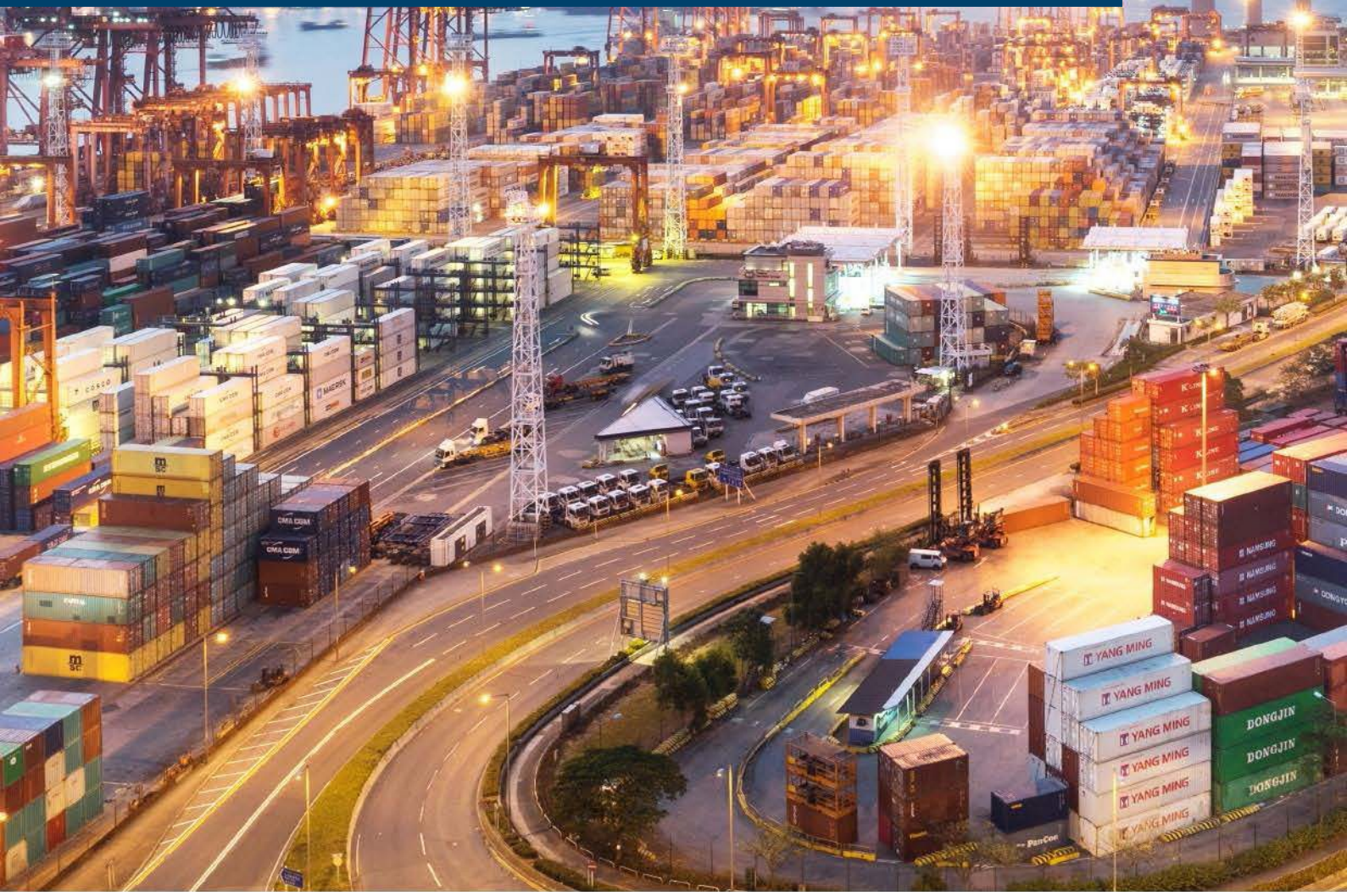
Logistics

Study component catalogue
Logistics Engineering / Logistics Management

Year 2025-2026



DISCOVER YOUR WORLD

Breda University
OF APPLIED SCIENCES

Foreword

Your Logistics Engineering or Logistics Management bachelors' programme at BUas offers plenty of opportunities to develop your skills in logistics and supply chain management and to specialise in your area of specialisation. During this study programme, you will lay a strong foundation, delve into complex logistics issues, and gain valuable practical experience.

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

This student handbook contains the programme content of your Logistics Engineering or Logistics Management degree programme. It contains the following elements:

- All study components, in which you can find a description per study component, including the programme learning outcomes, learning objectives, content description, and types of assessment with AI levels.
- An appendix with an overview of the programme learning outcomes .
- An appendix with the schematic representation of the curriculum for the whole study period (four years of study, four terms per academic year).
- An appendix with a summary table showing how the programme learning outcomes of the study programme are linked to the various study units.
- 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 **projects** you will work on a professional assignment 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 project skills and collaboration, under the supervision of a project supervisor. Lecturers of various backgrounds and disciplines will direct you as regards content.
- In **cases** you acquire professional knowledge and skills relevant to the profession by attending lectures and actively working on assignments. The lecturer teaches and guides you as an expert.
- For **Personal & Professional Development** (PPD) you will attend a programme of workshops, supporting you in your personal and professional development. You will work on various types of assignments that contribute to your development and help you make (study and career) choices. Finally, you will reflect on your development in a portfolio and/or in a conversation with your fellow students. In the PPD programme, you will be personally guided by your study coach, who will also discuss your study progress.
- During **Connection to Industry and Research** (CIR) you will carry out research and/or do an assignment commissioned by a company or an institution.
- 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 company or an institution). You will be supervised by a supervising lecturer of BUas and a company supervisor. During your work placement and graduation project, you will also attend return days, on which you will be given workshops, discuss your progress and/or participate in peer feedback sessions with your fellow students.

Overview of your studies

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

Year 1: Laying the foundation
The first year will help you build up the fundamental knowledge and skills you need for your studies and future career.

- Terms 1A and 1B: Experience logistics and supply chain management.
- Terms 1C and 1D: Learning and applying basic principles of transportation, distribution, warehousing, and services logistics.

You will work on practical assignments, cases, and projects. Within PPD, you will build up your portfolio step by step, shaping your personal and professional development. Your coach will guide you through this process.

Year 2: Specialising and preparing for your placement
In year 2, you will delve deeper into logistics, with additional specialisation options.

- Terms 2A and 2B: working with production logistics and international supply chains.
- Terms 2A and 2B: further developing sustainable supply chains and choosing a logistics specialisation.

Within PPD, you will focus on making preparations for your placement this year.

Year 3: Placement and specialising in practice
This year focuses on strengthening your own profile and carrying out assignments independently.

- Terms 3A and 3B: placement in the Netherlands or abroad. In the first half of year 3 (in total, 18 weeks) you will do a placement at a host company, during which you gain practical experience. Whereas in years 1 and 2 you worked on business cases in groups, you will now carry out an assignment or project independently.
- Terms 3C and 3D: Specialising in a logistics field and carrying out practical cases and challenges. Within PPD, you will assess where you currently stand in your development, and set your development goals for the final year of study.

Year 4: Minor/exchange and graduation project
In the final year, you will continue working on your professional profile and finalise your studies with a graduation placement.

- Terms 4A and 4B: Further developing your profile within BUas, in the Netherlands or abroad. You will have the option of taking a minor or doing an exchange abroad.
- Terms 4C and 4D: Doing a graduation project at a company in the Netherlands or abroad. In this semester, you will do a graduation placement and carry out research or a project, demonstrating that you have mastered all intended learning outcomes of the study programme.

TER

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

We wish you an enjoyable and a successful academic year.

The management team of Logistics Engineering and Logistics Management.

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

Logistics Engineering / Management
2025 - 2026: year 1

Semester 1

Block A	**Osiris-code**		**ECTS**	**Page**
Getting Started	BLE1.AGET-1		5	8
Basics of Supply Chain Management	BLE1.ABOS-1		5	10
Experience Supply Chain Management 1	BLE1.AES1-1		5	12
Block B				
Experience Supply Chain Management 2	BLE1.BES2-1		5	15
Modelling and Planning	BLE1.BMOD-1		5	17
Personal & Professional Development 1	BLE1.BPP1-1		5	19
		Subtotal	**30**	

Semester 2

Block C	**Osiris-code**		**ECTS**	**Page**
Material Logistics – Basics	BLE1.CMLB-1		5	21
Service Logistics – Basics & Innovation	BLE1.CSLB-1		5	23
Connection to Industry & Research 1	BLE1.CCR1-1		5	25
Block D				
Material Logistics - Improvement & Innovation	BLE1.DMII-1		10	27
Personal & Professional Development 2	BLE1.DPP2-1		5	30
		Subtotal	**30**	
		Total	**60**	

LogisticsEngineering / Management
2025 - 2026: year 2

Semester 3

Block A	**Osiris-code**	**ECTS**	**Page**
Operations Management	BLE2.AOPM-1	5	32
Information Management	BLE2.AINF-1	5	33
Connection to Industry & Research 2	BLE2.ACR2-1	5	34
Block B			
Cross-Border Supply Chains	BLE2.BCBS-1	5	36
Production Project	BLE2.BPRO-1	5	38
Personal & Professional Development 3	BLE2.BPP3-1	5	40
	Subtotal	**30**	

Semester 4

Block C	**Osiris-code**	**ECTS**	**Page**
Running Sustainable Businesses	BLE2.CRSB-1	5	42
Connection to Industry & Research 3A	BLE2.CC3A-1	5	44
Advanced Supply Chain Management	BLE2.CASC-1	5	45
Block D			
Connection to Industry & Research 3B	BLE2.DC3B-1	5	48
Personal & Professional Development 4	BLE2.DPP4-1	5	50
Specialisation			
Entrepreneurship for Logistics Management	BLE2.DENT-1LGM	5	51
Fundamentals of DS & AI for Logistics Engineering	BLE2.DFUN-1LGE	5	53
	Subtotal	**30**	
	Total	**60**	

Logistics Engineering / Management
2025 - 2026: year 3

Semester 5

Block A & B	**Osiris-code**	**ECTS**	**Page**
Placement	BLE3.PLAC-1	30	55
	Subtotal	**30**	

Semester 6

Block C	**Osiris-code**	**ECTS**	**Page**
Challenge 1	BLE3.CCH1-1	10	58
Deep Dive	BLE3.CDDI-1	5	59
Block D			
Challenge 2	BLE3.DCH2-1	5	61
Personal & Professional Development 6	BLE3.DPP6-1	5	62
Specialisation			
Supply Chain Execution Logistics Management	BLE3.DSCE-1LGM	5	63
Decision Support Systems Logistics Engineering	BLE3.DDSS-1LGE	5	64
	Subtotal	**30**	
	Total	**60**	

Logistics Engineering / Management
2025 - 2026: year 4

Semester 7

Block A & B	**Osiris-code**	**ECTS**	**Page**
Change Management	BXE4.GROU-1CHM	20	67
	BXE4.INDV-1CHM	10	"
	BXE4.PROC-1CHM	Cond.	"
Crowd Safety in Hubs & Events	BXE4.GROU-1CRS	15	68
	BXE4.INDV-1CRS	15	"
	BXE4.PROC-1CRS	Cond.	"
International Urban Redevelopment	BXE4.GROU-1IUR	15	70
	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	73
	Subtotal	**30**	
	Total	**60**	

Logistics

Year 1

Semester 1 Block A

OSIRIS-code:	BLE1.AGET-1
Course name:	Getting Started
Study load:	5 EC (=140 hours)
Coordinator:	Bas Groot

Content description:

This study component serves as an introduction to the field of logistics and the various possibilities open to students and professionals in the industry, as well as starting as a student at Buas.
The key elements of a logistics supply chain will be described and the supply chains of several different kinds of organisations will be analyzed. You will also be given the opportunity to reflect upon your own ambitions and goals as young professional in the logistics industry, and will be asked to articulate these ideas and relate them to your next four years in the study programme.

