Built Environment foundation, providing hands-on experience with systematic urban analysis methods that you will use throughout your entire program. It provides your first systematic introduction to all three specialisations through integrated analysis methods, ensuring you make an informed specialisation choice based on direct experience rather than assumptions about each field.

Learning Outcomes:		Zelcom:
	1. Analyse built environments systematically by collecting and analysing basic information to describe places. (Research 6.3)	1
	2. Connect theory with practice by researching case studies and applying lessons to real places. (Research 6.3, 6.1)	1
	3. Propose contextual improvements by applying research insights to design small-scale adaptations. (Design 2.1)	1
	4. Communicate professionally by presenting analysis, research, and proposals clearly. (Communication 8.1)	1

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

<u>Research Skills:</u>

- Systematic observation of urban environments using structured methods;
- Data literacy using official Dutch urban planning data sources;
- Critical thinking, connecting quantitative data with qualitative observation;
- Evidence-based reasoning from analysis through research to intervention proposals.

<u>Communication Skills (Visual):</u>

- Analytical and representation techniques for spatial documentation through traditional drawing methods;
- Technical drawing abilities for cross-sections, plans, and typological analysis;
- Visual storytelling through serial view documentation and mapping.

<u>Communication Skills (Written):</u>

- Professional reporting using provided templates and academic standards;
- Clear documentation of analytical findings and research insights;

- Academic writing for case study research and intervention proposals;

<u>Collaboration Skills:</u>

- Peer coordination for site visits and safety;
- Professional discussion and technique sharing while maintaining individual accountability;
- Teamwork preparation for future group-based specialised coursework.

Language: English

Required literature: -

Required materials: Analytical and representation materials: sketchbooks, pencils, pens
Technical drawing tools: ruler, tracing paper.

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	1

Osiris-code:	BBE1.APP1-2
Course name:	Personal & Professional Development 1
Study load:	5 EC (= 140 uur)
Coördinator:	Valerie Lau
Summary:	The course centres on three core goals: becoming a self-directed learner who takes ownership of their own development, discovering what kind of Built Environment professional you want to become by exploring the field and its specialisations, and developing the basic skills needed for professional and collaborative work. Throughout the course, students build both self-awareness and professional skills that will serve them throughout the rest of their studies and beyond.

Learning Outcomes:

	Zelcom:
1. Take ownership of your studies and make optimal use of the digital and physical environment. (Communication 8.1)	1
2. Think critically, where you can distinguish between facts and opinions. (Professionalisation 8.3)	1
3. Demonstrate cultural awareness in dealing with others by being considerate and curious about each other's backgrounds. (Intercultural understanding 10.5)	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)	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)	1
6. Deliver a correct PPD report: correct language use, professional layout and meaningful content. (Communication 8.3)	1

Content description:

In this study component the following content is covered:

- Introduction to BUas, the BE programme and the industry through guided onboarding and hands-on field exploration;
- Developing essential personal and professional skills in a higher education context, including critical thinking, communication and intercultural awareness;
- Reflecting on personal growth and documenting initial objectives, goals and ambitions in a Personal Development Plan.

Language:	English
Required literature:	-
Required materials:	Hogeschooltaal license

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	P/F/MO	3

Built Environment

Year 1

Semester 1 Block B

Osiris-code:	BBE1.BKB2-2
Course name:	KB2 Analysis & Design
Study load:	5 EC (= 140 uur)
Coördinator:	Thomas Oorschot
Summary:	During this study component, we go through the different steps in the process of a spatial development. You learn different methodologies and ways of thinking that aim for the best possible outcome for an area or location. By analysing areas, structures, policies, and data, you learn to translate insights into starting points and preconditions that together form the framework for a development ambition. You apply these methods individually to a self-selected area. The insights from these analyses are brought together in an individual portfolio leading to a set of development goals and two distinct spatial concepts for your project area.

Learning Outcomes:

		Zelcom:
1.	Collect and analyse data in a structured manner (BE basic methodologies) to objectively answer universal analysis questions related to the Built Environment. (Research 6.3)	1
2.	Document the full set of analysis activities in a structured portfolio and justify the most relevant insights from your analysis and approach. (Research 6.4)	1
3.	Examine insights from the different analysis methodologies from multiple perspectives: the political/administrative perspective (municipal organisation), the personal/subjective perspective (residents/entrepreneurs), and the technical/substantive perspective, and develop these into a set of possible measures. (Design 2.2)	1
4.	Prioritise the possible set of measures based on urgency for the location and the wishes and possibilities of relevant stakeholders. (Design 2.2)	1
5.	Translate the selected set of measures into two distinct spatial concepts that clearly respond to the identified development goals. You demonstrate this with reference studies, analysis maps, and relevant explanations. (Specify 3.1)	1

Content description:

- What: Step-by-step progression through the analysis phases of observation, demographic analysis, functional analysis, layer analysis, policy analysis, stakeholder analysis, and SWOT analysis, with the cyclical character of the spatial planning process and practice-based research as a central thread.
- How: Per phase, students acquire knowledge through lectures and assignments and deepen this during dialogue sessions. Students work individually on a self-selected area, documenting all analysis activities in a structured portfolio. The course concludes with the development of two spatial concepts supported by reference studies, analysis maps, and relevant explanations.
- With what: Provided templates and tools, such as Excel dashboards and structured formats, with which students carry

out analyses in a structured manner and translate their insights into development goals and two distinct spatial concepts for their project area.

Language: English

Required literature: -

Required materials: Analytical and representation materials: sketchbooks, pencils, pens
Technical drawing tools: ruler, tracing paper

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	1

Osiris-code:	BBE1.BKB3-1
Course name:	KB3 Human Society & Built Environment
Study load:	5 EC (= 140 uur)
Coördinator:	Luiz De Carvalho Filho
Summary:	This course examines how urbanisation, globalisation, sustainability and digitisation shape the built environment, and how the built environment in turn influences society and human behaviour. These processes are explored through the lenses of sociology and environmental psychology, giving you a framework for understanding the mutual relationship between people and place. You will learn to read the built environment as a product of social trends and to consider how planning and design decisions influence people's lives. The course includes practical training in Geographic Information System (GIS) tools, which you will use to test theoretical claims against a case study — for example, examining the extent to which globalisation theory's prediction that high-skilled jobs concentrate in metropolitan areas can be observed in practice. You will present your findings in an individual report that combines theoretical reflection with spatial analysis.

Learning Outcomes:		Zelcom:
	1. Recognise the mutual influence between urban development processes, society, human behaviour and the built environment. You will demonstrate this in a written exam. (Initiate 1.1)	1
	2. Investigate and interpret social trends and developments that influence behaviour and the design of the built environment, with a focus on globalisation, sustainability and digitisation. You will demonstrate this through mapping and spatial analysis. (Research 6.3)	1
	3. Present your findings in a structured report combining theoretical reflection with mapping exercises. You will demonstrate this in an individual report. (Communicate 8.1)	1

Content description:

In this study component the following content is covered:

- Social trends shaping the built environment: how urbanisation, globalisation, sustainability and digitisation influence cities and regions;
- Sociology and environmental psychology: principles for understanding the mutual relationship between society, human behaviour and place;
- Dimensions of sustainability: the social, economic and environmental pillars and their connections to the built environment;
- Digitisation and the built environment: the influence of smart cities and the network society on urban development;
- From theory to case study: applying theoretical concepts to read and analyse a real built and social environment;

- GIS tools for testing theory: using Geographic Information System tools to map, analyse and evaluate theoretical claims against observed patterns.

Language: English

Required literature: Provided on Brightspace.

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Written exam	50%	Numerical mark, MO	1
	Individual assignment	50%	Numerical mark, MO	1

Osiris-code:	BBE1.BLB1-2
Course name:	LAB1B Transforming your Environment
Study load:	5 EC (= 140 uur)
Coördinator:	Geert de Leeuw
Summary:	LAB 1B serves as the bridge between individual analytical skills and collaborative urban transformation practice, building directly on LAB 1A foundations while introducing group-based planning methods that you will use throughout your specialised education. It builds directly on the foundations of LAB 1A by introducing group-based urban transformation planning. While LAB 1A developed individual analytical skills, LAB 1B applies these skills collaboratively to larger-scale urban transformation challenges on a specific site within the city of Breda

Learning Outcomes:		Zelcom:
	1. Understand urban transformation processes by analysing current projects and official city planning in Breda's Havenkwartier. (Initiate 1.1)	1
	2. Conduct comprehensive spatial analysis by collecting and analysing information to describe built environments systematical. (Research 6.3)	1
	3. Formulate strategic development objectives by synthesising analysis findings into SWOT matrices and key development objective. (Research 6.4)	1
	4. Develop transformation plans by understanding specific requirements for design, mobility, and planning products, including spatial structure, circulation networks, and land use programming. (Design 2.2)	1
	5. Communicate professionally through products, posters, and oral presentations demonstrating clear professional standard. (Communicate 8.3)	1

Content description:	Understanding Urban Transformation as an Inevitable Process: A fundamental premise of LAB 1B is that transformation is not exceptional—it is inherent and inevitable in the life of cities. Urban areas constantly evolve as economic, social, and technological conditions change. Particular sites within Breda exemplifies this natural urban cycle: From Agricultural land → Industrial harbour → Obsolete industrial area → Creative district → Mixed-use urban neighbourhood → Future unknown transformation. This cycle demonstrates that no urban function is permanent. Understanding transformation as inevitable helps you approach planning not as preserving a fixed state, but as guiding continuous change toward desirable outcomes. LAB 1B prepares you for the specialisation- specific work that begins in Block C by developing skills to analyse, understand, and shape these inevitable transformation processes.
Language:	English

Required literature: --

Required materials: Analytical and representation materials: sketchbooks, pencils, pens
Technical drawing tools: ruler, tracing paper.

Examination:	Assessments	Weightage	Mark	AI level
	Group assignment	100%	Numerical mark, MO	1

Built Environment

Year 1

Semester 2 Block C

Osiris-code: BBE1.CKB4-1

Course name: KB4 Government & Policy

Study load: 5 EC (= 140 uur)

Coördinator: Stephen Narsoo

Summary: Broad understanding of how municipal governments work in relation to other spheres of government (national and sub-national). Students will gain a practical knowledge of municipal systems. Government intersects every aspect of the built environment. They guide and steer development inter alia allowing or denying building permits, constructing infrastructure, design laws to protect nature and working with communities. During your career you will most likely either deal with governments, or work at a government. This study component will provide you the basics of the functioning of urban governments and through the lens of urban land and property.

Learning Outcomes:

		Zelcom:
1.	Describe basic terms related to municipal government and land-use management and accurately recall this knowledge in a theory-based exam . (Initiate 1.1)	1
2.	Differentiate between the concepts of government and governance in a theory-based exam. (Initiate 1.1)	1
3.	Apply basic principles of sustainable land use/zoning by rezoning a neighborhood based on an existing proposed municipal project. (Design 2.1)	1
4.	Co-design a land use plan for the selected project site, working collaboratively. (Design 2.2)	1

Content description: --

Language: English

Required literature: --

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Written exam	60%	Numerical mark, MO	1
	Group assessment oral / presentation	40%	Numerical mark, MO	1

Osiris-code:	BBE1.CLB1-2
Course name:	LAB1C Visioning the Neighbourhood
Study load:	5 EC (= 140 uur)
Coördinator:	Diaan van der Westhuizen
Summary:	LAB 1C: Visioning the Neighbourhood introduces students to the built-environment professions through a shared international context. Working within their elected specialisation — Urban Design (UD), Urban Planning (UP) or Mobility (MO) — and alongside the other two, students conduct context analysis of an unfamiliar city — its spatial legacy, policy frameworks, and site conditions — and produce a neighbourhood vision appropriate to their specialisation, grounded in that reading. The emphasis and focus of the LAB is twofold: - Equipping students with the core skillset and foundational knowledge required by their specialism — context analysis, policy analysis, spatial scoring, suitability mapping, and visioning — applied in an unfamiliar intercultural context. - Orienting students to their (future) role in the professional ecology by working in parallel with the other specialisations on the same neighbourhoods, recognising where their lens differs and where it must align.