Progr. Learning Outcomes:

Research - You research supply chain challenges in a broader context taking sustainability, internationalisation and technology into consideration.

Advise - You advise on possible improvements and/or applicable innovations in the supply chain.

Develop - You develop as a logistics professional inspired by industry trends and personal reflection.

Learning objective(s):

1 Describe all basic elements of Supply Chain Management;
2 Explain the essence of supply chain management, linking it to a practical example company or product;
3 Understand how Supply Chain Management works in practice;
4 Use the basic functions of Office 365 solutions;
5 Use the basic functions of Presentation software;
6 Use the basic functions of Project tools;
7 Use the basic functions of MS Teams;
8 Explain the customer and their expectations;
9 Describe the basic elements of an organization and its environment related to the project;
10 Write a short, well-structured report that includes relevant visuals;
11 Present to a specified target group in an inspiring and appealing way;
12 Reflect on personal development in written form;
13 Discover the way in the online and offline Buas study environment.

Language:	English
Teaching Activities:	Lecture Workshop Excursion/Company visit
Required literature:	-

Other required materials: -

Examination:

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

OSIRIS-code:	BLE1.ABOS-1
Course name:	Basics of Supply Chain Management
Study load:	5 EC (=140 hours)
Coordinator:	Tobias de Nooy
Content description:	In this study component you learn the different elements of entire End-to-End Supply Chains (SC). Starting with the customer and his or her demand, all activities in the Supply Chain are illuminated. The way in which a company can design the SC: Procurement and supply, warehousing, production, distribution, e-commerce & reverse logistics are topics that are dealth with. In addition, attention is given to the elaboration of the financial flows within the company, expressed in relevant financial statements such as the income statement and cash flow statement. Each topic will be introduced by a lecture and you will then elaborate a case related to that topic. Next to that, you are creating a portfolio of summaries and/or mindmaps regarding the topics of the lectures.
Progr. Learning Outcomes:	Analyse - You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain.
Learning objective(s):	1 Recognize all basic elements of Supply Chain Management; 2 Recognize the different type of chains (e.g. Care Logistics, Event Logistics, Service Logistics, Human Logistics); 3 Explain the concept of circularity in supply chains; 4 Recognize the relation between the different flows within Supply Chain Management and Logistics; 5 Recall the different parts, functions and roles within a logistic supply chain, in a way that gives a visual representation of the supply chain; 6 Recall and relate the different possible 'values' of Data; 7 Apply the basic functions of Spreadsheet software (Excel e.g.) in a practical situation; 8 Distinguish between costs and expenditures on the one hand and revenues and receiving's on the other; 9 Identify the various financial flows within a company and recognize the link between these flows and the other flows (physical, information); 10 Apply financial statements as part of the financial component of the business plan, for budgeted as well as realized results:* Investment plan;* Financing pla,* Income statemet,* Cash flow statemet,* Balance sheets (opening and closing). 11 Process the impact of various taxes on financial statements. E.g. VAT (calculation with percentages).
Language:	English
Teaching Activities:	Lecture Workshop

Excursion/Company visit

Required literature: Logistics Management - Basics of Supply Chain Management 2025/2026, online EDUbook from Edumundo
Finance & Control - Foundations of Finance & Control year 1 2025/2026, online EDUbook from Edumundo

Other required materials: -

Examination:

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

OSIRIS-code:	BLE1.AES1-1
Course name:	Experience Supply Chain Management 1
Study load:	5 EC (=140 hours)
Coordinator:	Jan van Elderen

Content description:

In this exciting project, you and your team will launch your very own production company. But don't expect a step-by-step manual — this is the real deal. You'll be thrown into the fast-paced world of logistics and supply chain management, where information is unstructured, decisions come fast, and teamwork is everything.
From setting goals and organizing meetings to running production, managing orders, and dealing with customers — you'll experience how it feels to be in charge of supply chain operations. On top of that, you'll keep track of the money: what's coming in, what's going out, and how your choices impact your company's bottom line.
Throughout the project, you'll take on different roles, use visual tools and dashboards to improve performance, and learn how to organize chaos into structure. And just when you think you've got it under control… it's game time. In the final weeks, everything comes together during an intense simulation game day, where your team will compete, collaborate, and try to impress your customers — and maybe even make a profit.
Ready to turn theory into action? Let's build your first supply chain together.

Progr. Learning Outcomes:

Manage- You manage a project or a process to achieve the intended result.

Analyse - You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain.

Learning objective(s):

1 Apply foundational supply chain concepts to design, organize, and operate a basic production company in both physical and virtual environments;

2 Use simple visual models, data tools, and performance dashboards to support team-based decisions and improve supply chain processes;

3 Set-up a functional organization and recognise collaboration and inter-relations between the different departments within a (virtual) company and define the position of each department within the Supply Chain;

4 Demonstrate effective teamwork and project execution by taking on different roles and using structured project-based work methods;

5 Develop and present clear operational and financial results, linked to the businesses goals, key choices, and operational performance;

6 Present in a structured, audience-appropriate, and professional way;

7 Reflect on your role in the team, your personal development, and the impact of logistics innovations to support ongoing learning.

Language:	English
Teaching Activities:	Project with coaching Lecture Workshop

Required literature: Edubook Finance & Control year 1
Edubook Logistics: The basic

Other required materials: Website/Engine Blokko

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	50%	Numerical mark	5
Individual assignment	50%	Numerical mark	5
Process assessment	Conditional	P/F	1
Serious game/Simulation	Conditional	P/F	5

Logistics

Year 1

Semester 1 Block B

OSIRIS-code:	BLE1.BES2-1
Course name:	Experience Supply Chain Management 2
Study load:	5 EC (=140 hours)
Coordinator:	Jan van Elderen

Content description:

So, you survived the chaos of Experience Supply Chain 1.0. You built your first company, ran production, made real decisions — and learned how tricky supply chain management can be. Ready to level up?
In Experience Supply Chain 2.0, your team takes the next step: growing your company into a competitive business with a clear strategy, strong operations, and smart decision-making. This time, it's not just about running a company — it's about steering it.
You'll explore how sales, marketing, and strategy go hand in hand. You'll balance demand and supply through Sales & Operations Planning. You'll calculate capacity, make investment decisions, and build a solid business plan that includes legal foundations and protection of your ideas. And throughout the project, you'll track your performance using real indicators and dashboards — just like a professional supply chain team.
On top of that, you'll write your own action-driven role plan and work with your team to deliver a final year report that shows what you've achieved — and how you got there.
Still no step-by-step guide. Still messy. But now with more depth, more responsibility, and more chances to shine.
Let's grow your business. Let's grow your skills.

Progr. Learning Outcomes:

Manage - You manage a project or a process to achieve the intended result.

Advise - You advise on possible improvements and/or applicable innovations in the supply chain.

Implement - You implement improvements and/or innovations in the supply chain.

Analyse - You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain.

Learning objective(s):

1 Work with your team to match supply and demand using a simple Sales & Operations Planning (S&OP) process;

2 Apply supply chain strategy, sales, and marketing basics to position your company and attract the right customers;

3 Make capacity plans and do basic calculations to decide when and why to invest in equipment or other resources;

4 Create a business plan that includes your goals, choices, finances, and legal setup — including how your company is protected;

5 Use clear performance indicators and dashboards to track how your company is doing and decide what to improve;

6 Show professional and active participation in your team by organizing meetings, sharing ideas, and reflecting on your role and growth;

7 Write an action-driven role plan and contribute to a clear and complete group report that reflects on the performance of the company and your team's results.

Language: English

Teaching Activities: Project with coaching

Lecture

Workshop

Required literature: Edubook Finance & Control jaar 1/year 1
Edubook Logistics: The basics

Other required materials: Website/Engine Blokko

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	35%	Numerical mark	5
Individual assignment	50%	Numerical mark	5
Process assessment	Conditional	P/F	1
Serious game/Simulation	15%	Numerical mark	5

OSIRIS-code:	BLE1.BMOD-1
Course name:	Modelling and Planning
Study load:	5 EC (=140 hours)
Coordinator:	Jan Willem Boskaljon

Content description:

This study component, part of the second block, focuses on distinguishing between different planning levels and the associated information needs. Business decisions are supported by process mapping, cost calculations and integrated information systems. You can use the theory provided during the Blokko project.
The study component entails four sub-areas. Business Process Modelling teaches you to visualize and understand business processes, such as drawing a warehouse process in Signavio. Production Planning covers how factories ensure timely availability of materials and capacities, covering topics such as MRP1, MRPII and S&OP. Cost Accounting provides insight into how costs of goods manufacturing and services are calculated and valued in accounting. ICT & ERP introduces you to the digital developments and systems within the logistics sector. By working with Odoo, you will develop experience and knowledge of Enterprise Resource Planning (ERP) systems.
This course provides a comprehensive foundation in planning, cost management, and information systems, essential for making business decisions and optimizing logistics processes.

Progr. Learning Outcomes:

Analyse - You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain.

Advise - You advise on possible improvements and/or applicable innovations in the supply chain.

Manage - You manage a project or a process to achieve the intended result.

Learning objective(s):

1 Map processes in practice in a simple organization;

2 Recognize supply and demand concepts;

3 Recognize the concept of chain-integration;

4 Apply different ways to model supply chains;

5 State the most commonly used function(s) of automation of information and processes;

6 Outline the possible functions and capabilities of an ERP-system;

7 Recognize the different main concepts and context of (Sales and Operations) Planning;

8 Recognize and compare the different possible (manual and automated) interfaces, and give practical examples;

9 Explain the function and aspects of Requirement management, and give practical examples;

10 Summarise the basic structure and processes within S&OP and relate them to a forecasting and inventory plan;

11 Translate text- and other practice based information sources into a visualisation of a Process, by means of the most commonly used language of Process Modelling;

12 Recognize the information flows in the supplychain / end-to-end processes by means of different forms/documents (invoices, packingslip e.g.);

13 Recognize the different hardware and software possibilities for an automated system (On Premise, Cloud e.g.);

14 Recognize the importance of business communication in gaining understanding of a manager and business partners;

15 Deliver a professional advice for MRP and S&OP calculations intended for a responsible manager;

16 Calculate the cost per unit (product or service) based on fixed and variable costs (simple setting):* Break-even analysis;* Absorption costing;* Direct costing;

17 Link financial flows to information flows and physical flows within the information system (e.g. financial accounting within an ERP-solution);

18 Analyse variances based on service or production activities (variance analysis).

Language: English

Teaching Activities: Lecture

Workshop

Required literature: Logistics: Principles and Practice: a demand and supply chain management approach, Visser & Van Goor, ISBN 9789081649117 Edubook Finance & Control; year 1

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	50%	Numerical mark	2
Group assignment	50%	Numerical mark	5

OSIRIS-code: BLE1.BPP1-1

Course name: Personal & Professional Development 1

Study load: 5 EC (=140 hours)

Coordinator: Bas Groot

Content description: In the study component Personal & Professional Development 1 you are supported to think about your personal and professional development in becoming a logistics professional. Topics that will be addressed include study skills, personal development, and understanding the relevance of the various logistics compentencies.
This study component aids you with the transition from your previous education to our Logistics programme and entrance to the industry

Progr. Learning Outcomes: Develop - You develop as a logistics professional inspired by industry trends and personal reflection.

Learning objective(s):

1 Identify the study approach that works best and to apply it;

2 Recognize and identify the logistics competencies in the first semester of the curriculum;

3 Identify your role in (project) teams and state how to add valuable contributions to project teams;

4 Recognise the importance of teambuilding;

5 Reflect on your personal development and on your development regarding the program learning outcomes;

6 Identify various ways of developing intercultural competence;

7 Recognise aspects of your own culture that shape the way you view the world and interact with others.

Language: English

Teaching Activities: Lecture
Workshop
Individual coaching

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Portfolio	50%	Numerical mark	5
Oral assessment/Presentation	50%	Numerical mark	5

Logistics

Year 1

Semester Block

OSIRIS-code:	BLE1.CMLB-1
Course name:	Material Logistics - Basics
Study load:	5 EC (=140 hours)
Coordinator:	Luuk Koopman
Content description:	You will explore the basics of physical flows, including transport, warehousing, distribution and inventory management. With the individual assignment you will dive into the world of transport management and you will become acquainted with the financial and legal components involved. In the written exam, your gained knowledge of inventory management and warehousing will be tested.
Progr. Learning Outcomes:	Analyse - You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain.
Learning objective(s):	1 Compare different modes of transport; 2 Explain the basics of intermodal/multimodal networks; 3 Explain the basics of transport, warehousing & distribution; 4 Explain the basics of hub and spoke network in relation to e.g. warehousing, shipping, airlines; 5 Explain the basics of warehousing & inventory management, including theory, methods and models; 6 Describe the basic aspects of Transport Management Systems (TMS); 7 Describe the basic aspects of Warehouse Management Systems (WMS); 8 Recognize the forms of AUTO ID (Barcoding, SSCP, RFID, scanning e.g.) for an automated process in a company; 9 Recognize the basics of forecasting and the impact on warehousing & distribution; 10 Apply basic calculation and analysis tools in different (transportation and distribution) contexts; 11 Identify the importance of Legislation and Regulations within Transport, Distribution and Warehousing; 12 Analyze the financial performance of a company (on strategic level) by means of Ratio analysis; 13 Calculate the cost per unit/logistical activities (product or service) based on direct and indirect costs (more complex settings) and distinguish process steps and activities- surcharge method; cost centre method; 14 Determine expected financial results of activities/projects and the financial impact of logistical improvements by means of a forecast calculation (part of a budget).
Language:	English
Teaching Activities:	Lecture Workshop

Excursion/Company visit

Required literature: Logistics: Principles and Practice (Visser en van Goor, ISBN 9789081649117)
A Practical Guide to Logistics (Rudd, ISBN 9781398612648)
The Logistics and Supply Chain Toolkit (Richards en Grindsted, ISBN 9781398613379) Edubook Finance and Control year 1/jaar 1

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Written exam	50%	Numerical mark	5
Written exam	50%	Numerical mark	5

OSIRIS-code:	BLE1.CSLB-1
Course name:	Service Logistics - Basics & Innovation
Study load:	5 EC (=140 hours)
Coordinator:	Justin v.d. Pas

Content description:

In this study component you will explore the basics behind a service driven organization or in other words the organization and operation behind the delivery of services. Service logistics is concentrating on physical flows, like material logistics, but pinpoints more specifically on the flow of persons. It entails the journey of the customer in a service environment. The customer and the seek for satisfaction are the beating heart of this study component. Hence, in this study component, you will move away from the material part of logistics and a new light will shine on the human part of logistics.

Progr. Learning Outcomes:

Research - You research supply chain challenges in a broader context taking sustainability, internationalisation and technology into consideration.

Analyse - You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain.

Design - You (re)design a feasible and viable improvement or innovation for a process/product in the supply chain.

Advise - You advise on possible improvements and/or applicable innovations in the supply chain.

Learning objective(s):

1 Recognize the concepts of service logistics in relation to transport & warehousing (maintenance, spare-parts);

2 Recall logistics principles of the service industry;

3 Analyze and improve logistics processes within the service industry;

4 Analyze and improve people movements before/during/after an event;

5 Explain the importance of mobility in a service environment;

6 Apply logic of material logistics in a service business environment;

7 Deploy a company analysis (e.g. maturity scan) in the service industry on their organisation, IT, and process capabilities;

8 Match possible capabilities and efficiencies of a (service oriented) process with their outcomes (capability-/capacity management);

9 Apply the basics of functional designing for a possible (innovative) solution in a service environment;

10 Develop a simulation of human flows in a service logistics environment, using available data and different scenarios;

11 Recognise the relationship between all stakeholders;

12 Present the progress and findings in a creative and convincing way (product t.b.c.);

13 Describe specific trends within the scope of service logistics;

14 Identify the customer journey within service logistics.

Language: English

Teaching Activities: Project with coaching

Lecture

Workshop

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	40%	Numerical mark	4
Group assignment	20%	Numerical mark	4
Written exam	40%	Numerical mark	1

OSIRIS-code:	BLE1.CCR1-1
Course name:	Connection to Industry & Research 1
Study load:	5 EC (=140 hours)
Coordinator:	Bas Groot
Content description:	You will work within organisations or projects that are linked to the supply chain and logistics industry. You make your own choices in which (sub) segment of the industry, company and project you want to gain experience and insights. You will transfer the knowledge and experience from projects, courses and trainings into 'real life' situations. By making choices and experiencing you will broaden your horizon regarding the (career) possibilities within the industry.
Progr. Learning Outcomes:	Manage - You manage a project or a process to achieve the intended result. Develop - You develop as a logistics professional inspired by industry trends and personal reflection.
Learning objective(s):	1 Gain experience within the industry or a (research) project; 2 Describe personal role within company or project, as part of the overarching organisation; 3 Reflect on gained experiences; 4 Demonstrate a professional way to find an assignment; 5 Describe individual development goals; 6 Prove the realisation of defined individual development goals;
Language:	English
Teaching Activities:	Placement/Graduation Workshop
Required literature:	-
Other required materials:	-

Examination:

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

Logistics

Year 1

Semester Block

OSIRIS-code:	BLE1.DMII-1
Course name:	Material Logistics - Improvement & Innovation
Study load:	10 EC (=280 hours)
Coordinator:	Marijke Bogers

Content description:

This study component is divided in 3 different parts:

MLI&I work package 1: a critical reflection on the current inventory management concept supported by a new and recalculated inventory management model. MLI&I Work package 2: In this stage you need to decide on a suitable location for the European distribution centre. In addition, a choice must also be made for a suitable transporter.

MLI&I Work package 3: This is about the organization of processes, the operation of the physical flows in the warehouse, for example order planning and work pressure, the design of the shopfloor where the goods are handled. The design needs to be considering the future aspects and volumes of the business.

Progr. Learning Outcomes:

Research - You research supply chain challenges in a broader context taking sustainability, internationalisation and technology into consideration.

Analyse - You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain.

Design - You (re)design a feasible and viable improvement or innovation for a process/product in the supply chain.

Advise - You advise on possible improvements and/or applicable innovations in the supply chain.

Manage - You manage a project or a process to achieve the intended result."

Learning objective(s):

1 Explain the concepts of multi-modal transport in a given business case setting;

2 Analyze the characteristics of warehousing- and inventory concepts;

3 Explain the impact of a given warehouse location choice on transportation- and distribution opportunities;

4 Determine the best possible location for a new warehouse based on a given business case with underlying dataset;

5 Explain the different types of warehousing strategies, design and functions;

6 Explain the basic principles of material handling

7 Design a warehouse (storage and handling systems and areas);

8 Determine most optimal flow of goods through the warehouse;

9 Match the form of AUTO ID (Barcoding, SSCP, RFID e.g.) for an automated process in a company;

10 Apply the concept and functioning of a Warehouse Management System (WMS);

11 Apply the basics of functional designing for an innovatieve solution in a warehouseing environment;

12 Apply basic statistical- and data analysis tools (descriptive) in a simple business case;

13 Experience automated warehouse solutions;

14 Calculate the cost per unt/logistical activities (product or service) based on direct and indirect costs (more complex settings) and distinguish process steps and activities- surcharge method; cost centre method;

15 Distinguish between open and closed book information regarding costs of warehousing operations;

16 Determine expected financial results of activities/projects and the financial impact of logistical improvements by means of a forecast calculation (part of a budget);

17 Differentiate costs into operating expenses (OPEX) and capital expenditures (CAPEX) that are related to investments;

18 Interpret complex financial statements to perform a ratio analysis and understand the financial impact of logistical operations (e.g. on assets, equity and liabilities). (Linked with financial analysis and information flows (e.g. BI/KPI's);

19 Analyze the financial performance of a company (on strategic level) by means of Ratio analysis;

20 Aware of differences in stock valuation (e.g. Fifo, Lifo);

21 Advise how to identify the best supplier for specific services and measure their performance within the agreed conditions;