Learning Outcomes:		Zelcom:
1.	Demonstrate awareness of intercultural issues in different Built Environment contexts by recognizing and classifying typologies in an unfamiliar context. (Intercultural understanding 10.3)	1
2.	Demonstrate awareness of intercultural issues in different Built Environment contexts by recognizing and classifying typologies in an unfamiliar context. (Research 6.3)	1
3.	Deduce land development opportunities by conducting a suitability analysis for a selected site area. (Manage Projects & Processes 7.1)	1
4.	Synthesize information into textual and visual city/precinct/policy analysis, themed research, scoring, KDOs, strategy, suitability, and visioning into a submission atlas. (Communicate 8.3)	1

Content description:	--
Language:	English
Required literature:	Relevant policy frameworks and contextual literature.
Required materials:	--

Examination:	Assessments	Weightage	Mark	AI level
	Group assignment	100%	Numerical mark, MO	1

Osiris-code:	BBE1.CMO1-2
Course name:	MO1 Urban Traffic System
Study load:	5 EC (= 140 uur)
Coördinator:	Sjors Martens
Summary:	In this first mobility expertise module, you will reflect on the urban traffic system, i.e., all elements of the built environment that influence how you can move around when you leave your home. The most everyday elements such as roads, traffic lights and signs, and modes of transport are covered. Have you ever wondered if pressing a button at a traffic light actually works? Here you will learn whether it works and how it works. Do you have questions about how the streets around your house look? Here you will learn about the arguments to justify your complaints. Many of these traffic elements relate to human actors participating in a traffic system. They must be guided, informed and facilitated - because they will almost never do exactly what you want them to. You will learn about design principles of many of the basic traffic elements, the techniques for collecting data needed for input, the safety and behavioral rules that apply to your plan, and how to design these infrastructural measures using different pieces of software. You will not only learn to use good arguments to convince the client and other road users, you will also have the skills to create a good technical improvement plan. After this module you will have knowledge of collecting traffic data, understanding road designs and figuring out the choices involved in traffic management. The entire traffic system will become a new source of information for you. Taking a walk will never be the same again!

Learning Outcomes:		Zelcom:
	1. Define unsafe infrastructural situations based on design, behavioral, or communication characteristics of the environment. You demonstrate this through a presented improvement proposal for a self-selected unsafe situation. (Initiate 1.1)	1
	2. Develop and compare an intersection environment based on traffic light regulations in COCON and roundabout capacity calculations. You demonstrate this through a self-made and substantiated design in an advisory report. (Design 2.2)	1
	3. Elaborate a redesign advice for an intersection taking into account the interests of surrounding stakeholders and the political vision. You demonstrate this through an advisory report. (Specify 3.1)	1
	4. Establish quantitative and qualitative guidelines regarding the assessment of an intersection design within provided boundary conditions of liveability, safety, accessibility, space use, and cost estimation. You demonstrate this through a Multi-criteria analysis in an advisory report. Manage Assets & Data 5.2)	1
	5. Report on the redesign process of an intersection according to reproducible data collection methods from the mobility field. You demonstrate this in a written advisory report about an intersection redesign. Research 6.4)	1

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

- Unsafe situation and infrastructure;
- Traffic intenstities and -capacities;
- Traffic policy influences;
- Traffic light programmes and roundabout deisngs;
- Standard mobility data gathering methods;
- Visualisation of spatial designs.

Language: English

Required literature: --

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	3

Osiris-code:	BBE1.CUD1-2
Course name:	UD1 Urban Typology
Study load:	5 EC (= 140 uur)
Coördinator:	Maurizio Scarciglia
Summary:	In this study component you will experience the profession of the Urban Designer. You will learn about the building blocks of urban plans. You will learn the professional language of an urban designer. By analysing existing neighbourhoods, you will learn how to differentiate urban design solutions and recognize good design. This will help you in building up a professional frame of reference. This study component contributes to your LAB1C, but it can also be taken as an independent study component.

Learning Outcomes:

		Zelcom:
1.	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. (Research 6.3)	1
2.	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)	1
3.	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)	1

Content description:

In this study component the following content is covered:

- Design elements in the public domain;
- Building typologies;
- Public-private transitions;
- Standard dimensions;
- Analyses of urban quality in reference plans, sections and perspectives, profiles.

You will learn how to recognize, call-out and reproduce of elements in the public domain, (building) typologies and public-private transitions, with the use of visualisations. After this phase you will need to be able to reproduce definitions, standard sizes, and applications by heart.

You will do this by analysing neighbourhoods that are conceptually well developed. This will help you build a frame of reference. You will recognize elements and you will observe how these elements connect together in an integral design. Every neighbourhood has its own unique features, which you will learn to visualize and communicate.

Language: English

Required literature: Urban Analysis Guidebook-Typomorphology (supplied by lecturers)

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	-

Osiris-code:	BBE1.CUP1-1
Course name:	UP1 Spatial Development
Study load:	5 EC (= 140 uur)
Coördinator:	Luiz De Carvalho Filho

Summary:

This course introduces you to the different roles an urban planner can fulfil in the process of spatial development — the tasks involved, the instruments available, and the products that are delivered. You will study the theory behind urban planning and the action of the planner, and apply that theory through practical exercises on a case study.

A central thread of the course is planning cultures: how planning operates in different national and institutional contexts, and why the same instruments can produce very different outcomes depending on the system in which they are used. You will analyse the planning system of your own country and compare it with others, building an understanding of how cultural, legal and political settings shape spatial development.

Through a combination of lectures, workshops and group work, you will explore planning objectives, processes and phases, and develop a hands-on understanding of how planning tools and urban codes are used. You will present your findings in an individual assignment that reflects on the scope, limitations and advantages of these tools in practice.

Learning Outcomes:

		Zelcom:
1.	Recognise 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)	1
2.	Understand the scope and limitations of planning tools and instruments. You will demonstrate this through a series of exercises applied to a case study. (Research 6.3)	1
3.	Communicate the limitations and advantages in the application of planning tools. You will demonstrate this in an individual assignment. (Communicate 8.1)	1

Content description:

In this study component the following content is covered:

- Spatial development: the process, actors and dynamics through which spatial change is shaped;
- Planning objectives, processes and phases: the cyclical structure of planning and the stages a planner moves through;
- Roles & tasks in planning: the different positions an urban planner can occupy and the responsibilities attached to each;
- Specific products from urban planning: the deliverables planners produce and how they function in the spatial development process;
- Planning tools and urban codes: the instruments available to the planner, their application to a case study, and their scope and limitations in practice;

- Planning cultures: how planning operates across different national and institutional contexts, with a comparative analysis of the student's own country planning system.

Language: English

Required literature: --

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Written exam	50%	Numerical mark, MO	1
	Individual assignment	50%	Numerical mark, MO	1

Built Environment

Year 1

Semester 2 Block D

Osiris-code:	BBE1.DKB5-2
Course name:	KB5 Research & Reporting
Study load:	5 EC (= 140 uur)
Coördinator:	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

Learning Outcomes:		Zelcom:
	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)	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)	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)	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)	1

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:
- Professional writing style.

Language:	English
Required literature:	Reader will be provided

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Written exam	100%	Numerical mark, MO	1

Osiris-code:	BBE1.DLB1-2
Course name:	LAB1D Impacting Community Spaces
Study load:	5 EC (= 140 uur)
Coördinator:	Diaan van der Westhuizen
Summary:	LAB 1D: Impacting Community Spaces asks students to move from a neighborhood vision to grounded spatial decisions. Working within their chosen specialisation — Urban Planning, Urban Design, or Mobility — students translate envisioned goals into a coherent spatial framework that responds to the real needs of the people who live in, move through, and use the area. Students work cross-specialisation to develop a track-appropriate spatial framework anchored by a clearly chosen spatial concept and supported by iterative design research with explicit links between site conditions, user needs, and spatial decisions. The lab rests on three pillars of knowledge students already hold: spatial analysis of visioning, prior knowledge of planning and design tools and methods, and a spatial concept typology that becomes the organising logic of the final proposal.

Learning Outcomes:		Zelcom:
1.	Develop a spatial framework [development plan (UP), masterplan (UD), Integrated mobility plan (MO)] and accompanying spatial strategies for a built-environment site, individually and collectively, by applying iterative design research that integrates site analysis, precedent study, and concept exploration. (Research 6.3)	1
2.	Manage an individual design or planning process by producing layered and principle diagrams that link site conditions, contextual frameworks, and user needs to clearly articulated spatial concepts and structuring decisions. (Manage Projects & Processes 7.1)	1
3.	Develop a preferred spatial proposal in detail — grounded in project requirements, site frameworks, and design guidelines — to advise on a future-proof spatial arrangement responding to community/user needs. (Design 2.1)	1
4.	Initiate a spatial response by formulating the context, preconditions, requirements, and objective for the site — defining and weighing possible solution directions through a structured variant exploration — so a well-founded decision can be taken on the preferred direction.)Initiate 1.2)	1
5.	Communicate and synthesize design or planning proposals effectively during a live poster presentation — verbally and visually — by structuring a clear narrative, answering panel questions professionally, and actively receiving and responding to feedback. (Communicate 8.3)	1

Content description:	--
Language:	English

Required literature: Relevant policy frameworks and contextual literature.

Required materials: Poster layout and drafting software (Adobe Illustrator, InDesign, Autocad); sketching materials (paper, scale ruler, fineliners, markers); model building equipment (box cutters, cutting boards, cardboard, foam, coloured paper)

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	1

Osiris-code:	BBE1.DPP2-2
Course name:	Personal & Professional Development 2
Study load:	5 EC (= 140 uur)
Coördinator:	Valerie Lau
Summary:	Building on the foundation established in PPD1, PPD2 expects students to take greater ownership of their own learning and development with less intensive guidance. The course continues to focus on the same three core goals: becoming a self-directed learner, discovering what kind of Built Environment professional you want to become, and developing the skills needed for professional and collaborative work. Students deepen their self-awareness through reflection, working toward a clearer and more concrete Personal Development Plan that maps their ambitions and growth as a future BE professional.

Learning Outcomes:

		Zelcom:
1.	Present your work, both orally and in writing, in a way that suits the target group and context of the assignment. (Communicate 8.1)	1
2.	Record your development points and goals in a Personal Development Plan. (Professionalisation 9.3)	1
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)	1
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)	1
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)	1
6.	To produce a correct report: correct language, professional formatting and meaningful content. (Communicate 8.3)	1

Content description:

In this study component the following content is covered:

- Developing collaborative and communication skills in a professional context, including designing and delivering a student-led workshop for fellow students;
- Exploring the Built Environment field through research and hands-on field learning experiences, connecting observations to professional practice;
- Reflecting on personal growth through independent online learning activities and documenting development in a Personal Development Plan.

Language:	English
Required literature:	--

Required materials: Hogeschooltaal license

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	P/F/MO	3
	Hogeschooltaal exam	Conditional	P/F/MO	-

Built Environment

Year 2

Semester 3 Block A

Osiris-code:	BBE2.AKB6-1
Course name:	KB6 Data Driven Decision Making
Study load:	5 EC (= 140 uur)
Coördinator:	Elly Khademi
Summary:	Cities and regions are full of assets — roads, bridges, cycle paths, public spaces, buildings, and utility networks. Managing these assets well requires more than intuition or experience: it requires data. In this course, you will learn to work with real urban data to support evidence-based decisions in the built environment. Students will follow a complete Data-Driven Policy Process — from identifying a real-world problem, through collecting and analysing data, to formulating a concrete recommendation for a professional audience. By the end of the course, students will have the analytical and spatial skills to work with data confidently and responsibly in your future professional role.

Learning Outcomes:		Zelcom:
	1. Assess the condition and quality of built environment assets using tabular and spatial data, and evaluate the social implications of asset management decisions in both the short and long term. Assessed by: group and individual project. (Manage Assets and Data 5.1)	1
	2. Formulate a research question and select an appropriate research method based on a given context relevant to society and the profession. Assessed by: group and individual project. (Research 6.1 & 6.2)	2
	3. Acquire, structure, analyse, and visualise spatial and tabular data using GIS and Excel to identify patterns and priorities in the built environment within a given context relevant to society and the profession. Assessed by: group and individual project. Manage Assets and Data 5.3, Research 6.3)	1/2
	4. Present findings in structured, professional, and audience-oriented formats to support evidence-based decision-making in a reproducible manner. Assessed by: group and individual project. (Manage Assets and Data 5.3, Research 6.4, Communicate 8.3)	1/2/2

Content description:	The course follows six stages of the Data-Driven Policy Process. It begins with Awareness, where you identify a real-world built environment issue and translate it into a focused research question. The Orientation stage then guides you through the landscape of data sources, governance principles, and licensing conditions. Moving into the Data stage, you collect, structure, and measure relevant datasets and define Key Performance Indicators. The Analysis stage combines spatial analysis in GIS with tabular validation in Excel to uncover patterns and test findings. The Communication stage focuses on translating your results into clear, audience-appropriate maps, dashboards, and reports. The course concludes with the Action stage, where your team formulates a concrete, evidence-based recommendation and designs a

monitoring plan — completing the full policy cycle from problem to decision.