22 Write an advisory report for a company decision, in a well-structured, convincing and substantiated manner;

23 Present a company decision orally, target- and target group-oriented, convincing and substantiated;

24 Locate macro economic data and translate this to logistical decisions;

25 Create a Service Level Agreement for a new customer and an new supplier;

26 Apply guidelines and correct grammar in the Dutch or English language;

27 Use relevant sources and apply source referencing according APA;

28 Describe the concept of Trends & Innovation within transport and warehousing;

29 Apply knowledge about different leadership styles, management- and decision tools in a safe business case/project environment;

30 Apply data gathering by making use of questioning (Interviewing) within Project based working;

31 Apply data gathering and analysis tools from Excel, math and statistics and apply learnings in decision-taking;

32 Create a project plan and project charter in which you recall all steps and elements of a project based work approach (risk & control & implementation);

33 Recall the importance of communication (create support in team), collaboration and leadership skills and styles during project execution;

Language: English

Teaching Activities: Lecture

Worksessions

Guest lectures and company visits

Required literature: Logistics: Principles and Practice (Visser en van Goor, ISBN 9789081649117)

Other required materials: Recommended literature: Business en Managementmodellen (Mulders, ISBN 9789001277697) A Practical Guide to Logistics (Rudd, ISBN 9781398612648) The Logistics and Supply Chain Toolkit (Richards en Grindsted, ISBN 9781398613379) Law & Self Regulation (Jansen, ISBN 9789053834343)

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	30%	Numerical mark	5
Individual assignment	20%	Numerical mark	5
Group assignment	50%	Numerical mark	5
Process assessment	Conditional	P/F	1
Hogeschooltaal exam	Conditional	P/F	1

OSIRIS-code: BLE1.DPP2-1

Course name: Personal & Professional Development 2

Study load: 5 EC (=140 hours)

Coordinator: Suzanne Vollenbronck

Content description: Topics that will be addressed include your personal qualities and points for development, insights in different cultures, understanding the relevance of the various logistics compentencies and making choices regarding your own ambition and development. This study component supports you in making choices in which industry segments you would like to develop yourself.

Progr. Learning Outcomes: Develop - You develop as a logistics professional inspired by industry trends and personal reflection.

Learning objective(s):

1 Make conscious choices to develop knowledge and experiences in the different domains;

2 Develop chosen personal qualities and developments points;

3 Describe the impact of (international) cultures and variety of perspectives on (your) collaboration;

4 Reflect on your personal development and on your development regarding the logistics competences;

5 Recognise aspects of your own culture that shape the way you view the world and interact with others;

6 Identify various ways of developing intercultural competence.

Language: English

Teaching Activities: Individual coaching

Workshop

Required literature: -

Other required materials: A license to access the Ikigai digital environment.

Examination:

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

Logistics

Year

Semester Block A

OSIRIS-code: BLE2.AOPM-1

Course name: Operations Management

Study load: 5 EC (=140 hours)

Coordinator: Andre Gijsberts

Content description: Operations Management is the systematic design, direction, and control of processes that transform inputs into services and products for internal,as well as external, customers. In this course you will learn how to use operations to create value by looking at process and product design, layout choices, concepts as TOC, MRP and Lean supported by techniques as line balancing, linear programming and network analysis.

Progr. Learning Outcomes: Analyse - You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain.

Learning objective(s):

1 OM-Part

2 Student understands role and importance of OM within product and service organisations;

3 Student understands the role of product- en service design;

4 Student understands the essence of control systems like TOC, MRP-I en MRP-II, and LEAN;

5 Student can make calculations regarding these concepts like bottleneck calculations, line balancing, MRP calculations and drawing a VSM.

7 OR-Part

8 Student is able to transform a Linear Programmering problem (LP) in a mathematical model;

9 Student is able to build and solve LP-models in software (Excel Solver);

10 Student understands essence and role of algorithms and heuristics;

11 Student understands certain netwerkalgorithms and can apply them in specific problems;

12 Student is able to develop his own solution methods / heuristics for quantative problems.

Language: English

Teaching Activities: Lecture

Workshop

Required literature: Operations Management: Processes and Supply Chains (Krajewski and Malhotra, 14th edition, ISBN:9781292731117) Edition 13 is also usable!

Other required materials: Various materials distributed on BrightSpace like papers, videos, software and Excel files.

Examination:

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

OSIRIS-code: BLE2.AINF-1

Course name: Information Management

Study load: 5 EC (=140 hours)

Coordinator: Rutger Thielen

Content description: In a business simulation, we will develop step by step through 2 essential fields within logistics. We are building on scaling up a much-loved engine company. In this upscaling, we will have to improve both the physical and administrative processes.
Administratively, we will ensure that the processes that are essential in securing growth in ERP are engineered. Physically, we will move from a job shop set-up to a line of production work, where we will deal with standardization, quality management, flow and assurance. Students provide a set of work instructions and training so that outsiders can run the operation.

Progr. Learning Outcomes: Analyse - You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain.

Design - You (re)design a feasible and viable improvement or innovation for a process/product in the supply chain.Implement - You implement improvements and/or innovations in the supply chain.

Manage - You manage a project or a process to achieve the intended result."

Learning objective(s):

1 You describe and visualize the current physical and administrative process flows with a simple value stream analysis;

2 You collect basic KPIs (lead time, error rate, stock) from the simulation environment;

3 Design and test an improved line layout sketch with flow calculation;

4 You draw up a work instruction for one physical and 1 administrative task;

5 You implement the setup of the ERP system;

6 You will report the progress to the project supervisor verbally on a weekly basis.

Language: English

Teaching Activities: Workshop

Simulation

Required literature: -

Other required materials: -

Examination:

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

OSIRIS-code: BLE2.ACR2-1

Course name: Connection to Industry & Research 2

Study load: 5 EC (=140 hours)

Coordinator: Luuk Koopman

Content description: You will make an analysis of several organisations or projects. By mapping the core processes and analysing the internal/external environment, you will gain understanding of the activities within the industry and research field. You make your own choices in which (sub) segment of the industry or research projects you want to gain experience and insights. You will transfer the knowledge and experience from projects, cases and trainings into the analysis of the organisation or project. You will broaden your horizon regarding the (career) possibilities within the (logistics) industry.

Progr. Learning Outcomes: Research - You research supply chain challenges in a broader context taking sustainability, internationalisation and technology into consideration.

Advise - You advise on possible improvements and/or applicable innovations in the supply chain.

Manage - You manage a project or a process to achieve the intended result."

Learning objective(s):

1 Present to a specified target group in an inspiring and appealing way;

2 Gain experience within the industry or a (research)project;

3 Map the core processes of an organisation or research project;

4 Describe the internal and external environment of an organisation.

Language: English

Teaching Activities: Workshop

Excursion/Company visit

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	50%	Numerical mark	2
Group assignment	50%	Numerical mark	2

Logistics

Year

Semester Block B

OSIRIS-code:	BLE2.BCBS-1
Course name:	Cross-Border Supply Chains
Study load:	5 EC (=140 hours)
Coordinator:	Peter Kole
Content description:	You will investigate international flow of goods, supply chain networks, advise on strategic and operational level about improvement opportunities (including aspects like physical flows, legal, finance, etc.) and present to the board of directors in your role as a supply chain manager.
Progr. Learning Outcomes:	Research - You research supply chain challenges in a broader context taking sustainability, internationalisation and technology into consideration. Analyse - You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain. Design - You (re)design a feasible and viable improvement or innovation for a process/product in the supply chain.
Learning objective(s):	1 Identify and analyse the core concepts and techniques of import and export operations on strategic, tactical and operational level; 2 Identify possibilities for intermodal-/multimodal-/synchromodal transport within a European distribution network; 3 Advise on impact of change in INCO-terms for an importing organisation (both from a logistics-, financial and legal point of view) - incl. bonded warehousing; 4 Apply basic concepts of trade compliance related to port logistics; 5 Recognise intercultural differences and the influence on communication and behaviour; 6 Develop skills to bridge intercultural differences; 7 Develop skills and strategies to keep improving English skills; 8 Advise on the working capital of a company: Stock management, Debtor management (incl. international payments) and cash management (link with INCO terms, law and import/export regulations); 9 Translate the impact of operational choices on the working capital (e.g. currencies); 10 Recognise the impact of taxes in an international environment; 11 Explain the basics of Supply Chain Finance.
Language:	English
Teaching Activities:	Lecture Workshop
Required literature:	Edubook Finance & Control (Y1 and 2) (via Edumundo).
Other required materials:	Hogeschooltaal license. Other readers/articles will be provided by Buas

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	40%	Numerical mark	5
Written exam	60%	Numerical mark	1
Hogeschooltaal exam	Conditional	P/F	1

OSIRIS-code:	BLE2.BPRO-1
Course name:	Production Project
Study load:	5 EC (=140 hours)
Coordinator:	Irene Meeuwesen

Content description:

This project focuses on various aspects of Operations Management based on a business situation. You will develop three recommendations in the field of purchasing, process design and automation for a company. You will create a decision model for purchasing contract management of flow meters in which you decide which purchase strategy will be chosen for each item. You will make a material handling plan and a machine configuration and layout for the production of hospital beds. You will make a production configuration and an operating system for the wrapping of personal medical devices.
In the analyses, you will use layouts and datasets. These relate to products and the (current and future) consumption, technical properties of machines and products. In addition, you use financial data, so that you can make choices that lead to a combination of good delivery performance and a healthy financial situation. Your results highlight physical, information and financial flows that enable the company to innovate and grow.

Progr. Learning Outcomes:

Analyse - You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain.

Advise - You advise on possible improvements and/or applicable innovations in the supply chain.

Manage - You manage a project or a process to achieve the intended result."

Learning objective(s):

1 Develop purchasing strategies that support organisational strategies;

2 Apply basic concepts of Contract- and Labour law;

3 Recognise basic concepts of product liability and product safety regulations and apply them in a production environment

4 Calculate the cost per unit/logistical activities (product or service) based on direct and indirect costs (more complex settings) and distinguish process steps and activities- surcharge method; cost centre method;

5 Select the most appropriate way to calculate the cost per unit (product or service) in a complex setting e.g. by means of Activity-Based Costing and calculate the cost per unit;

6 Calculate the consequences of logistical decisions by using a cost-benefit analysis and advise on decisions (e.g. 'make or buy' and insourcing or outsourcing decisions);

7 Create an investment selection by using the most appropriate tools, based on (link with strategic procurement): - Cash flows without time preference (e.g. payback period and average accounting return); - Cash flows with time preference (e.g. net present value and internal rate of return).