Language: English

Required literature: --

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	40%	Numerical mark, MO	1
	Group assignment	60%	Numerical mark, MO	1

Osiris-code:	BBE2.ALB2-1
Course name:	LAB2A From City to Region
Study load:	5 EC (= 140 uur)
Coördinator:	Maurizio Scarciglia
Summary:	Lab2A has the goal of introducing you to the complex system of metropolitan regions. These are the contexts that hosts millions of urban inhabitants, moving to the city in search of a better future and opportunities. Metropolitan regions are contexts in which you will need to deploy complex methodologies and strategies to come to a vision and make choices for setting the base for further phases of spatial transformation, based on an initial vision. During this Lab you will learn the difference between a regional vision and the further development of smaller masterplans. You will dive in detail on what phasing entails when transforming a region, on how the different social, economic, infrastructural and political layers interact to inform an intelligent and responsible regional development.

Learning Outcomes:

	Zelcom:
1. You identify, analyse, and define an issue or task relevant to society and/or the profession. (Initiate 1.1)	2
2. You formulate the context, the preconditions, the requirements, and the objective to underpin a well-founded decision or action to be taken. (Initiate 1.2)	2
3. You develop the chosen solution 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)	2
4. You formulate and validate a research question based on a task that is relevant to society and/or the profession. (Research 6.1)	2
5. You communicate in a way that shows you are aware of the environment and your role and position in it. (Communicate 8.1)	2
6. You are aware of the effect of your actions on your professional environment. Professionalisation 9.1)	2
7. You actively seek opportunities to learn about different cultures and engages in cultural exchange opportunities. (Intercultural mindset 10.1)	2

Content description:

Your assignment is to address the challenges faced by the Bao'an Coast within the entire urban area of Shenzhen and the regional context of the GBA. You are encouraged to look beyond the area's challenges for opportunities that could extend your planning and design arguments.

You will work in group on a vision proposal for the Project area of Bao'an coast, addressing the identified issues within your stipulated guidelines and challenge. Within your proposed vision you will, as a group, identify specific 'hotspots' or catalysts for redevelopment – potential interventions that will bring about necessary and important changes . Groups are encouraged to take autonomous

initiative in extending their considerations outside the Study area, according to arguments collected through research. Relationships with the rest of the GBA are highly recommended and appreciated.

Language: English

Required literature: --

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Group assignment	100%	Numerical mark, MO	2

Osiris-code:	BBE2.AMO2-2
Course name:	MO2 Mobility Patterns and Data
Study load:	5 EC (= 140 uur)
Coördinator:	Elly Khademi
Summary:	Urban mobility encompasses how people and goods move through, to, and from cities. While this concept appears straightforward, the interplay of multiple factors—infrastructure, technology, politics, culture, and socioeconomic characteristics—makes urban navigation a complex subject with both ancient roots and an increasingly sophisticated, technology-driven future. The "Mobility Patterns and Data" course prepares you to address contemporary urban mobility challenges. Travel patterns describe human mobility, including when, why, and how people move between locations. Understanding these patterns enables us to estimate travel demand and make strategic transport planning decisions. This mobility specialization module investigates the relationship between individual needs, opportunities, and travel behavior within transport systems. We identify factors and measures that effectively influence traveler behavior toward greener, more sustainable cities. Through data analysis, we explore the connection between supply and demand to guide and predict mobility patterns.

Learning Outcomes:		Zelcom:
	1. Identify the importance of travel patterns in transport planning processes using acquired knowledge - Assessed via written exam. (Initiate 1.1, Research 6.1)	2
	2. Identify and analyze travel patterns using standard travel survey data - Assessed via assignment. (Research 6.2)	2
	3. Independently develop solutions for policymakers using identified travel patterns within given contexts- Assessed via assignment. Research 6.3)	2
	4. Communicate solutions to specific audiences (policymakers) using professional industry products to support knowledge transfer and decision-making - Assessed via assignment. (Communicate 8.3, Research 6.4)	2

Content description: This course comprises two main parts:

1- Introduction to travel patterns and their importance in transport planning and decision-making

2- The role of data in identifying travel patterns and supporting strategic decision-making
In Part I, we examine travel behavior and its influencing factors, investigate the external impacts of transport, and review state-of-the-art transport policies for managing travel demand. You will learn about supply-demand equilibrium in transport systems and how data and modeling serve as supporting tools for government planning and decision-making processes.
In Part II, we work with real Dutch travel pattern datasets to understand the nature of travel patterns and their influencing factors. Our primary objective is to explore and understand one of

the Netherlands' most important travel behavior datasets (ODiN), demonstrating how it answers transport-related questions and supports data-driven policy decisions. Based on defined research questions, we analyze relationships between socioeconomic traveler characteristics and transport-related decisions to illustrate current travel behavior and propose evidence-based policy recommendations.

Language: English

Required literature: Will be provided by lecturer

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	50%	Numerical mark, MO	2
	Written exam	50%	Numerical mark, MO	2

Osiris-code:	BBE2.AUD2-2
Course name:	UD2 Spatial Strategies
Study load:	5 EC (= 140 uur)
Coördinator:	Rana Habibi
Summary:	Students learn to read urban projects through four analytical lenses — Form, Power, Community, Environment — and to understand how different ideologies have produced different spatial strategies for the city, from antiquity to contemporary global urbanism. The course is global in scope, tracing urban modernism through case studies in France, the Netherlands, Italy, and the Global South (Chandigarh, Brasília, Tehran), anchored by a Paris fieldwork week. Assessment combines a lens-based individual essay, a group synthesis presentation and poster, and a Digital Classroom exam.

Learning Outcomes:

		Zelcom:
1.	Identify different types of ensembles (including buildings and open spaces) in a specific area using a provided template. (initiate 1.1)	2
2.	Analyze complex context (city) through given layers using a provided template (initiate1.1)	2
3.	Analyze the process of design and strategies that have been used in a given project using a provided template (research 6.3)	2
4.	Develop your own urban design strategy based on a given context using a provided template (Design 2.2)	2
5.	Justify your design strategies and substantiate them based on the design steps/organs introduced to you (Design 2.2)	2
6.	Adapt your communication style to accommodate the cultural preferences of team members (Inter-Cultural understanding 10.2)	2

Content description:	--
Language:	English
Required literature:	Printed course reader (bound volume of all required chapters and articles). Field Protocol Booklet (A5, 4 pages, used during Paris study trip W6). Trip Manual (provided separately for W6).
Required materials:	Digital access: DOIs for all Scopus-indexed articles listed in Course_Reader_Urban_History.xlsx. Verify full-text access via university library subscription before course start.

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	1

Osiris-code:	BBE2.AUP2-1
Course name:	UP2 Housing & Livability
Study load:	5 EC (= 140 uur)
Coördinator:	David Padden
Summary:	UP2 Housing & Livability is the second Specialization module for Urban Planning. This module explores what makes neighbourhoods truly liveable, examining how housing sits within the wider fabric of the places we call home. Livability goes beyond bricks and mortar. It encompasses the quality and affordability of housing, the streets and green spaces we share, access to services, and the sense of belonging a place can foster or deny. Drawing on real-world case studies from the Netherlands and beyond, you will investigate how planners, designers, and policymakers create places that work for diverse communities — and why some environments thrive while others struggle. By the end of this module, you will have the analytical tools to evaluate housing and neighbourhood quality across social, spatial, and environmental dimensions, preparing you for the challenges you will encounter throughout your career in the built environment.

Learning Outcomes:		Zelcom:
	1. To develop a spatial recommendation for a specific location in order to improve the liveability and housing of the designated area. (Design 2.1)	2
	2. To explore a range of possible solutions to spatial problems, weigh them up from different angles, and make a clear, evidence-based recommendation. (Design 2.2)	2
	3. To connect spatial recommendations to real policy and legislation, and involve relevant stakeholders in preparing for implementation. You will demonstrate this through a collaborative neighbourhood-level plan. (Implement 4.1)	1
	4. To purposefully collect and analyze data at regional, city, and neighborhood level via primary and secondary research methods. (Research 6.3)	2
	5. To demonstrate knowledge and application of relevant theories in housing and livability across different spatial scales. This is assessed through a written examination. (Research 6.3)	2

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

- To develop a spatial recommendation for a specific location in order to improve the liveability and housing of the designated area;
- To explore a range of possible solutions to spatial problems, weigh them up from different angles, and make a clear, evidence-based recommendation;
- To connect spatial recommendations to real policy and legislation, and involve relevant stakeholders in preparing for implementation. You will demonstrate this through a collaborative neighbourhood-level plan;

- To purposefully collect and analyze data at regional, city, and neighborhood level via primary and secondary research methods;
- To demonstrate knowledge and application of relevant theories in housing and livability across different spatial scales. This is assessed through a written examination.

Language: English

Required literature: Relevant Readings provided in Class

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Written exam	60%	Numerical mark, MO	1
	Group assignment	40%	Numerical mark, MO	2

Built Environment

Year 2

Semester 3 Block B

Osiris-code:	BBE2.BKB7-1
Course name:	KB7 Management & Finance
Study load:	5 EC (= 140 uur)
Coördinator:	Stephen Narsoo
Summary:	KB7 Management & Finance introduces students to project and process management within the Built Environment, with a strong focus on stakeholder coordination, project scoping, budgeting, risk management, and decision-making in complex spatial development projects. Through practical case-based learning, students analyse project failures, define project objectives and constraints, assess risks, and develop management strategies that balance technical, financial, organizational, and societal considerations. The course emphasizes professional communication, integrated problem-solving, and the management of projects and processes in dynamic real-world contexts.

Learning Outcomes:		Zelcom:
	1. You recall and explain key concepts related to project management and finance in the Built Environment in a theory-based exam. (Manage Projects & Processes 7.1)	2
	2. You apply project management principles to a spatial development project by reconstructing a real project that has failed. (Implement 4.1)	2
	3. You analyse the financial aspects of spatial development, including costs, revenues and phasing by use standardised cost calculation sheets. (Specify 3.1)	2
	4. You communicate project management and financial information in a structured and professional way during a presentation of your reconstruction project. (Communicate 8.3)	1
	5. You reflect on the role of project management and financial decision-making within the Built Environment profession during a presentation of your reconstruction project. (Manage Assets & Data 5.2)	1

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

- Project management;
- Stakeholder analysis;
- Risk assessment;
- Project scoping;
- Financial feasibility.

Language:	English
Required literature:	--
Required materials:	--

Examination:	Assessments	Weightage	Mark	AI level
	Written exam	70%	Numerical mark, MO	1
	Group assignment	30%	Numerical mark, MO	

Osiris-code:	BBE2.BLB2-1
Course name:	LAB2B From Region to City
Study load:	5 EC (= 140 uur)
Coördinator:	Maurizio Scarciglia
Summary:	Lab 2B will focus on distinguishing between regional vision development and masterplan formulation. The primary scale of analysis will be the district level, affording greater emphasis on research aimed at implementing micro-scale interventions, designing urban ensembles, planning for local communities, and conceptualising tangible mobility solutions—all oriented toward realising the guidelines established during the vision phase.

Learning Outcomes:

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

Content description:

The methodological approach in Lab 2B represents an inversion of that employed in Lab 2A. Whereas Lab 2A proceeded from regional planning frameworks before focusing on specific spatial implementation guidelines (moving from region to city), Lab 2B materialises those visionary objectives through concrete projects while verifying their contribution to the functional coherence of the regional vision (moving from city to region).

Language:	English
Required literature:	--
Required materials:	--

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	2

Osiris-code:	BBE2.BPP3-1
Course name:	Personal & Professional Development 3
Study load:	5 EC (= 140 uur)
Coördinator:	Valerie Lau
Summary:	Building on the foundations of Year 1, PPD3 shifts the focus toward preparing students for their work placement and deepening their professional identity within the Built Environment. With less guided contact time, students are expected to take even greater ownership of their development, making more individual choices that shape their own profile within the BE field. The course centres on developing professional skills such as personal branding, networking, and self-presentation, while also broadening students' international perspective through an excursion abroad.

Learning Outcomes:

		Zelcom:
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)	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)	2
3.	To deliver a well-written and pleasantly readable PPD report. (Communicate 8.3)	2

Content description:

In this study component the following content is covered:

- Developing professional skills including personal branding, networking and self-presentation through workshops and guest lectures, in preparation for work placement
- "Broadening international and professional perspectives through an excursion abroad, connecting with BE professionals and real-world contexts outside the Netherlands
- Updating and reflecting on the Personal Development Plan, and pursuing self-chosen free elective activities that contribute to individual growth and professional goals

Language:	English
Required literature:	--
Required materials:	--

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	P/F/MO	3
	Individual assignment (free elective)	40%	P/F/MO	-
	Hogeschooltaal exam	Conditional	P/F/MO	-

Built Environment

Year 2

Semester 4 Block C

Osiris-code:	BBE2.CLB2-1
Course name:	LAB2C High Density Environments
Study load:	5 EC (= 140 uur)
Coördinator:	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.

Learning Outcomes:		Zelcom:
1.	You define the clients' relevant wishes, requirements, preconditions and issues. (Initiate 1.1)	2
2.	You develop a detailed Action Plan, Program of Requirements (PoR), Project Assignment and/or Research/Design Proposal. (Initiate 1.2)	2
3.	You collect information about the region and site through maps, documentaries, website of municipality and other publications. (Research 6.3)	2
4.	You analyse the area and site through the collected information, design question and focus point that you have chosen. (Research 6.3)	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)	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)	2

Content description:

In this study component the following content is covered:

<u>Mobility</u>
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 future mobility patterns. Trend analysis and future user analysis, including designing behavioral nudges, will help students anticipate user needs and encourage sustainable transport choices. Tools like 3D GIS and AutoCAD support visualizing and analyzing complex mobility data, while early ideas for shared mobility and urban hubs/inter-modality are introduced as part of strategic thinking.

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 the development. Finally, they will focus on creating strategies, scenarios, and a vision, allowing them to translate analysis and goals into a coherent future direction.

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 planning options, and use the participation ladder to evaluate community engagement. Legal and financial aspects are introduced through writing legal paragraphs and zoning plans, as well as basic land development financial calculations. Tools like 3D GIS and AutoCAD support data-driven design, while urban hubs and inter-modality concepts help shape mobility strategies. These elements contribute to forming realistic, future-proof visions.

Language: English

Required literature: --

Required materials: ArcGIS, SketchUp, AutoCAD, Adobe: Illustration, Photoshop and InDesign

Examination:	Assessments	Weightage	Mark	AI level
	Group assignment	100%	Numerical mark, MO	1

Osiris-code:	BBE2.CMO3-2
Course name:	MO3 Mobility Services & Organisation
Study load:	5 EC (= 140 uur)
Coördinator:	Jeroen Weppner
Summary:	Car and bycicle ownership and use are characteristic for the Netherlands. Relatively a small amount of people uses public services in our country, despite the fact that it is relatively sustainable. In this course we discuss the management, roles, interests of organisations that are involved in operating public services. We discuss the difficulty to nudge travellers to public services and its impact in capitalisation and operations.

Learning Outcomes:		Zelcom:
	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. (Specify 3.2)	2
	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. (Manage Projects and Processes 7.4)	3
	3. Develop two specific experiment formats for nudging people towards public transport applying the theory of the expected behaviour, motivation and trigger. (Design 3.1)	2

Content description:

In this study component the following content is covered:

- Roles, interests and collaboration between governmental, commercial organisations and the customer in providing public services;
- Capitalisation, operational details, data and tendering procedures in public services;
- Impact of public services in the design and mobility behaviour in a city;
- Customer preferences and the challenge how to persuade people to public services;
- Guest lectures and a site visit.

Language:	English
Required literature:	MO3 reader and additional articles (provided)
Required materials:	--

Examination:	Assessments	Weightage	Mark	AI level
	Group assignment	30%	Numerical mark, MO	5

	Individual assignment	70%	Numerical mark, MO	1

Osiris-code:	BBE2.CUD3-1
Course name:	UD3 Concept & Performance
Study load:	5 EC (= 140 uur)
Coördinator:	Diaan van der Westhuizen
Summary:	What makes a design work? And what makes it work well for the people who live in it, for the environment it shapes, and for the society it fosters? This module teaches you to answer these questions systematically, by developing spatial concepts and evaluating them against a structured set of criteria across three dimensions.

Learning Outcomes:

		Zelcom:
1.	Collect and analyse site data, programme requirements and reference projects to provide a substantiated foundation for a spatial concept, tracing each design decision back to its concepting principle and source. You will demonstrate this in four concept schemes, each derived from a different starting principle, produced across the four iteration cycles. (Research 6.3)	2
2.	Develop four spatial concepts for the same site and Programme of Demand, each starting from a different concepting principle, and justify your design decisions in relation to programme requirements, site conditions and evaluation outcomes. You will demonstrate this in an individual design product showing the four concepts with their supporting argumentation and a documented design-decision log per cycle. (Design 2.2)	2
3.	Organise, process and apply performance indicators — including density (FSI, GSI,dwellings per hectare), environmental criteria (sun exposure, wind) and spatial and social evaluation criteria — to systematically assess and compare four design concepts across three evaluation dimensions. You will demonstrate this through a structured evaluation report containing calculated indicators, analysis maps and qualitative assessments per cycle. (Manage Assets & Data 5.3)	2
4.	Communicate a critical reflection on the four concepts and their evaluation outcomes, identifying which concepting principle works best for you, what the PoD reveals as limiting or enabling, and what a hybrid approach drawing on the four concepts would look like. Youwill demonstrate this in a final reflective product. (Communicate 8.3)	2

Content description:

In this study component the following content is covered:

- Developing four concepts from out PoD based upon the following design-approaches:
  - Art work or philosophy
  - Site analysis and context
  - Best practice case study
  - Critical thinking
- Testing the concepts via 3 criteria: performance, spatial quality and social environment.

- Making a final design based on the former process.

Language: English

Required literature: --

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	2

Osiris-code:	BBE2.CUP3-1
Course name:	UP3 Water Management
Study load:	5 EC (= 140 uur)
Coördinator:	Ellen Stoppels

Summary:

Water management (within spatial planning) encompasses all activities aimed at optimally managing ground-water and surface water (Rijkswaterstaat, 2019). This primarily concerns protection from water (flooding), of the water (quality) and making water suitable for human use. In doing this, it aims to ensure sufficient water quan-tity and quality for households, ecosystems and economic sectors, including agriculture, transport and energy (Climate Adapt, n.d).

Management of water, just as the management of our built environment, has gone through different paradigms over time. Water has and has had different functions and meanings; our enemy, our way of transport, something to tame, a valuable resource, a recreational asset, something sacred, a marker of our landscape, something to follow. These different meanings, mixed with the planning paradigms that have come and gone, have defined the ways we manage our water. The way we treat water and which meaning of water prevails in a certain time, is exemplary for how we view spatial planning as a whole. Which is why, this can be called a core topic within the field of spatial planning.

Learning Outcomes:

		Zelcom:
1.	Produce a spatial design and advice within the spatial domain based on inventory and analysis. (Design 2.1)	2
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)	2
3.	Collaborate with fellow students and stakeholders/target groups on a spatial design and advice from an external client. (Communicate 8.2)	2
4.	Name and understand the underlying aspects of water management and the role of different levels of government and actors within water management. (Initiate 1.2)	1

Content description:

In this study component the following content is covered:

- Climate change, - adaptation and -mitigation: Understanding of the water cycle and its connection to weather and landscape structures, with attention to how this is influences by effects of global warming;
- Water quantity: Background on different bodies of water and the effects of drought on the one hand and flooding on the other. Use of three of the main Dutch water management projects: Delta works, Zuiderzeeproject, Room for the River;
- Water quality: Water as an ecological asset and water as an essential source and the protection of drinking water;
- Urban water management: Focus on sustainable and nature-based solutions to work with water in urbanized areas;

- Water governance – legislation and -policy and actors concerning water management: International, national and regional policies on water and the main governing actors involved in our protection of and against water.

Language: English

Required literature: --

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Group assignment	50%	Numerical mark, MO	2
	Written exam	50%	Numerical mark, MO	1

Osiris-code:	BBE2.CGIS-1P2C
Course name:	PRO2C Gis & Geodata
Study load:	5 EC (= 140 uur)
Coördinator:	Luiz De Carvalho Filho
Summary:	This hands-on GIS course equips you with essential spatial analysis tools to tackle urban planning challenges globally. Using the Layer Approach framework, you will systematically analyse Territory, Networks, and Occupation patterns to develop evidence-based policy recommendations for a chosen location anywhere in the world. Unlike traditional GIS courses with fixed case studies, you select and justify your own study area, developing transferable analytical skills applicable across contexts. Throughout the course, you will learn to select, clean, and analyse datasets using Geographic Information Systems (GIS), identify patterns and trends in spatial data at different scales, and conduct statistical and geographical analyses, translating data into valuable insights for decision-making.

Learning Outcomes:

		Zelcom:
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)	3
2.	Perform statistical and geographic analysis using QGIS tools and methodologies. You will demonstrate this by formulating key conclusions for your chosen city. (Research 6.2)	3
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)	3
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 your selected city from an integrative approach. (Specify 3.1)	2
5.	Communicate your conclusions using text, maps and graphs, ensuring a clear and compelling presentation of data using a (pre-structured) poster format. (Communicate 8.3)	2

Content description:

In this study component the following content is covered:

- GIS theory and spatial analysis frameworks;
- Spatial analysis methodologies (Territory, Networks, Occupation layers);
- Statistics and quantitative geographic analysis;
- Communication tools and visual data presentation;
- Reporting and professional documentation.

Language:	English
Required literature:	Provided on Brightspace.

Required materials: Laptop (preferably Windows)

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	3

Osiris-code:	BBE2.CLAN-1P2C
Course name:	PRO2C Landscape
Study load:	5 EC (= 140 uur)
Coördinator:	Michiel Mulderij
Summary:	In this module you will learn what it means to design with the landscape — to read the abiotic, natural, and cultural underlayers and the story embedded in the living environment. You will experience how the character of a place (Genius Loci) can inform the design of the living environment on various scales. Through site visits and thorough analyses, you will study a variety of Dutch landscapes and compile their findings in a landscape atlas.

Learning Outcomes:

	Zelcom:
1. Formulate the context of a landscape in the Netherlands, based on provided literature, demonstrated by interpreting landscape layers. (Initiate)	2
2. Provide a substantiated answer to the question of how a landscape system works, by overlaying various landscape layers (analysing), using demonstrated methods. (Research)	2
3. Communicate the analysis process and outcomes in a target-oriented way, based on given and independently sourced best-practice examples, demonstrated by compiling findings in a well-documented and self-explanatory analysis booklet. (Communicate)	2

Content description:

In this study component the following content is covered:

- Introduction to Landscape;
- The Landscape Layer Method;
- Field Observations (cycling excursion);
- The Rural Landscape;
- Landscape Urbanization;
- Genius Loci.

Language: English

Required literature:

Tišma, A. & Lörzing, H. (2023). Dutch Landscape; The Ultimate Guide for Study, Professional and Personal Use. nai10 publishers.
Rutte, R. (2023). The Making of the Netherlands. Landscape, Cities and Architecture. Uitgeverij THOTH.
Spek, T. (2025). Landschappen van Nederland; Handboek voor de geschiedenis van onze leefomgeving. Uitgeverij Matrijs.