8 Solve a complex (production) planning issue;

9 Demonstrate the capability to plan total material requirements, from procurement (sourcing) to delivery to the customer (Material Management);

10 Discuss the potential capabilities of an automated Production Systems and the basic functions needed for a specific company/case;

11 Recognise different innovative concepts within the field of Production (factory planning systems e.g.);

12 Analyse the (physical-flows) elements of Material Management in a given medium-complex business case;

13 Explain the connection between, and impact of physical flows elements on production management in practice (Definition of PM);

14 Execute supply and demand evaluation as part of an organisation's procurement strategy;

15 Resolve (potential) issues with material availability.

Language: English

Teaching Activities: Lecture

Workshop

Project with coaching

Required literature: Study manual en Project reader Production project

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	50%	Numerical mark	5
Written exam	50%	Numerical mark	1
Process assessment	Conditional	P/F	1

OSIRIS-code: BLE2.BPP3-1

Course name: Personal & Professional Development 3

Study load: 5 EC (=140 hours)

Coordinator: Mariana Chinellato Ferreira

Content description: In this study component you will make the necessary preparations to successfully start searching for a placement. You will investigate your qualities and development points and investigate the kind of organisations in which you would like to do your placement. The assignments you will complete for this study component aid in the search and application process and encourage you to undertake activities to develop your professional network. In addition,you will join an international fieldtrip and reflect on your development on the programme learning outcomes.

Progr. Learning Outcomes: Develop - You develop as a logistics professional inspired by industry trends and personal reflection.

Learning objective(s):

1 Develop a professional network to acquire an internship / job / assignment in an active way;

2 Develop professional means and skills to apply succesfully for a work placement or job;

3 Analyse the similarities and differences between logistics and supply chain industries in different countries (int. fieldrip);

4 Show appropriate intercultural behaviour (international field trip).

Language: English

Teaching Activities: Workshop

Individual coaching

Excursion/Company visit

Required literature: -

Other required materials: -

Examination:

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

Logistics

Year

Semester **Block**

OSIRIS-code:	BLE2.CRSB-1
Course name:	Running Sustainable Businesses
Study load:	5 EC (=140 hours)
Coordinator:	Erik van Diffelen

Content description:

We are in the middle of the transition to a different sustainable and more circular society. For companies and organizations this means that they must organize themselves sustainably. This requires a change in their business and revenue models. So we need to move towards business models that have a positive impact on people, society and the environment.
In this study component you will therefore analyze how companies and organizations could make a transition from all business facets such as HR, Legal, Sales & Marketing, Ethics, Leadership styles, Change methods and Procurement to a sustainable or circular business proposition in which in the Entrepreneurship follow-up study component, we will apply the acquired knowledge in practice.

Progr. Learning Outcomes:

Analyse - Je analyseert financiële, informatie- en fysieke stromen om verbetermogelijkheden en/of mogelijke innovaties in de supply chain te identificeren.

Design - You (re)design a feasible and viable improvement or innovation for a process/product in the supply chain.

Advise - You advise on possible improvements and/or applicable innovations in the supply chain. "

Learning objective(s):

1 Describe the basics of organisational structures, systems, culture and organisational behaviour;

2 Recognise the importance of leadership skills and differences in leadership styles;

3 Explain the basic concepts of human resources;

4 Recognise the importance of ethics and integrity in doing business;

5 Recognise the legal aspects of a company;

6 Analyse organisations' marketing and sales strategies;

7 Explain the theories and models about change (management);

8 Explain how to create understanding and support for changes among employees, management and customers;

9 Explain the relevance of CSR & sustainability in business;

10 Analyse a business on CSR & sustainability;

11 Explain the coherence between sales-/marketing-/import-/export-/business plan for a sustainable business;

12 Identify the playing field between DMU and PSU;

13 Make a well-founded price calculation to compile a profound quotation/value proposition;

14 Explain the dynamics of sales conversation(s);

15 Recognise the basics of entrepreneurial and sustainable finance.

Language: English

Teaching Activities: Lecture

Workshop

Required literature: Organizing for Sustainability (Jonker, J, Fabe,r N. et. al) (free E-book)

Other required materials: -

Examination:

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

OSIRIS-code: BLE2.CC3A-1

Course name: Connection to Industry & Research 3A

Study load: 5 EC (=140 hours)

Coordinator: Letty Zhu

Content description: This course begins with an introduction to basic research design, focusing on the plan of Approach (PoA). Students will then explore both quantitative and qualitative methods for data collection and analysis.
The curriculum includes an in-depth study of literature and the design of theoretical frameworks. Practical applications of observation and measurement are emphasized, along with insights into descriptive statistics within logistic operations. Additionally, the course covers process mapping and measurement techniques in logistics.

Progr. Learning Outcomes: Research - You research supply chain challenges in a broader context taking sustainability, internationalisation and technology into consideration.

Learning objective(s):

1 Learn to construct a proper Plan of Research;

2 Controle the fundamentals of quantitative research methodology;

3 Develop a refined research topic;

4 Design a detailed data collection plan.

Language: English

Teaching Activities: Lecture

Workshop

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Written exam	60%	Numerical mark	1
Group assignment	40%	Numerical mark	4

OSIRIS-code:	BLE2.CASC-1
Course name:	Advanced Supply Chain Management
Study load:	5 EC (=140 hours)
Coordinator:	Ron van der Wegen
Content description:	In the Advanced Supply Chain Management study component, the central theme is managing and improving existing supply chains. The lectures will address this from different perspectives and will combine theory with application. All considering the impact on the overall business performance, people, planet & profit, for a company.
Progr. Learning Outcomes:	Analyse -You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain. Design - You (re)design a feasible and viable improvement or innovation for a process/product in the supply chain. Advise - You advise on possible improvements and/or applicable innovations in the supply chain.
Learning objective(s):	1 Apply the basics of a Supply design process; 2 Describe the desirability, feasibility, and viability of a change; 3 Demonstrate written, oral, and visual communication skills related to a (research) report; 4 Translate and present the results in a management report and a professional presentation; 5 Communicate about costs of (logistics) processes with internal and external users of information; 6 Use a (financial) business case as support in a supply chain (re)design; 7 Create a strategic forecasting model and inventory control system for an end-to-end supply chain; 8 Recognise the impact of Supply Chain Strategy and how this is translated to the design on strategic, tactical and operational level; 9 Describe the various forms of collaboration and integration, upstreams and downstreams, within the Supply Chain. 10 Analyse impact of change in transportation mode on physical flows in the chain (transport, warehousing, distribution, inventory); 11 Apply sustainability elements in the supply chain (re-)design; 12 Benchmark recycling opportunities (incl. return logistics) in a specific service-, production- or events-related business case.

Logistics Management Specialisation

1 Analyse an organisation and formulate a strategy;

2 Analyse the customer journey of a logistics organisation;

3 Explain basic principles of contract management;

4 Map and analyse an organisation's internal and external environment (macro-/meso-/micro-analysis);

5 Deploy the basic elements of Supply Chain Finance;

6 Use BI tools to retrieve and visualise financial data on the Supply Chain.

Logistics Engineering Specialisation

1 Apply the basic functions of BI-software (e.g. Power BI);

2 Apply the basic functions of programming software (Python e.g.) to solve an complex problem;

3 Build and make use of relational databases, and translate these to the reliability of the data;

4 Construct a design of a KPI dashboard for a specific supply chain choosing from different methods of Data visualisation;

5 Explain basic princples of a vendor selection process in various contexts (IT, materials, services, people, etc.);

6 Interpret and use the aspects of Data Quality (DAMA-DMBOK) to improve the quality outcome of (end-to-end) processes;

7 Recognise the possible advantages and risks when working with 'Big Data' and Select the right Data sources (3 V's) as input for the (re)design;

8 Select the right type of interfaces and network needed to connect specific different systems together, and select the right infrastructure (On premise vs Cloud e.g.);

9 Use visualisation languages for making modelling decision made in a (digital) process (Rule Management).

Language: English

Teaching Activities: Lecture

Workshop

Required literature: Operations Management: Processes and Supply Chains (Krajewski and Malhotra, 14th edition, ISBN:9781292731117)
Finance: Edubook Finance & Control, year 2

Other required materials: Further reading materials, cases and datasets will be provided by the relevant teacher in Brightspace.

Examination:

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

Logistics

Year

Semester **Block**

OSIRIS-code:	BLE2.DC3B-1
Course name:	Connection to Industry & Research 3B
Study load:	5 EC (=140 hours)
Coordinator:	Letty Zhu

Content description:

The project begins by selecting one of the themes in Logistics: Event Logistics, Healthcare Logistics, Physical Distribution, or Production Logistics. The objective is to provide improvement advice to an organization or contribute to a research project.
By analyzing core processes in an organization or participating in a research project, you will identify potential bottlenecks and trends, which will form the basis for improvement ideas or research results. You will apply knowledge and experience gained from previous projects, courses, and trainings to analyze the organization or project.
Through making choices and gaining experience, you will broaden your understanding of career possibilities within the industry. You will collaborate with both Dutch and international students to develop cross-cultural understanding and communication skills.

Progr. Learning Outcomes:

Research - You research supply chain challenges in a broader context taking sustainability, internationalisation and technology into consideration.

Design - You (re)design a feasible and viable improvement or innovation for a process/product in the supply chain.

Advise - You advise on possible improvements and/or applicable innovations in the supply chain.

Implement - You implement improvements and/or innovations in the supply chain. Develop - You develop as a logistics professional inspired by industry trends and personal reflection.

Learning objective(s):

1 Analyse a real problem of a logistics organisation or project;

2 Show professional and effective behaviour in relation to the assigned project;

3 Give a clear, detailed presentation in a convincing manner, supporting ideas with relevant examples;

4 Define gaps with current situation and desired goal, or bottlenecks within an organization;

5 Describe your contribution to data gathering in a (research) project;

6 Give an improvement advise report based on field research in an organization or a project;

7 Demonstrate (improved) competence in communication skills in intercultural communication contexts.

Language:	English
Teaching Activities:	Lecture
	Workshop

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	70%	Numerical mark	3
Oral assessment/Presentation	30%	Numerical mark	3
Process assessment	Conditional	P/F	1

OSIRIS-code: BLE2.DPP4-1

Course name: Personal & Professional Development 4

Study load: 5 EC (=140 hours)

Coordinator: Vacancy

Content description: In this study component you will make the necessary preparations to successfully start searching for an internship. You will investigate your qualities and development points and investigate the kind of organisations in which you would like to do your placement.
The assignments you will complete for this study component aid in the search and application process and encourage you to undertake activities to develop your professional network. Besides you will reflect on you're your development, your qualities and your points for development for the next phase of your study.

Progr. Learning Outcomes: Develop - You develop as a logistics professional inspired by industry trends and personal reflection.

Learning objective(s):

1 Identify your role in (project) teams and state how to add valuable contributions to industry project teams;

2 Use an active search process to find an internship / job that matches your development needs;

3 Reflect on your personal development and on your development regarding the logistics competences of year 2;

4 Take responsibility for personal or professional development by executing self-chosen development activities (free electives);

5 State what your personal qualities and development points are, how to use these qualities and how to improve the development points during placement.