Required materials:

Butter paper sketch roll; Drawing pens of various thickness (e.g. 0.1, 0.5, 1.0 or similar)
COPIC markers or equivalent
Laptop (for printing, research, etc.); Bicycle (for week 3 excursion)

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	2

Osiris-code:	BBE2.CREP-1P2C
Course name:	PRO2C Regional Planning
Study load:	5 EC (= 140 uur)
Coördinator:	Stephen Narsoo
Summary:	Regional Planning examines how regions are planned, governed, and developed in response to major spatial challenges such as housing affordability, infrastructure provision, economic development, and environmental sustainability. The course explores regional planning theories, land value capture mechanisms, metropolitan governance, and integrated spatial development through case studies from both the Global North and South. Students will critically analyse planning strategies and develop future-oriented regional interventions that promote socially inclusive and sustainable urban development.

Learning Outcomes:		Zelcom:
	1. You analyse regional housing and spatial development challenges by critically examining land value capture mechanisms, governance structures, and housing affordability strategies in the context of large-scale urban development projects. You will demonstrate this through the evaluation of a regional planning case study. (Research 6.3)	2
	2. You develop a future-proof regional planning strategy that integrates land value capture instruments, institutional actors, and affordability mechanisms to support socially inclusive urban development. You will demonstrate this through a substantiated planning proposal for a regional development intervention. (Specify 3.1)	2
	3. You justify planning and policy choices by weighing alternative land value capture approaches, governance models, and implementation risks in relation to long-term housing affordability and public value creation. You will demonstrate this through a structured written argument supported by case study evidence. (Design 2.2)	2

Content description:

In this study component the following content is covered:

- Regional economic development;
- Land value capture;
- Regional planning and development;
- Land ownership and development;
- Urbanisation and metropolitanization;
- Regional growth models;
- Land finance.

Language:	English
Required literature:	--
Required materials:	--

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	1

Osiris-code:	BBE2.CSMA-1P2C
Course name:	PRO2C Smart Cities
Study load:	5 EC (= 140 uur)
Coördinator:	Sjors Martens

Summary:

Self-driving cars, artificial intelligence, smart ovens, The Internet of Things; You probably had these terms thrown at you during your studies. All these innovations in the city are grouped under the heading of Smart Cities: the innovative use of technology to increase efficiency, safety, sustainability and democracy in the urban system. As a counterpoint to the efficiency drive in smart cities, there are playful cities. It is precisely the space for experimentation, inefficiency, and self-interpretation in urban systems that ensures a future-proof city. In this module, we will look at which city models meet future-proof values, which technologies can contribute to this, and which stakeholders are central. We will focus on what is smart in smart cities, guided by the question "who is smart in the smart city".
By analyzing and differentiating smart city projects based on their approach to ethics, sustainability, and responsibility, as a specialist in the built environment, you can contribute to the future of the city by guiding it towards more citizen-centric systems. In this course, we explore value-based decision-making, taking a stand in a stakeholder network, and organizing interaction with stakeholders through the development of a playful interaction, or a board or card game. After this course you will know how to 'play' people in the smart city. Let the Smart City Games begin.

Learning Outcomes:

		Zelcom:
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. (Manage Projects & Processes 7.2)	2
2.	Identify values within existing innovation projects and define personal values within a self-designed project. (Initiate 1.1)	2
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. (Professionalisation 9.3)	2
4.	Develop a value-driven innovation project in smart or playable cities through a provided scenario-based game methodology. (Specify 3.1)	2
5.	Substantiate design choices, stakeholder involvement, and future actions of a self-made scenario-based game. (Design 2.2)	2
6.	Interpret experiment data in order to reflect on smart city scenarios in a defined context. This interpretation will address urban value and -ethics. (Research 6.3)	2

Content description:

In this study component the following content is covered:

- State of the art smart city innovations;
- Stakeholder relations in smart city management;
- Critically assess innovation cycles;

- Playful cities;
- Game and play design;
- Value and ethics based design;
- Play as community facilitator;
- Focus Group research.

Language: English

Required literature: --

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	5

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 uur)
Coördinator:	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.

Learning Outcomes:		Zelcom:
	1. You ensure that your strategies and visions align with the demands of density. (Specify 3.2)	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)	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)	2
	4. You communicate in a professional, purposeful and a target-oriented way matching the expectations of your audience. (Communicate 8.3)	2

Content description:

In this study component the following content is covered:

<u>Mobility</u>

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 sustainable transport systems. The urban hub concept is refined within densified environments, while maintenance planning ensures long-term usability and quality. By linking mobility with spatial design, students create integrated, future-ready urban environments.

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 space, and combine all their work into a comprehensive masterplan.

Urban Planning:
In Block 2, students build on their vision by applying densification strategies and exploring typologies of built and open space. They refine their proposals using detail drawings, graphic techniques for impressions, and produce a complete masterplan. They'll also deepen their understanding of environmental safety, development and maintenance legislation, and continue applying legal, financial, and digital tools to ensure that their designs are feasible and sustainable.

Language: English

Required literature: --

Required materials: ArcGIS, SketchUp, AutoCAD, Adobe: Illustration, Photoshop and InDesign

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	1

Osiris-code:	BBE2.DMO4-1
Course name:	MO4 Mobility Projects
Study load:	5 EC (= 140 uur)
Coördinator:	Sjors Martens

Summary:

In the previous specialisation modules, you have learnt about the transport system at various levels of scale. This involved gaining a grasp of the key services, data and concepts. The final specialisation module focuses on how all this information should be applied in practice. You will learn to set up a project by weighing up measures based on costs, cost recovery, administrative feasibility and social feasibility. Have you ever wondered how much all these mobility interventions cost? And who is supposed to pay for them? And how we can ensure that such funds are actually made available? Then this module is the icing on the cake.
Using the SUMP frameworks as a basis, you will draw up an implementation plan. This requires clear planning, a phased approach, and a clear understanding of the financing and risks involved. Through numerous practical examples, guest speakers and your own research, by the end of this module you will have a much firmer grounding in the world of mobility.

Learning Outcomes:

		Zelcom:
1.	Develop a mobility project within realistic financial, planning and risk frameworks. You will demonstrate this in an individual examination. (Specify 3.1)	2
2.	Assess feasibility by weighing up measures in terms of costs, cost recovery, and administrative and social feasibility. You will demonstrate this in an individual examination. (Specify 3.2)	2
3.	Draw up an implementation plan detailing all six stages of a project with realistic examples. You will demonstrate this by producing an implementation plan. (Implement 4.1)	2
4.	Carry out a mobility project within a SUMP framework, focusing on technical, organisational and financial feasibility. You will demonstrate this by elaborating on the SUMP stages in a balanced reflection. (Implement 4.2)	2
5.	Assess the feasibility of the project using self-defined KPIs and indicators, and in consultation with relevant stakeholders. You demonstrate this through specific project steps in the implementation plan. (Manage Assets & Data 5.2)	2

Content description:

In this study component the following content is covered:

- SUMPs
- MIRT funding
- Mobility funding options
- European business models
- Evaluation methodology
- Implementation plan
  Risk analysis

Language: English

Required literature: --

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Written exam	100%	Numerical. MO	1
	Individual assignment	Conditional	P/F/MO	4

Osiris-code:	BBE2.DUD4-1
Course name:	UD4 Spatial Processes & Systems
Study load:	5 EC (= 140 uur)
Coördinator:	Luiz De Carvalho Filho
Summary:	How do we design for cities when change is the only constant? Building on the previous specialisation courses, this course adds the dimensions of time and systems to your understanding of urban design. You will study a city of your choice through three integrated perspectives: the place itself, an urban system you analyse in depth, and the time dimension of historical patterns and future scenarios. Along the way you will develop skills in historical analysis of urban transformation, systems thinking, scenario planning for uncertain futures, and visual communication. By the end of the course you will be able to explain how cities have evolved, how they function today, and how they might develop in multiple possible futures.

Learning Outcomes:		Zelcom:
	1. Explain how cultural, technological and governance processes impact cities and induce changes in their urban fabric by elaborating a timeline and comparative mapping. (Research 6.3)	2
	2. Explain how urban systems operate by understanding their parts and interconnections by selecting one urban system and mapping it out. (Research 6.3)	2
	3. Elaborate on issues related to the future of the city of your choice by selecting topics to be investigated in a scenario exercise. (Initiate 1.1)	2
	4. Use scenario planning as a tool for designing and planning by elaborating different scenarios for the city of your choice. (Research 6.3)	2
	5. Summarise your findings into a clear and appealing narrative through a poster. (Communicate 8.3)	2

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;
- Learning from history (Weeks 1–3): analyse your city's development through cultural, technological and governance processes; build a timeline of spatial transformations and identify key patterns;
- Understanding systems (Weeks 3–5): select one urban system (mobility, water, energy, etc.) and analyse how it operates today — components, interconnections and spatial consequences;
- Planning for uncertainty (Weeks 5–8): identify a critical uncertainty about your system's future, develop scenarios showing how the city's spatial pattern could evolve differently, and visualise spatial consequences and strategic implications.

Language: English

Required literature: Provided in Brightspace

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	2

Osiris-code:	BBE2.DUP4-1
Course name:	UP4 Applied Spatial Planning Instruments
Study load:	5 EC (= 140 uur)
Coördinator:	Thomas Oorschot
Summary:	This course deepens your understanding of planning instruments by focusing on their practical application. The core of the course covers the different instruments of the Omgevingswet, with focus on the concrete integration of initiatives into the omgevingsplan, the omgevingsvergunning, and the omgevingstafel. Through multiple simulation rounds based on a real case, you learn to prepare positions, represent stakeholder roles, and negotiate towards feasible spatial solutions within this regulatory framework. Alongside this, the Dutch instruments are placed in an international comparative perspective, examining how different planning cultures organise similar processes of regulation, permitting, and stakeholder involvement.

Learning Outcomes:

		Zelcom:
1.	Ensure that your spatial solution fits within the framework of the Omgevingswet and its instruments, is ready for implementation, and that the relationship between involved parties is specified. (Specify 3.2)	2
2.	Adequately deal with risks in relation to planning regulations and make the interests of all involved people and parties transparent, incorporating these into the solution. (Manage Projects & Processes 7.2)	2
3.	Be aware of the effect of your actions on your professional environment in order to build support for the proposed solution. You demonstrate this through stakeholder and target group analyses and the participation process. (Professionalisation 9.1))	2
4.	Adapt your communication style to accommodate specific situations within planning processes such as the omgevingstafel, and resolve conflicts arising from different stakeholder perspectives and cultural backgrounds. (Intercultural understanding 10.2)	2

Content description:

In this study component the following content is covered:

- What: The different instruments of the Omgevingswet, with focus on the concrete integration of initiatives into the omgevingsplan, the omgevingsvergunning, and the omgevingstafel. These Dutch instruments are compared with equivalent instruments from different international planning cultures to understand how regulation, permitting, and stakeholder involvement are organised elsewhere.
- How: Through lectures and preparatory assignments, students build knowledge of the regulatory framework. The core of the course consists of multiple omgevingstafel simulation rounds based on a real case, where students prepare positions, represent stakeholder roles, and negotiate towards feasible

spatial solutions. Reflection sessions follow each round. International comparisons are explored through case-based analysis and group discussions.
- With what: Case study materials, role descriptions, regulatory framework overviews, comparative international planning examples, and structured preparation formats for the omgevingstafel simulations.

Language: English

Required literature: --

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	30%	Numerical mark, MO	2
	Group assignment	70%	Numerical mark, MO	2

Osiris-code:	BBE2.DPAR-1P2D
Course name:	PRO2D Participation in Practise
Study load:	5 EC (= 140 uur)
Coördinator:	Loek Hellebrekers
Summary:	This module centers on the user of the physical living environment: the citizens. Citizens come in all shapes and sizes. Individuals and groups with diverse wishes and ideas, especially when it comes to their own living environment. Using a concrete issue as a starting point, we will actively search for ways to actually collect these wishes and ideas and utilize them to improve a neighborhood, district, or city. We will work with case studies, relevant literature, stakeholder analyses, resident and target group analyses, participation tools, and the development of a participation plan.