Language: English

Teaching Activities: Workshop

Individual coaching

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Portfolio	50%	Numerical mark	5
Oral assessment/Presentation	50%	Numerical mark	5
Individual assignment	Conditional	P/F	5

OSIRIS-code:	BLE2.DENT-1LGM
Course name:	Entrepreneurship for Logistics Management
Study load:	5 EC (=140 hours)
Coordinator:	Tobias de Nooy

Content description:

The logistics industry is confronted by immense changes; new technologies, new market entrants, new customer expectations and new business models. Like all changes, this brings both risks and opportunities. There are many ways the sector could develop to meet these challenges, some evolutionary, others more revolutionary. One thing is for sure: development is necessary. The frontrunners are the companies that are able to anticipate on the trends, developments and opportunities, also called 'entrepreneurship'. Entrepreneurship is also the engine to boost employment in the sector. So, it is crucial that companies have to adopt a more entrepreneurial approach and professionals have an entrepreneurial or intrapreneurial attitude. In addition to knowledge and skills, your success depends also on the extent to which you are able to demonstrate flexibility and an entrepreneurial mind-set.
In this study component you will learn why an entrepreneurial mind-set is important, what are the characteristics of an entrepreneur and an intrapreneurial professional and you are developing and setting up a business model for a new (innovative) logistic concept.

Progr. Learning Outcomes:

Design - You (re)design a feasible and viable improvement or innovation for a process/product in the supply chain.

Manage - You manage a project or a process to achieve the intended result.

Develop - You develop as a logistics professional inspired by industry trends and personal reflection."

Learning objective(s):

1 Discover co-creation innovation processes;

2 Explain the need for business model innovation;

3 Recognise key drivers of innovation;

4 Set up a business model, from the perspective of new concepts related to the Logistics industry and/or your own field of interest;

5 Discover and identify key elements when starting a business;

6 Apply theory in the areas of management & organisation, marketing, logistics and accounting in relation to entrepreneurship;

7 Model and implement strategies for significant procurement;

8 Align system prcesses and functions within your organisation;

9 Develop written and visual communication skills related to a business plan;

10 Develop business model options based on generated insights;

11 Validate the business model options and elaborate one of them into a business case;

12 Execute a business presentation to get a message across in a convincing way;

13 Make a business plan (incl. sales/marketing/procurement/production/finances/operations/logistics) for delivering a product or service to the market;

14 Recognise the importance of business communication in gaining understanding of a manager and business partners;

15 Analyse financial flows and cash needs of (logistics) start-ups;

16 Discover and develop personal intra/entrepreneurial skills.

Language: English

Teaching Activities: Lecture

Workshop

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	50%	Numerical mark	5
Individual assignment	30%	Numerical mark	5
Serious game/Simulation	20%	Numerical mark	5

OSIRIS-code: BLE2.DFUN-1LGE

Course name: Fundamentals of DS & AI for Logistics Engineering

Study load: 5 EC (=140 hours)

Coordinator: Rutger Thielen

Content description: The module ""Fundamentals of Applied Data Science & Artificial Intelligence in Logistics"" gives second-year students an overview of the core concepts, techniques and ethical points of attention of data analysis and AI within logistics processes in ten weeks.
During three guided assignments and one independent final assignment, they go through the entire CRISP-DM cycle and apply classification, clustering and time series prediction to sector-relevant datasets.In this way, students develop both technical skills (Python notebooks, model selection, evaluation) and communicative competencies to clearly present findings to technical and non-technical stakeholders.
The module concludes with an individual assignment (100% of the grade) in which each student independently solves a logistical data science problem, taking into account legal and ethical preconditions."

Progr. Learning Outcomes: Design - You (re)design a feasible and viable improvement or innovation for a process/product in the supply chain.

Implement - You implement improvements and/or innovations in the supply chain.

Learning objective(s):

1 Address Legal and Ethical Considerations in AI for Logistics;

2 Effectively communicate the methodology, findings, and implications of data analyses to both technical and non-technical stakeholders;

3 Critically evaluate and articulate the significance of the CRISP-DM framework in structuring and managing data projects;

4 Assess and select the most appropriate analytical models for evaluating and interpreting unknown data sets;

5 Construct a data analysis notebook by systematically applying predefined models to analyze and interpret unknown data sets through usage of generalizable patterns;

6 Design and implement a user-friendly interface within an application to effectively communicate data-driven solutions for decision-making.

Language: English

Teaching Activities: Workshop

Required literature: -

Other required materials: -

Examination:

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

Logistics

Year

Semester **Block A & B**

OSIRIS-code:	BLE3.PLAC-1
Course name:	Placement
Study load:	30 EC (=840 hours)
Coordinator:	Irene Meeuwesen

Content description:

In project education in years 1 and 2, you tackled several business cases within groups. Now you're going to do this individually. This means that you independently carry out an assignment or contribute to a project. You have to arrange your own placement and assignment. The placement coordinator measures the assignment on size, complexity and draft.
During the placement period you will work on location. You draw up an action plan, conduct research and activities and present your findings (orally and in writing/visually).
During the placement, you will also work on a competency portfolio, in which you demonstrate to have achieved the competencies based on the developed professional products, gathered feedback and performed activities during the placement period. The professional products are therefore necessary proof for the competency portfolio.
You will be supervised by a university supervisor and a company supervisor. During three 'return days', you will discuss the content of your placement assignment in a group of fellow students and your university supervisor and you will attend workshops on themes and skills related to your placement.

Progr. Learning Outcomes:

Research - You research supply chain challenges in a broader context taking sustainability, internationalisation and technology into consideration.

Analyse - You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain.

Design - You (re)design a feasible and viable improvement or innovation for a process/product in the supply chain.

Advise - You advise on possible improvements and/or applicable innovations in the supply chain.

Manage - You advise on possible improvements and/or applicable innovations in the supply chain.

Develop - You develop as a logistics professional inspired by industry trends and personal reflection.

Learning objective(s):

1 At a tactical level independently carry out a research/design process, considering the complexity of the business situation and culture, internal processes and external factors;

2 Apply relevant theoretical knowledge in practical situations, substantiate which steps are taken and how results have been achieved in a reliable manner;

3 Present and report orally and in writing on the products and/or outcomes that follow from the placement assignment and create support for the appropriate follow-up steps;

4 Participate in a practical situation as a starting professional and take responsibility for the formulation and execution of the placement assignment;

5 Demonstrate achievement of competencies based on the professional products, gathered feedback and activities performed during placement.

Language: English

Teaching Activities: Placement supervision

Workshop

Required literature: Placement handbook

Other required materials: BrightSpace courses Preparation for Placement Logistics 24-25 and Placement 25-26

Examination:

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

Logistics

Year

Semester **Block**

OSIRIS-code: BLE3.CCH1-1

Course name: Challenge 1

Study load: 10 EC (=240 hours)

Coordinator: Rutger Thielen

Content description: You will work on a challenge, based on a chosen specialisation topic, in a mixed group of Logistics Engineering and Logistics Management students. Working on a challenge is an active learning approach in which you gain skills and knowledge through active engagement with an urgent real-life challenge, and collaborative work on creative and sustainable solutions. During this challenge, you apply the Design Thinking method, which is a versatile problem-solving framework, which guides you in several phases to develop effective solution concepts.
In part 1 of the challenge you will go through the Clarify and Ideate phases. You will work through a template to unravel a big idea or essential question into a call to action. You interview stakeholders from all perspectives

Progr. Learning Outcomes: Research - You research supply chain challenges in a broader context taking sustainability, internationalisation and technology into consideration.

Analyse - You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain.

Manage - You advise on possible improvements and/or applicable innovations in the supply chain.

Learning objective(s):

1 Integrates insights from different business and social perspectives at strategic and tactical level within a complex innovative challenge;

2 Empathise with the daily practice within the challenge and influence the acceptance of the tested and validated solution;

3 Apply strategies for optimal disciplinary collaboration and evaluate the added value and challenges from other perspectives on the process;

4 Show a self-critical attitude and motivation for further development as a professional and own development points for the further course of studies and the first (work) experiences thereafter, including actions needed to take for this.

Language: English

Teaching Activities: Project with coaching

Lecture

Workshop

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	100%	Numerical mark	5
Process assessment	Conditional	P/F	1

OSIRIS-code: BLE3.CDDI-1

Course name: Deep Dive

Study load: 5 EC (=140 hours)

Coordinator: Rutger Thielen

Content description: During the Deep Dive, you will delve yourself into the important innovative topics in your Specialisation. The goal is to do an exploratory research to learn more about the topic, gain new insights, and generate hypotheses that can justify further research. You will therefore choose one specific subject to work out in among others a mind map, hypothesis and data validation plan, to finish an exploratory research and make a product to share your knowledge with others.

Progr. Learning Outcomes: Research - You research supply chain challenges in a broader context taking sustainability, internationalisation and technology into consideration.

Analyse - You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain.

Manage - You advise on possible improvements and/or applicable innovations in the supply chain.

Learning objective(s):

1 Integrate insights from different business and social perspectives at strategic and tactical level within a complex innovative challenge;

2 Apply research skills appropriate to an innovative topic in which limited classical sources are available;

3 Empathize with the daily practice within the challenge and influenced the acceptance of the tested and validated solution;

4 Show a self-critical attitude and motivation for further development as a professional and own development points for the further course of studies and the first (work) experiences thereafter, including actions needed to take for this.

Language: English

Teaching Activities: Lecture

Workshop

Required literature: -

Other required materials: -

Examination:

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

Logistics

Year

Semester **Block**

OSIRIS-code: BLE3.DCH2-1

Course name: Challenge 2

Study load: 5 EC (=140 hours)

Coordinator: Rutger Thielen

Content description: During the second part of the challenge within your specialisation, you will develop (prototype and test) a solution for the given challenge.

Progr. Learning Outcomes: Design - You (re)design a feasible and viable improvement or innovation for a process/product in the supply chain.

Advise - You advise on possible improvements and/or applicable innovations in the supply chain.

Implement - You implement improvements and/or innovations in the supply chain.

Learning objective(s):

1 Justify the operation and impact of a solution through tests carried out on the prototypes developed for the challenge;

2 Empathise with the daily practice within the challenge and influence the acceptance of the tested and validated solution;

3 Apply strategies for optimal disciplinary collaboration and evaluate the added value and challenges from other perspectives on the process;

4 Show a self-critical attitude and motivation for further development as a professional and own development points for the further course of studies and the first (work) experiences thereafter, including actions needed to take for this.

Language: English

Teaching Activities: Project with coaching

Lecture

Workshop

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Group assignment	100%	Numerical mark	5
Process assessment	Conditional	P/F	1

OSIRIS-code: BLE3.DPP6-1

Course name: Personal & Professional Development 6

Study load: 5 EC (=140 hours)

Coordinator: Karolien Kampstra

Content description: During the Personal and Professional Development sessions of the third year Logistics bachelor programmes, you will reflect on the progress made in the development during your studies and recent placement project.
You will establish a future outlook to define what competencies and skills you need and want to develop during semester 6 and during the fourth year of the bachelor programme. Several workshops will guide you through this process. You will be challenged to look back and to reflect and set goals to make the next steps in your development.

Progr. Learning Outcomes: Develop - You develop as a logistics professional inspired by industry trends and personal reflection.

Learning objective(s): 1 Student shows a self-critical attitude and motivation for further development as a professional and has own development points for the further course of their studies and the first (work) experiences thereafter, including actions that the student needs to take for this.

Language: English

Teaching Activities: Lecture

Workshop

Individual coaching

Required literature: -

Other required materials: Profile Personality test

Examination:

Assessments	Weightage	Mark	AI Level
Portfolio	50%	Numerical mark	5
Oral assessment/Presentation	50%	Numerical mark	5

OSIRIS-code: BLE3.DSCE-1LGM

Course name: Supply Chain Execution Logistics Management

Study load: 5 EC (=140 hours)

Coordinator: Rutger Thielen

Content description: This study component focuses on the decision-making process and will provide you with the knowledge and tools to make crucial decisions that move the industry forward. You will delve into the complexities of supply chain management, explore innovative logistics models and develop a keen eye for process improvement.
During this course you will practice setting up unique business cases including ROI, sensitivity analysis and risk analysis. To set up business cases, you complete educational activities in which you first go through the standard process and the exceptions manually and then with system support.
During the entire period, in addition to the business cases, you will work on a business simulation game in which you have to work well together from different roles in order to achieve a successful result and perhaps even come first.

Progr. Learning Outcomes: Research - You research supply chain challenges in a broader context taking sustainability, internationalisation and technology into consideration.

Analyse - You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain.

Advise - You advise on possible improvements and/or applicable innovations in the supply chain.

Learning objective(s): 1 You serve management, operations and planning levels of an organization and support them to make decisions about problems that may be rapidly changing and not easily specified in advance.

Language: English

Teaching Activities: Lecture

Workshop

Required literature: -

Other required materials: -

Examination:

Assessments	Weightage	Mark	AI Level
Serious game / simulation	15%	Numerical mark	5
Individual assignment	35%	Numerical mark	5
Individual assignment	50%	Numerical mark	5

OSIRIS-code:	BLE3.DDSS-1LGE
Course name:	Decision Support Systems Logistics Engineering
Study load:	5 EC (=140 hours)
Coordinator:	Andre Gijsberts
Content description:	A Decision Support System (DSS) is a computer-based technological solution deployed to support decision making in solving complex problems. For example, for managers in making complex, non-routine decisions. In this course, we look at three of these systems. In the part Automation Techniques, you will learn to understand the fundamentals and components of a modern automated process and to apply them in different situations so that you will be a partner of the engineer in (future) automation projects. As an application, you will learn to create a PLC control system. In the part Logistics Simulation section, a simple simulation study is set up and carried out using the simulation software Flexsim. With simulation, it is possible to analyze dynamic systems and look into the future by simulating logistical alternatives through a computer model. Vehicle Route Planning as an operational issue with changing demands and destinations is solved every day by countless LSPs. But there are also tactical and strategic issues involved in distribution planning. In this part you will learn to analyze some of these issues using the route planning package OrtecRS."
Progr. Learning Outcomes:	Research - You research supply chain challenges in a broader context taking sustainability, internationalisation and technology into consideration. Analyse - You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain. Design - You (re)design a feasible and viable improvement or innovation for a process/product in the supply chain.
Learning objective(s):	1 Student is able to use software and apply programming knowledge to solve specific problems; 2 Student is able to program a PLC control; 3 Student understands the value of simulation for analyzing dynamic systems and is able to responsibly perform a simple simulation study; 4 Student understands the value of vehicle schedulingssoftware for the operational, tactical and strategic management of transport companies and is able to apply this software to a tactical and/or strategic problem.
Language:	English
Teaching Activities:	Lecture Workshop
Required literature:	-
Other required materials:	Various materials distributed on BrightSpace like papers, videos, software and Excel files

Examination:

Assessments	Weightage	Mark	AI Level
Individual assignment	40%	Numerical mark	5
Individual assignment	40%	Numerical mark	5
Individual assignment	20%	Numerical mark	5

Logistics

Year

Semester Block A & B

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

Course name: Change Management

Study load: 30 EC (=840 hours)

Coordinator: Karolien Kampstra

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

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

This encompasses the following topics:

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

Learning outcomes:

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

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

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

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

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

Language: English

Teaching Activities: Project with coaching

LAB with coaching

Workshop

Required literature: Leading Change (Kotter, ISBN 9781422186435)

Other required materials: -

Examination:

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

OSIRIS-code:	BXE4.GROU-1CRS / BXE4.INDV-1CRS / BXE4.PROC-1CRS
Course name:	Crowd Safety in Hubs & Events
Study load:	30 EC (=840 hours)
Coordinator:	Justin van de Pas

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

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

Learning outcomes:

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

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

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

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

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

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

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

8 Recognise group behavior and understanding causality;

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

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

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

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

13 Use of clear graphics;

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

Language: English

Teaching Activities: Lecture,

Workshop

Project with coaching

Excursion

Excursion/Company visit

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

Other required materials: --

Examination:

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

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

Course name: International Urban Redevelopment

Study load: 30 EC (=840 hours)

Coordinator: Paul van de Coevering

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

The following content is covered:

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

Learning objective(s):

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

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

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

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

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

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

Language: English

Teaching Activities: Project with coaching

Lecture

Workshop

Required literature: -

Other required materials: -

Examination:

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

Logistics

Year

Semester Block &

OSIRIS-code:	BXX4.GRAD-1
Course name:	Graduation
Study load:	30 EC (=840 hours)
Coordinator:	Irene Meeuwesen

Content description:

You have to arrange your own graduation position and assignment. The graduation coordinator measures the assignment on size, complexity and draft. During the graduation process you will work on location.
During this period you will develop on certain competencies. You demonstrate to have achieved the competencies based on the developed professional products, gathered feedback and performed activities during the graduation period.
You will be supervised by a university supervisor and a company supervisor. During a number of individual talks with your university supervisor you will discuss the content of your graduation assignment and your progress.

Progr. Learning Outcomes:

A1. Analyses internal and external developments and translates these to the context of the organisation and its stakeholders, in order to contribute to the company's strategy (including logistics strategy). (Level 2)

A2. Investigates an economic or technical logistics problem using carefully chosen, justified methods and techniques to improve / renew the logistics process, product and/or service. (Level 2)

A3. Designs a logistics process, product and/or service using carefully chosen, justified methodologies that complies with the client's wishes and with the other parts of the supply chain. (Level 3)

A4. Creates support for substantiated advice about designing, improving or applying the logistics process, product and/or service. (Level 2)

A5. Draws up an implementation plan for the new/improved logistics process, product and/or service, taking the logistic objectives into consideration. (Level 2)

B1. Effectively manages a logistics process and/or project. (Level 2)

B3. Directs and regulates one's own development in the field of professionally relevant knowledge and skills (soft skills and hard skills), thus demonstrating personal leadership. (Level 3)

B4. Is able to control (international) logistics processes from an interdisciplinary perspective, taking into account the dynamics of the business environment and cultural differences. (Level 2)

C4. Communicates effectively and professionally in the common corporate language at all levels. (Level 3)

Learning objective(s):

1 At a strategic level independently carry out a research/design process, considering the complexity of the business situation and culture, internal processes and external factors;

2 Apply relevant theoretical knowledge in practical situations, substantiate which steps are taken and how results have been achieved in a reliable manner;

3 Present and report orally and in writing on the products and/or outcomes that follow from the placement assignment and create support for the appropriate follow-up steps;

4 Participate in a practical situation as a starting professional and take responsibility for the formulation and implementation of the graduation assignment;

5 Demonstrate achievement of competencies based on the professional products, gathered feedback and activities performed during placement.

Language: English

Teaching Activities: Graduation supervision

Required literature: Graduation manual

Other required materials: BrightSpace course Graduation Logistics

Examination:

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

Appendices

- Curriculum overview
- Programme Learning Outcomes
- Coverage matrix
- Link to assessment programme & Year planning

Curriculum overview Logistics Engineering

Legend

Project: Case: PPD: Practice:

Curriculum year 1 Logistics Engineering

Semester 1		Semester 2	
Experience logistics and supply chain management		Transport, distribution and storage & service logistics	
Block A	**Block B**	**Block C**	**Block D**
Getting Started 5 EC	**Personal & Professional Development 1** 5 EC	**Material Logistics - Basics** 5 EC	**Personal & Professional Development 2** 5 EC
Basics of Supply Chain Management 5 EC	**Modelling and Planning** 5 EC	**Connection to Industry & Research 1** 5 EC	**Material Logistics - Improvement & Innovation** 10 EC
Experience Supply Chain Management 1 10 EC	**Experience Supply Chain Management 2** 10 EC	**Service Logistics – Basics & Innovation** 5 EC	

Curriculum year 2 Logistics Engineering

Semester 3		Semester 4	
Production logistics and international supply chains		Sustainable supply chains and choice of logistics specialisation	
Block A	**Block B**	**Block C**	**Block D**
Operations Management 5 EC	**Personal & Professional Development 3** 5 EC	**Advanced Supply Chain Management** 5 EC	**Personal & Professional Development 4** 5 EC
Connection to Industry & Research 2 5 EC	**Cross-Border Supply Chains** 5 EC	**Connection to Industry & Research 3A** 5 EC	**Connection to Industry & Research 3B** 5 EC
Information Management 5 EC	**Production Project** 5 EC	**Running Sustainable Business** 5 EC	**Fundamentals of Data Science & AI** 5 EC

Curriculum year 3 Logistics Engineering

Semester 5		Semester 6	
Building your own profile: work placement in the Netherlands or abroad		Building your own profile: specialisation in one of the logistics areas	
Block A	**Block B**	**Block C**	**Block D**
Placement 30 EC		**Deep Dive** 5 EC	**Personal & Professional Development 4** 5 EC
		Specialisation-Challenge part 1 10 EC	**Specialisation-Challenge part 2** 5 EC
			Decisions Support Systems 5 EC

Curriculum year 4 Logistics Engineering

Semester 7		Semester 8	
Building your own profile: within BUas, in the Netherlands or abroad		Building your own profile: graduating with a company	
Block A	**Block B**	**Block C**	**Block D**
Minor or Exchange 30 EC		**Graduation thesis** 30 EC	