Learning Outcomes:

		Zelcom:
1.	To develop a future-proof solution in the form of a participation plan, based on various perspectives and a project definition, a process, frameworks, guidelines, and/or requirements. (Initiate1.1)	2
2.	To select appropriate participation tools suitable for the intended purpose. You demonstrate this in the participation plan and the final presentation. (Research 6.2)	2
3.	To communicate purposefully and target-group oriented, demonstrating that you are aware of the environment and your role and position within it. You demonstrate this during presentations and through the use of a resident and target group analysis. (Communicate 8.1)	2
4.	Focus on interaction and collaboration to apply participation within the spatial domain. You demonstrate this during conversations with fellow students, lecturers, and external stakeholders. (Communicate 8.2)	2
5.	To communicate in a goal-oriented manner with a view to knowledge and opinion formation and/or decision-making. You demonstrate this during conversations with fellow students, lecturers, external stakeholders, and presentations. (Communicate 8.3)	2

Content description:

In this study component the following content is covered:

- Insight into the development of participation at various scale levels;
- Practicing participation tools in practice;
- In-depth stakeholder analysis, resident and target group analysis;
- arget-group-oriented use of communication tools;
- Drafting a participation plan.

Language:	English
Required literature:	--

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Group assignment	70%	Numerical mark, MO	2
	Individual assignment	30%	Numerical mark, MO	-

Osiris-code:	BBE2.DTAC-1P2D
Course name:	PRO2D Tactical Urbanism
Study load:	5 EC (= 140 uur)
Coördinator:	Tomas Mahu
Summary:	Welcome to Tactical Urbanism. The built environment in urban areas is typically highly regulated and shaped through long-term planning processes. At the same time, cities continuously face urgent challenges related to liveability, safety and sustainability. These challenges are often addressed through large-scale, top-down interventions. Tactical Urbanism (TU) offers an alternative approach. Rather than focusing on long-term planning alone, TU introduces small-scale, temporary and low-risk interventions that test and explore potential long-term solutions in real-life contexts. These interventions are often fast, flexible and directly engage with users of public space. In this module, you will explore how urban challenges can be addressed through tactical interventions, moving from idea to real-world implementation and evaluation.

Learning Outcomes:		Zelcom:
	1. Explore how urban challenges can be addressed through tactical interventions, moving from idea to real-world implementation and evaluation. (Professionalisation 9.2)	2
	2. Formulate and justify a research question related to a Built Environment issue and structure an approach for a Tactical Urbanism intervention. (Research 6.1)	2
	3. Translate a concept into a real-world, testable intervention that meets defined requirements and objectives. (Implement 4.2)	3
	4. Communicate and interact in a way that reflects awareness of context, stakeholders and professional positioning, and engage users through your spatial intervention and presentation. (Communicate 8.1)	3

Content description:

In this study component the following content is covered:

- analyse a problem;
- design an intervention;
- implementation of an intervention;
- evaluate outcomes;
- improve the approach.

Language:	English
Required literature:	--
Required materials:	--

Examination:	Assessments	Weightage	Mark	AI level
	Group assignment	50%	Numerical mark, MO	-
	Individual assignment	50%	Numerical mark, MO	-

Osiris-code:	BBE2.DTTM-1P2D
Course name:	PRO2D Traffic & Transport
Study load:	5 EC (= 140 uur)
Coördinator:	Sjors Martens

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 intermediatescale 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 proposed measures, and will critically assess model results on their usefulness to policy. If you want to dive into the future, this is your module!

Learning Outcomes:

		Zelcom:
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 variant study. (2.1 Design)	2
2.	Define the basic knowledge of tradiϴonal (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 1.1)	2
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 critically reflecting on modelling results and -reports. (Specify 3.1)	2
4.	Test the results of a micro and macro model study on the basis of policy frameworks and traffic management standards. You demonstrate this with an assessment of model results through validity and ethical frames. (7.3 Manage Projects & Processes)	2
5.	Collect data through a variety of models and analyse their applicability to policy challenges. You can demonstrate this through a response to a modelling report and presentation. (Research 6.3)	2

Content description:

In this study component the following content is covered:

- Microsimulation theory and software;
- Macrosimulation theory and software;
- Modelling report;

- Marketing dimension of modelling;
- Variant studies.

Language: English

Required literature: --

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	50%	Numerical mark, MO	3
	Group assignment	50%	Numerical mark, MO	3

Osiris-code:	BBE2.DVBB-1P2D
Course name:	PRO2D Visualisation: Beyond Blueprints
Study load:	5 EC (= 140 uur)
Coördinator:	Tomas Mahu
Summary:	Welcome to Beyond Blueprints, where urban and spatial designs come to life through the medium of 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 visualization. Here, we go beyond the blueprints; our aim is 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 built environment and the art of storytelling, experiencing the harmony between functionality and aesthetics in the urban environment. Welcome to a new dimension of urban development, where imagination guides the way.

Learning Outcomes:		Zelcom:
	1. Master a graphic program on a professional level by showing the necessary skills. (Design 2.1)	2
	2. Generate multiple ideas on how to visualize certain concepts in an innovative and substantiated manner. (Design 2.2)	2
	3. Visualize a specific subject/theme in a unique way through still images, ensuring that even a layperson understands what is happening or becomes interested in knowing more. (Design 2.2)	2
	4. The appropriate communication tools to create a powerful B22 by the use of images, to impress, convince or shock your public. (Communicate 8.1)	3
	5. Use the correct software for the content and understand why certain methodologies work or not. (Communicate 8.1)	3

Content description:

In this study component the following content is covered:

- Creating artist impressions;
- Art;
- History;
- Graphic design;
- Adobe;
- Rendering.

Language:	English
Required literature:	--
Required materials:	--

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	-

Osiris-code:	BBE2.DVUR-1P2D
Course name:	PRO2D Visualisation: Urban Chronicles
Study load:	5 EC (= 140 uur)
Coördinator:	Tomas Mahu
Summary:	An image is worth a thousand words, let alone a moving image! Developments in the field of visualization are moving very fast, also in the world of the spatial domain. More and more architects, planners and urban planners are learning the tricks of the trade of visualization. That is not surprising when you realize that we are always working spatially and therefore visually. For this reason we offer this course and take you deep into the world of the moving image.

Learning Outcomes:

		Zelcom:
1.	To initiate and develop a narrative that addresses societal or professional issues through visual communication. (Research 6.1)	2
2.	To design and produce video content that combines visual and technical elements of storytelling in order to communicate a message effectively. Communicate 8.1)	3
3.	To implement a comprehensive video project that demonstrates mastery in storytelling and visual communication. (Manage Project & Processes 7.1)	3
4.	To communicate critically and reflect on your creative and professional development in visual communication. (Professionalisation 9.2)	3
5.	To collaborate and integrate cultural awareness into your storytelling, reflecting the societal context of the Built Environment. (Intercultural understanding 10.4)	2

Content description:

In this study component the following content is covered:

- Storytelling;
- Sound & Vision;
- Composition;
- Content & Research;
- Edit.

Language:	English
Required literature:	--
Required materials:	--

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	-

Built Environment

Year 3

Semester 5 Block A & B

Osiris-code:	BBE3.PLAC-1
Course name:	Placement
Study load:	30 EC (= 840 uur)
Coördinator:	Loek Hellelbrekers
Summary:	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.

Learning Outcomes:		Zelcom:
	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)	2
	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)	2
	3. Collect and analyze information and/or data to provide substantiated answers to the question from the placement assignment in the endproduct(s). (Research 6.3)	2
	4. Report on all activities, data, and findings in such a way that they are reproducible in the end-product(s). (Research 6.4)	2
	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 & Processes 7.1)	2
	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)	2
	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)	2
	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)	2

9. Take a critical view/reflection of the professional culture and your own behavior within the placement environment, discussed in your end-product(s). (Professionalisation 9.3) 2
10. In addition to the above-mentioned competencies, you choose an additional competency that you want to develop during your placement. 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: --

Language: English

Required literature: --

Required materials: Placement handbook

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	3

Built Environment

Year 3

Semester 6 Block C

Osiris-code:	BBE3.CLB3-2
Course name:	LAB3C City of the Future 1
Study load:	5 EC (= 140 uur)
Coördinator:	Don Guikink
Summary:	In this lab you will apply the skills you have developed during the first three years of the programme. You will focus on thoroughly investigating one of the challenges facing the city of the future. In this integrative lab, you will not only apply your skills as a mobility expert, spatial planning specialist, or urban design practitioner, but also the personal skills you have acquired through your unique experience with your selection of PROs and your placement.

Learning Outcomes:

		Zelcom:
1.	You identify and define a topic that is relevant to the modern city looking towards the future (up to 2050, i.e. 25 years ahead). This is expressed in a concise plan of approach and an overview of sources to be consulted. (Initiate 1.1)	3
2.	You gather appropriate data and analyse it in order to reach sound conclusions. (Research 6.3)	3
3.	You report your vision and possible directions for solutions going forward. These solution directions will be elaborated upon individually in the next lab (LAB3D). Research 6.4)	3
4.	You apply a critical perspective to the professional field and the chosen topic. (Professionalisation 9.3)	3
5.	You demonstrate a professional working attitude in terms of attendance and the quality of activities. (Professionalisation 9.4)	3

Content description:

In this study component the following content is covered:

- Choosing an urban challenge with societal relevance for the city of the future
- Analysing and thoroughly investigating the chosen topic
- Reporting findings in a clear and structured manner
- Demonstrating a critical and professional working attitude

Language:	English
Required literature:	--
Required materials:	--

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	3
	Individual assessment game/simulation	Conditional	P/F/MO	-

Osiris-code:	BBE3.CALR-1P3C
Course name:	PRO3C Academic Literacy & Research
Study load:	5 EC (= 140 uur)
Coördinator:	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 scientific and applied 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, research community, municipality, or citizens. 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.

Learning Outcomes:		Zelcom:
	1. Formulate and refine research questions within a defined brief, and locate, evaluate, and synthesise academic and professional sources to build a substantiated position on a chosen topic. (Research 6.1)	3
	2. Interpret a research brief to scope an individual contribution within a collective project, defining the focus, boundaries, and analytical approach used to investigate the chosen subject consistently. (Specify)	3
	3. Organise, document, and quality-control research materials in a structured and transparent manner, assessing the reliability and limitations of sources to support a self-steering research process. (Manage Assets & Data 5.3)	2
	4. Writing and visual communication: Report and present research outcomes through appropriate academic writing and visual communication, adapting style and format to suit different audiences and purposes. (Communicate 8.1)	3

Content description:

This 3rd-year course develops four competencies at low Level III, with Manage Assets and Data trailing at Level II. A shared framework — prescribed focus areas, analytical dimensions, a shared database, and a common rubric — coordinates parallel student investigations to ensure parity and comparability. The Level III target is met not by removing the framework but by shifting students from executing within it to taking strategic responsibility for it.

- Research (Level III): Students argue why their research question is the right one given the literature and partner needs, and

defend their interpretation of the analytical framework for their focus area.

- Specify (Level III): Students scope their contribution within the collective project, surface and resolve cross-cutting tensions between focus areas, and negotiate the brief directly with partners.

- Manage Assets and Data (Level II): Students maintain their own entries and collectively own quality control of the shared database. Prescribed standards remain fixed for comparability; the judgement about collective quality rises to Level II.

- Communicate (Level III): Students collectively curate the public-facing output and choose their writing approach based on what the evidence demands. Distinct audiences — community, academic, and partner — require strategic adaptation of voice and format.

  The tactical-to-strategic shift is delivered through collective curation, student-defended interpretations of the framework, cross-cutting synthesis, direct partner negotiation, and self-set quality criteria walked through in a dialogic final assessment.

Language: English

Required literature: Academic Writing: A Handbook for International Students
Author: Stephen Bailey Publication Information: Fifth edition. London: Routledge. 2017

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	70%	Numerical mark, MO	Level defined by tasks
	Group assignment	30%	Numerical mark, MO	Level defined by tasks

Osiris-code:	BBE3.CADV-1P3C
Course name:	PRO3C Area Development
Study load:	5 EC (= 140 uur)
Coördinator:	Ellen Stoppels

Summary:

Area development is an integral process of spatial development in which many actors are (actively) involved. Those actors might have common goals but also have their own specific ambitions to pursue. A good cooperation between all those actors and aspects is of great importance for successful area development. Built Environment professionals must manage and support a varying myriad of competing interests and work together with a broad spectrum of stakeholders to make plans come together. Still, the real use of the concept of integral area development has only emerged in more recent years. This mainly has to do with a change in perspectives on planning. We now have a more organic and collaborative approach. The classical approach was based mainly on blueprint strategies and static views of spatial planning; more technocratic and top down. You can for instance recognize this in the change of Dutch policies: we used to have General/Master plans (Structuurvisie) with 'urban plans' (bestemmingsplan), now we have a more integrated Environmental and Planning Vision (Omgevingsvisie) with an 'Environmental plan' (Omgevingsplan).