Curriculum overview Logistics Management

Legend

Project: Case: PPD: Practice:

Curriculum year 1 Logistics Management

Semester 1		Semester 2	
Experience logistics and supply chain management		Learn and apply basic principles in transport, distribution, storage & service logistics	
Block A	**Block B**	**Block C**	**Block D**
Getting Started 5 EC	**Personal & Professional Development 1** 5 EC	**Material Logistics - Basics** 5 EC	**Personal & Professional Development 2** 5 EC
Basics of Supply Chain Management 5 EC	**Modelling and Planning** 5 EC	**Connection to Industry & Research 1** 5 EC	**Material Logistics - Improvement & Innovation** 10 EC
Experience Supply Chain Management 1 10 EC	**Experience Supply Chain Management 2** 10 EC	**Service Logistics – Basics & Innovation** 5 EC	

Curriculum year 2 Logistics Management

Semester 3		Semester 4	
Getting started with production logistics & international supply chains		Advancing sustainable supply chains & making a choice for logistics specialisation	
Block A	**Block B**	**Block C**	**Block D**
Operations Management 5 EC	**Personal & Professional Development 3** 5 EC	**Advanced Supply Chain Management** 5 EC	**Personal & Professional Development 4** 5 EC
Connection to Industry & Research 2 5 EC	**Cross-Border Supply Chains** 5 EC	**Connection to Industry & Research 3A** 5 EC	**Connection to Industry & Research 3B** 5 EC
Information Management 5 EC	**Production Project** 5 EC	**Running Sustainable Business** 5 EC	**Entrepreneurship** 5 EC

Curriculum year 3 Logistics Management

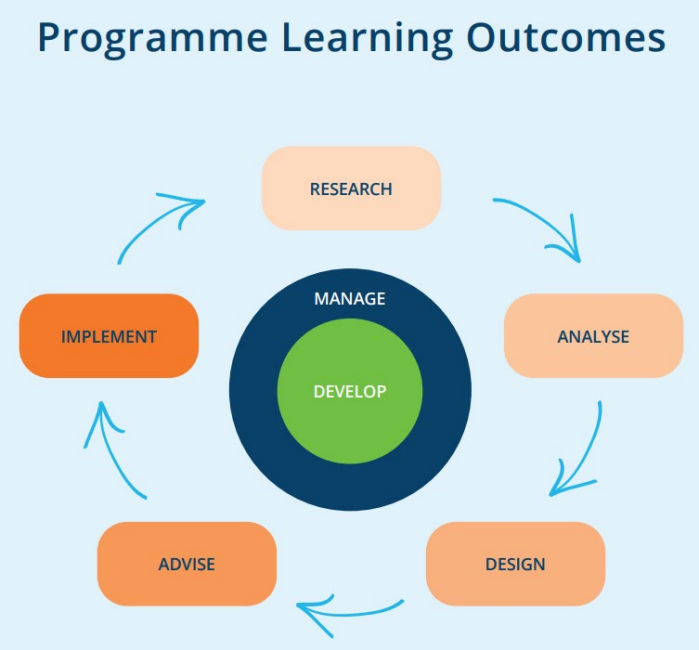
Semester 5		Semester 6	
Building your own profile: work placement in the Netherlands or abroad		Building your own profile: specialisation in one of the logistics areas	
Block A	**Block B**	**Block C**	**Block D**
Placement 30 EC		**Deep Dive** 5 EC	**Personal & Professional Development 4** 5 EC
		Specialisation-Challenge part 1 10 EC	**Specialisation-Challenge part 2** 5 EC
			Supply Chain Execution 5 EC

Curriculum year 4 Logistics Management

Semester 7		Semester 8	
Building your own profile: within BUas, in the Netherlands or abroad		Building your own profile: graduating with a company	
Block A	**Block B**	**Block C**	**Block D**
Minor or Exchange 30 EC		**Graduation thesis** 30 EC	

Programme Learning Outcomes (PLOs)

Logistics Engineering (LE) and Logistics Management (LM)



PLO	Description	End level LE	End level LM
Research	You research supply chain challenges in a broader context, taking sustainability, internationalisation and technology into consideration.	3	3
Analyse	You analyse financial, information, and physical flows to identify improvement opportunities and/or possible innovations in the supply chain.	3	3
Design	You (re)design a feasible and viable improvement or innovation for a process/product in the supply chain.	3	2
Advise	You advise on possible improvements and/or applicable innovations in the supply chain.	2	3
Implement	You implement improvements and/or innovations in the supply chain.	2	2
Manage	You manage a project or process to achieve the intended result.	3	3
Develop	You develop as a logistics professional inspired by industry trends and personal reflection.	3	3

Coverage matrix Programme Learning Outcomes (PLOs) Logistics Engineering

Logistics Engineering		PLO Research	PLO Analyse	PLO Design	PLO Advise	PLO Implement	PLO Manage	PLO Develop
Year 1	**Study components**							
Semester 1 Block A	Case - Getting Started	■			■			■
	Case - Basics of Supply Chain Management		■					
	Project – Experience Supply Chain Management 1		■				■	
Semester 1 Block B	PPD - Personal & Professional Development 1							■
	Case - Modelling & Planning		■		■		■	
	Project – Experience Supply Chain Management 2		■	■	■	■	■	
Level PLOs end of semester 1			**1**		**1**	**1**	**1**	**1**
Semester 2 Block C	Case - Material logistics - Basics		■					
	CIR - Connection to Industry & Research 1						■	■
	Case - Service logistics - Basics and innovation	■	■	■	■			
Semester 2 Block D	PPD - Personal & Professional Development 2							■
	Project - Material logistics - Improvement & Innovation	■	■	■	■		■	
Level PLOs end of semester 2		**1**	**1**	**1**	**1**		**1**	**1**
Year 2	**Study components**							
Semester 3 Block A	Case - Operations Management		■					
	CIR - Connection to Industry & Research **2**	■			■		■	
	Project – Information Management		■	■		■	■	
Semester 3 Block B	PPD - Personal & Professional Development 3							■
	Case - Cross Border Supply Chains	■	■	■				
	Project - Production Project		■		■		■	
Level PLOs end of semester 3		**1**	**2**	**1**	**1**	**1**	**1**	**1**
Semester 4 Block C	Case – Advanced Supply Chain Management		■	■	■			
	CIR - Connection to Industry & Research 3A	■						
	Case - Running Sustainable Businesses		■	■	■			
Semester 4 Block D	PPD - Personal & Professional Development 4							■
	CIR - Connection to Industry & Research 3B	■		■	■	■		■
	Case - Fundamentals of Data Science & AI			■		■		
Level PLOs end of semester 4		**2**	**2**	**2**	**2**	**1**	**1**	**1**

Logistics Engineering

Year 3	Study components	PLO Research	PLO Analyse	PLO Design	PLO Advise	PLO Implement	PLO Manage	PLO Develop
Semester 5 Block A & B	Placement							
Level PLOs end of semester 5		**2**	**2**	**2**	**2**	**1**	**2**	**2**
Semester 6 Block C	Deep Dive							
	Specialisation - Challenge part 1							
Semester 6 Block D	PPD - Personal & Professional Development 6							
	Specialisation - Challenge part 2							
	Case - Decision Support System							
Level PLOs end of semester 6		**2**	**2**	**3**	**2**	**2**	**2**	**2**
Year 4	**Study components**							
Semester 7 Block A & B	Minor / exchange							
Semester 8 Block C & D	Graduation							
End level PLOs end of semester 8		**3**	**3**	**3**	**2**	**2**	**3**	**3**

Coverage matrix Programme Learning Outcomes (PLOs) Logistics Management

Logistics Management		PLO Research	PLO Analyse	PLO Design	PLO Advise	PLO Implement	PLO Manage	PLO Develop
Year 1	**Study components**							
Semester 1 Block A	Case - Getting Started	■			■			■
	Case - Basics of Supply Chain Management		■					
	Project – Experience Supply Chain Management 1		■				■	
Semester 1 Block B	PPD - Personal & Professional Development 1							■
	Case - Modelling & Planning		■		■		■	
	Project – Experience Supply Chain Management 2		■	■	■	■	■	
Level PLOs end of semester 1			**1**		**1**	**1**	**1**	**1**
Semester 2 Block C	Case - Material logistics - Basics		■					
	CIR - Connection to Industry & Research 1						■	■
	Case - Service logistics - Basics and innovation	■	■	■	■			
Semester 2 Block D	PPD - Personal & Professional Development 2							■
	Project - Material logistics - Improvement & Innovation	■	■	■	■		■	
Level PLOs end of semester 2		**1**	**1**	**1**	**1**		**1**	**1**
Year 2	**Study components**							
Semester 3 Block A	Case - Operations Management		■					
	CIR - Connection to Industry & Research **2**	■			■		■	
	Project – Information Management		■	■		■	■	
Semester 3 Block B	PPD - Personal & Professional Development 3							■
	Case - Cross Border Supply Chains	■	■	■				
	Project - Production Project		■		■		■	
Level PLOs end of semester 3		**1**	**2**	**1**	**1**	**1**	**1**	**1**
Semester 4 Block C	Case – Advanced Supply Chain Management		■	■	■			
	CIR - Connection to Industry & Research 3A	■						
	Case - Running Sustainable Businesses		■	■	■			
Semester 4 Block D	PPD - Personal & Professional Development 4							■
	CIR - Connection to Industry & Research 3B	■		■	■	■		■
	Case - Entrepreneurship			■			■	■
Level PLOs end of semester 4		**2**	**2**	**2**	**2**	**1**	**1**	**1**

Logistics Management

Year 3	Study components	PLO Research	PLO Analyse	PLO Design	PLO Advise	PLO Implement	PLO Manage	PLO Develop
Semester 5 Block A & B	Placement							
Level PLOs end of semester 5		**2**	**2**	**2**	**2**	**1**	**2**	**2**
Semester 6 Block C	Deep Dive							
	Specialisation - Challenge part 1							
Semester 6 Block D	PPD - Personal & Professional Development 6							
	Specialisation - Challenge part 2							
	Case - Supply Chain Execution							
Level PLOs end of semester 6		**2**	**2**	**2**	**3**	**2**	**2**	**2**
Year 4	**Study components**							
Semester 7 Block A & B	Minor / exchange							
Semester 8 Block C & D	Graduation							
End level PLOs end of semester 8		**3**	**3**	**2**	**3**	**2**	**3**	**3**

Link to year planning:

Year planning 2025 - 2026

Link to assessment programme:

Assessment programme Logistics 2025 - 2026

Games

Media

Hotel

Facility

Built Environment

Logistics

Tourism

Leisure & Events

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