In this PRO-module we focus on the Dutch situation. This does not mean you cannot make use of comparable situations abroad. However, as far as legislation and organization are concerned, we take the standpoint that the Dutch situation is a good example. To make things clearer, we start with the definition of area development. This definition has been formulated by the Technical University Delft: 'Area development is the art of connecting functions, disciplines, actors, interests and cash flows, when (re)developing an area'.
Area development thus shows a more process and collaborative approach to urban change. This also means there is a lot of room for creativity in later phases of development. That is why in this course, we will make an explicit connection to project development: how to develop specific buildings (renovation, transformation, new) within the bigger framework of an area development.

Learning Outcomes:

		Zelcom:
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. (Specify 3.1)	3
2.	You manage and facilitate the process/project with the aim of creating value. (Manage Projects & Processes 7.1)	2
3.	You deal adequately with risks and clarify and monitor the interests of all people and parties involved. (Manage Projects & Processes 7.2)	2
4.	You are focused on interaction and collaboration so that everyone is involved and engaged. (Communicate 8.2)	3
5.	You communicate purposefully with a view to forming knowledge and opinions and/or decision-making. (Communicate 8.3)	3

Content description: Your assignment will thus focus on the development of a specific (vacant/derelict) building, making an explicit connection to ambitions formulated for the area development within which it is located. Relevant to a good result of your assignment are tools/strategies like concept development, stakeholder analysis, translation of wishes to requirements and the social capital plan using a (Sustainable) Business Model Canvas.

Language: English

Required literature: --

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Group assignment	100%	Numerical mark, MO	3

Osiris-code:	BBE3.CDEC-1P3C
Course name:	PRO3C Design & Construct
Study load:	5 EC (= 140 uur)
Coördinator:	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.

Learning Outcomes:

		Zelcom:
1.	Understanding the way of working within a larger project: You demonstrate this with a detailed Plan of Approach. (Manage Projects & Processes 7.1)	3
2.	Creating and producing various parts of the project: You demonstrate this with a phasing plan and/or design. (Design 2.1)	3
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. (Communicate)	2
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). (Communicate 8.2)	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. (Specify 3.1)	3

Content description:

In this study component the following content is covered:

- Design of urban area;
- Staging, traffic and stakeholder management with operational (traffic) safety;

- BIM (Building Information Modelling and Management);
- EMBO (Economically Most Beneficial Offer; EMVI);
- Level separated junctions;
- 3D design;
- Contracting (different forms; also buying knowledge); Tender process.

Language: English

Required literature: --

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	2

Osiris-code:	BBE3.CMOL-1P3C
Course name:	PRO3C Mobility & Land Use
Study load:	5 EC (= 140 uur)
Coördinator:	Paul van de Coevering

Summary:

Mobility and land use continuously influence each other. In this PRO module, you deepen your knowledge and understanding of the interplay between mobility and spatial development. Using the Mobility Programme of Requirements (MPvE), you work with your team on an integrated advisory plan for an area development in the province of Noord-Brabant, commissioned by the Urban Mobility Planning research group and SmartwayZ.nl.

You work through four steps: (1) area and policy analysis, (2) user needs analysis, (3) STOMP & NMS (walking, cycling, public transport, shared mobility, and private car), and (4) vision and integration. In parallel, you individually explore one of three themes: active 15-minute city, public and shared mobility & NMS, or inclusive cities and mobility. You apply this thematic knowledge to all MPvE steps and integrate it into the joint advisory report. There is no exam.

Learning Outcomes:

		Zelcom:
1.	To identify the potential of integrated mobility and land use strategies to promote sustainability and liveability in neighbourhoods. (Initiate 1.2)	3
2.	To collect and analyse literature and additional sources in order to provide substantiated answers to research questions for a topic of your choice. (Research 6.3)	3
3.	To develop packages of measures and an integrated design to reduce car dependency and promote sustainable mobility and liveability in a complex case study. (Design 2.1)	3
4.	To substantiate the packages of measures and the design with knowledge from the individual papers. (Design 2.2)	3
5.	To develop professional pitches, reports, and other forms of visual communication. (Communicate 8.3)	3

Content description:

The module is structured around the Mobility Programme of Requirements (MPvE) and consists of three interrelated components:

- 1. Knowledge development – lectures and workshops
  Interactive lectures and workshops on the interaction between mobility and land use: the 15-minute city, active mobility, inclusive cities, and new mobility services (NMS). Guest lectures by SmartwayZ.nl and other experts. Weekly PPF cycle (Prepare, Practice, Finish).

- 2. Individual – motivation and theme
  Personal motivation (P/F) and weekly thematic knowledge development. Students choose one theme (active 15-minute city / public & shared mobility & NMS / inclusive cities) and

approach it from a hardware, software, and orgware perspective (HSO framework).

- 3. Team – integrated advisory case study
  Teams produce an integrated advisory report (approx. 30–40 core pages) for an area development in Noord-Brabant. The report covers all four MPvE steps and concludes with an integrated vision and package of measures (HSO). Interim and final presentations in Pecha Kucha format (20 slides × 20 seconds) for client SmartwayZ.

Language: English

Required literature: There is no required textbook. Students build their own literature base per individual theme:
• At least 7 peer-reviewed articles (Scopus, ScienceDirect, Google Scholar, etc.)
• At least 7 professional publications (Blauwe Kamer, Verkeerskunde, reports from consultancy firms, etc.)
• At least 5 successful practice cases (best practices)
• Additional sources of your choice (including the Urban Mobility Observatory)

Lecture materials and case documentation are available via Brightspace.

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	50%	Numerical mark, MO	3
	Individual assignment	Conditional	P/F/MO	1
	Group assignment	50%	Numerical mark, MO	3

Osiris-code:	BBE3.CRBI-1P3C / BBE3.DRBI-1P3D
Course name:	PRO3C/3D Challenges & RBI Research
Study load:	5 EC (= 140 uur)
Coördinator:	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.

Learning Outcomes:

		Zelcom:
1.	The student is able to formulate the context, precondiϴons, requirements and the objectives for the research challenge when needed. (Initiate)	2
2.	The student is able to communicate in a purposeful and targetoriented way, showing awareness of the environment, their role and position in it. (Communicate)	2
3.	The student is able to interact and cooperate, contributing to knowledge and opinion formation and/ or decision making in research challenges. (Communicate)	2
4.	The student is able to learn from their own acϴons and results while working on a research challenge. (Professionalisation)	3
5.	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. (Professionalisation)	3
6.	The student is able to construct your personal and professional identity as a researcher. (Professionalisation)	3

Content description:

In this study component the following content is covered:

- Variable, depending on the available challenges.

Language: English

Required literature: --

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	3

Osiris-code:	BBE3.CCIS-1P3C / BBE3.DCIS-1P3D
Course name:	PRO3C/3D Cityspeak
Study load:	5 EC (= 140 uur)
Coördinator:	Tomas Mahu

Summary:

CitySpeak is a module in which Built Environment topics are explored through podcasting, interviews, and storytelling.
Urban, mobility, and spatial challenges are often complex and difficult to communicate to a broader audience. In this module, you will learn how to translate these topics into accessible and engaging stories by producing a podcast episode.
The podcast is primarily audio-oriented, with optional visual support to enhance the narrative. Through research, interviews, and discussions, you and your team will produce a complete episode that communicates a Built Environment topic to an international audience.
CitySpeak focuses on how Built Environment professionals can share their knowledge, perspectives, and experiences through contemporary media formats such as podcasts.

Learning Outcomes:

		Zelcom:
1.	Investigate a relevant Built Environment topic and translate research findings into meaningful content for a podcast episod. (Research 6.1)	2
2.	Collect and analyse information from different sources to support discussions, interviews, and arguments within the podcast. (Research 6.3)	2
3.	Develop a clear narrative structure that communicates Built Environment topics to an international audience through podcast storytelling. (Communicate 8.1)	3
4.	Use interviews, discussions, and (audio)visual elements effectively to communicate ideas, perspectives, and knowledge. (Communicate 8.3)	3
5.	Contribute to the organisation and execution of a collaborative media production process. (Manage Projects & Processes 7.1)	2
6.	Reflect on the production process, the content, and your own contribution to the final product. (Professionalisation 9.2)	2
7.	Demonstrate curiosity towards different cultural perspectives when discussing BE topics. (Intercultural understanding 10.1)	2
8.	Recognise diverse viewpoints and integrate different cultural perspectives when communicating Built Environment issues to an international audience. (Intercultural understanding 10.3)	2

Content description:

In this study component the following content is covered:

- research and content development
- storytelling and narrative structure
- interview techniques
- audio recording and podcast production
- basic use of video to support the podcast
- editing and post-production
- collaboration within an editorial team

Language: English

Required literature: --

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	

Built Environment

Year 3

Semester 6 Block D

Osiris-code:	BBE3.DLB3-1
Course name:	LAB3D City of the Future 2
Study load:	5 EC (= 140 uur)
Coördinator:	Don Guikink
Summary:	In this lab you will apply the skills you have developed during the first three years of the programme. You will focus on elaborating and designing targeted solutions for the city of the future. In this integrative lab, you will not only apply your skills as a mobility expert, spatial planning specialist, or urban design practitioner, but also the personal skills you have acquired through your unique experience with your selection of PROs and your placement.

Learning Outcomes:

		Zelcom:
1.	You develop a future-proof solution based on diverse perspectives and a project definition, a process, frameworks, guidelines, and/or requirements. You elaborate this solution for a self-chosen location. (Design 2.1)	3
2.	You justify your approach, weigh up alternatives, and substantiate your choices whilst taking into account the analysis from LAB3C. (Design 2.2)	3
3.	You communicate purposefully with a view to knowledge and opinion formation and/or decision-making. You choose a form of communication that is appropriate to the assignment. (Communicate 8.3)	3
4.	You demonstrate a professional working attitude in terms of attendance and the quality of activities. You take greater personal responsibility for your own learning process than in LAB3C. (Professionalisation 9.4)	3

Content description:

In this study component the following content is covered:

- Designing an appropriate solution with societal relevance for the city of the future;
- Communicating your findings in a suitable and clear manner;
- Demonstrating a critical and professional working attitude.

Language:	English
Required literature:	--
Required materials:	--

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	3

Osiris-code:	BBE3.DTRT-1P3D
Course name:	PRO3D Trends & Transitions
Study load:	5 EC (= 140 uur)
Coördinator:	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 suburb 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 broaden your know-how in the Built Environment beyond the chosen specialization to better grasp and respond to the constant changes in our society.

Learning Outcomes:

		Zelcom:
1.	You identify, analyse, and define an issue or task relevant to society and/or the profession. (Initiate 1.1)	3
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. (Initiate 1.2)	3
3.	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. (Research 6.1	3
4.	You collect and analyse data to provide substantiated answers to the question. (Research 6.3)	3
5.	You take a critical view of the professional culture and the ethical and social standards of the profession . (Professionalisation 9.3)	3
6.	You develop a good image of your personal and professional identity. (Professionalisation 9.4)	3

Content description:

The course will start with an introduction of the trends and the transitions that our discipline is witnessing every day. To monitor the transitions, we can follow the global debate on urbanization, the risks and opportunities predictions. In fact, transitions can easily coincide with threats and risks, as they do

follow the cycle of human adaptation. The yearly Global Risk Perception Survey from the World Economic Forum defines 10 top global risks for a short period of 2 years and a medium one of 10. Risks are classified in categories: economic, environmental, geopolitical, societal, technological. Every year we choose one risks and monitor it as a trend generating a transition.

Language: English

Required literature: Supplied literature, variable from year to hear according to the chosen trend.

Required materials: World Economic Forum Risk assessment (updated every year and supplied by the coordinator)

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	2

Osiris-code:	BBE3.DARC-1P3D
Course name:	PRO3D Architecture
Study load:	5 EC (= 140 uur)
Coördinator:	Luiz 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. You will develop a personal portfolio of sketches and hand drawing techniques, build three conceptual models exploring different methods of representation, and analyse an emblematic house to understand its composition and program distribution. Building on this foundation, you will apply your insights to a small-scale design challenge, translating theory into a tangible architectural proposal. Throughout the module, you will learn from the way of working of influential architects and develop both the technical and conceptual vocabulary needed to communicate architectural ideas.

Learning Outcomes:		Zelcom:
	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)	2
	2. Represent an architectural concept through model-making, exploring several methods. You demonstrate this in three conceptual models. (Communicate 8.1)	2
	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)	2
	4. Explore the knowledge acquired by tackling a small-scale design challenge. You will demonstrate this in drawings and text. (Design 2.2)	2

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
Required literature:	Provided on Brightspace.
Required materials:	Model making material (scissors, box cutter, glue) Drawing material, markers

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	1

Osiris-code:	BBE3.DENT-1P3D
Course name:	PRO3D Energy Transition
Study load:	5 EC (= 140 uur)
Coördinator:	Stephen Narsoo

Summary:

Energy Transition is about how cities, neighborhoods, and built environments shift away from fossil fuels toward renewable and sustainable energy systems. Global warming and radical climate change are already causing significant impacts on our socio-economic conditions and, as a result, on the spaces we design, plan, and manage.

As built environment professionals, we have a responsibility to embed energy transition thinking into every project — not as an add-on, but as a design driver. This requires cross-disciplinary thinking, quantitative literacy, and an understanding of how spatial decisions affect energy demand and supply.
This pro-module asks a central design question:
"How do we, as built environment experts, designate an energy-secure, future-proof neighbourhood?"

We will explore energy transition through the lens of spatial planning, urban design, and mobility — working with the concept of urban metabolism: the idea that cities consume and produce energy in flows that can be mapped, measured, and redesigned.

Learning Outcomes:

		Zelcom:
1.	Formulate future-proof solutions in sustainability at neighbourhood scale (Design)	2
2.	Identify required behavioral changes aimed at different stakeholders. (Research)	2
3.	Compare and discuss four major concepts related to the global energy transition. (Research)	2
4.	Provide innovative forms of management aimed at neighbourhood-level sustainability. (Specify)	2
5.	Calculate energy demand and supply of renewable energy systems at neighbourhood scale. (Specify)	2

Content description:

In this study component the following content is covered:

- Formulating future-proof solutions in the field of sustainability at neighborhood level;
- Embedding sustainability proposals in Environmental Plans;
- 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

Required literature: --

Required materials: --

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	2

Osiris-code:	BBE3.DEPS-1P3D
Course name:	PRO3D Entrepreneurship
Study load:	5 EC (= 140 uur)
Coördinator:	Stephen Narsoo
Summary:	Entrepreneurship introduces students to entrepreneurial and intrapreneurial thinking within the Built Environment and Logistics domains. Students develop innovative business concepts, explore market opportunities, and design feasible business models in response to contemporary societal and industry challenges. Through business planning, validation, pitching and reflection, students develop entrepreneurial competencies, project management skills, and professional self-awareness.

Learning Outcomes:

		Zelcom:
1.	You (re)design a feasible and viable improvement or innovation for a process/product in the supply chain/public domain. (Design 2.3)	2
2.	You manage a project or a process to achieve the intended result. (Manage Projects & Processes 7.2)	3
3.	You develop as a logistics/built environment professional inspired by industry trends and personal reflection. (Professionalisation 9.1)	3

Content description:

In this study component the following content is covered:

- Entrepreneurial and intrapreneurial mindset
- Innovative business concepts in the Built Environment;
- Business Model Template / business model development;
- Market analysis and customer validation;
- Marketing and sales strategy;
- Financial projections and funding logic;
- Pitching and value creation;
- Professional reflection and entrepreneurial self-awareness.

Language:	English
Required literature:	World Economic Forum Risk assessment
Required materials:	--

Examination:	Assessments	Weightage	Mark	AI level
	Game/Simulation	20%	Numerical mark, MO	1
	Written exam	50%	Numerical mark, MO	1
	Group assignment	30%	Numerical mark, MO	1

Osiris-code:	BBE3.DENV-1P3D
Course name:	PRO3D Environmental Psychology & Urban Sociology
Study load:	5 EC (= 140 uur)
Coördinator:	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.

Learning Outcomes:

		Zelcom:
1.	Define the preconditions for future urban and social developments through understanding the challenges and ambitions of the project site, and perspectives of different socio-economic groups on their surroundings and their needs in urban areas. You will demonstrate this by analysing the experiences and needs of chosen personas using different methodologies (desk research, literature analysis, interviews, observations, etc.), and visiting the project site. (Initiate 1,1)	3
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 grounded in literature analysis, identifying their relevance for the personas with supporting arguments based on the analysis of personas' needs, and the ranking structure. (Research 6.3)	3

3. Conduct an 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 the site development vision. (Initiate 1.2) 3
4. Create a development proposal that meets contextual factors and responds to the needs of diverse socio-demographic groups. You will demonstrate this with a well-argued (re)development plan/design for the project site, a positive impact definition in relation to the core topics of the course and assessment conclusions. (Design 2.1) 3
5. Critically evaluate and justify proposed plans in the light of larger sociological trends, substantiate the relevance and explain the creation of possible conflicts 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 a critical reflection on conflicts and mismatches your proposal creates for personas outside your primary target group. (Design 2.2) 3

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 solutons 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 facilitate attainable design strategies."

Language: English

Required literature: Will be shared via Brightspace during the course

Required materials: Recommended literature:
""Environmental Psychology for Design" (Dak Kopec, 2006)
"The Urban Sociology Reader" (Jan Lin and Christopher Mele, 2013)
"Urban Theory. A Critical Introduction to Power, Cities and Urbanism in the 21st Century" (Alan Harding and
Talja Blokland, 2014)
"Cities for People" (Jan Gehl, 2010)
"Environmental Psychology: An Introduction" (Linda Steg, Judith I. M. de Groot)
"Environmental Psychology and Human Well-Being. Effects of Built and Natural Settings" (Ann Sloan

Devlin)
“Handbook of Environmental Psychology and Quality of Life Research “ (Ghozlane Fleury-Bahi, Enric Pol,
Escar Navarro)
“Livable Communities for Aging Populations: Urban Design for Longevity” (M. Scott Ball, 2012)"

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	3

Built Environment

Year 4

Semester 7 Block A & B

Osiris-code:	BXE4.GROU-1CHM / BXE4.PROC-1CHM / BXE4.INDV-1CHM
Course name:	Change Management
Study load:	30 EC (= 840 uur)
Coördinator:	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 -Organizational Behavior
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 analyze: Utilize diagnostic models to understand complex situations and analyze 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 primary language (some project groups bilingual English/ Dutch)
Required literature:	Leading Change (Kotter, ISBN 9781422186435
Other materials:	-

Examination:	Assessments	Weightage	Mark	AI level
	Group assignment	20 ECTS	Numerical mark, MO	3
	Individual assignment	10 ECTS	Numerical mark, MO	3
	Process assessment	Conditional	P/F/MO	1

Osiris-code:	BXE4.GROU-1CRS / BXE4.INDV-1CRS / BXE4.PROC-1CRS
Course name:	Crowd Safety in Hubs & Events
Study load:	30 EC (= 840 uur)
Coördinator:	Justin van de Pas
Content description:	An English-taught minor covering the following topics: -crowd safety: background and dynamics; -crowd safety: modelling and monitoring; -crowd safety: design and organisation; -crowd simulations and the use of simulation; -crowd behaviour and psychology; -crowd safety: decisions and response; -crowd simulations; -(event) logistics, mobility and accessibility; -complexity theory & innovations; -law, permits and regulations.
Learning Outcomes:	1. A clear understanding of key concepts in event logistics and the application of logistics analysis, process management and capacity calculation; 2. A clear understanding of key concepts in mobility and urban design through the application and analysis of integrated coordination, design and planning processes, and urban and spatial design; 3. Be able to discuss the application of crowd simulations by analysing crowd simulations, applying measurement and monitoring tools, queueing theory and crowd simulations; 4. Be able to discuss the application of stakeholder analysis, procedures, and legislation and regulations; 5. A clear understanding of key concepts in crowd management and the application of crowd modelling; 6. The ability to discuss the application of crowd safety management (covering concepts such as planning, permits and operations) and its relevance to the broader legal, organisational, regulatory and risk management framework; 7. The ability to discuss the appropriate risk assessment methods for crowd safety, how this affects legislation and guidelines, and/or which areas of crowd safety require improvement; 8. Recognising group behaviour and understanding causality; 9. A clear understanding of key crowd management concepts and the application of crowd modelling to the chosen event or venue; 10. Be able to discuss the application of crowd safety management (covering concepts such as planning, permits and operations) and its relevance to the wider legal and regulatory framework and risk management; 11. Analysing an event or venue, including the four key elements of modelling; 12. Demonstrate that you understand the basic principles and applications of the tools. Provide some details on the use of models, the information they provide and how this aids in the risk analysis of a dynamic crowd; 13. Use of clear charts; 14. Conveying information about the tools to users and/or the team, with the aim of communicating with the public.

Language: English

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

Other materials: -

Examination:	Assessments	Weightage	Mark	AI level
	Group assignment	15 ECTS	Numerical mark, MO	4
	Individual assignment	15 ECTS	Numerical mark, MO	4
	Proces assessment	Conditional	P/F/MO	1

Osiris-code:	BXE4.GROU-1IUR / BXE4.INDV-1IUR
Course name:	International Urban Redevelopment
Study load:	30 EC (= 840 uur)
Coördinator:	Paul van de Coevring
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 Outcomes:	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

Required literature: -

Other materials: -

Examination:	Assessments	Weightage	Mark	AI level
	Group assignment	15 ECTS	Numerical mark, MO	5
	Individual assignment	15 ECTS	Numerical mark, MO	5

Built Environment

Year 4

Semester 8 Block C & D

Osiris-code:	BXX4.GRAD-1
Course name:	Graduation
Study load:	30 EC (= 840 uur)
Coördinator:	Monique van Herpen
Summary:	You are responsible for finding your own graduation placement and project. The graduation coordinator assesses the project in terms of scope, complexity and depth. During the graduation process, you will work on-site. During your final-year project, you will work on developing your competencies. You will demonstrate the acquisition of these competencies through the professional outputs produced during your placement, the feedback received and the activities carried out. You will receive individual supervision from a university supervisor and also from a company supervisor. During a series of meetings, you will discuss the content of your graduation project and your progress with your university supervisor.

Learning Outcomes:		
	1. Initiate	Zelcom: 3
	2. Design	3
	3. Specify	3
	4. Research	3
	5. Communicate	3
	6. Professionalisation	3

Language:	English
Required literature:	Graduation handbook
Required materials:	Brightspace course Graduation Built Environment

Examination:	Assessments	Weightage	Mark	AI level
	Individual assignment	100%	Numerical mark, MO	-

Appendices

- Curriculum overview
- Link to year planning & assessment programme

BE 2026 | 2027

YEAR 1

Block A	Block B	Block C	Block D
LAB 1.1	LAB 1.2	LAB 2.1	LAB 1.2
KB 1	KB 2	KB 4	KB 5 NEW
PPD 1 NEW	KB 3	SPC 1 NEW	PPD 2 NEW

YEAR 2

New curriculum

Block A	Block B	Block C	Block D
LAB 3.1	LAB 3.2	LAB 4.1	LAB 4.2
SPC 2 NEW	**PPD 3 NEW**	**SPC 3 NEW**	**SPC 4 NEW**
KB 6 NEW *	**KB 7 NEW ***	PRO 1	PRO 2
		PRO 1	PRO 2
		PRO 1	PRO 2
		PRO 1	PRO 2

*) KB 6 NEW is a Research & Reporting in the new curriculum. KB 7 is Management & Finance

YEAR 3

Block A	Block B	Block C	Block D
Placement		LAB 5.1	LAB 5.2
		PRO 3	PRO 5
		PRO 3	PRO 5
		PRO 3	PRO 5
		PRO 3	PRO 5
		PRO 4	PRO 6
		PRO 4	PRO 6
		PRO 4	PRO 6
		PRO 4	PRO 6

YEAR 4

Block A	Block B	Block C	Block D
Minor		Graduation	

Link to assessment programme:

Built Environment assessment programme 26-27

Link to educational year planning:

Educational year planning 26-27

Games

Leisure & Events

Tourism

Media

Data Science & AI

Hotel

Logistics

Built Environment

Facility

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