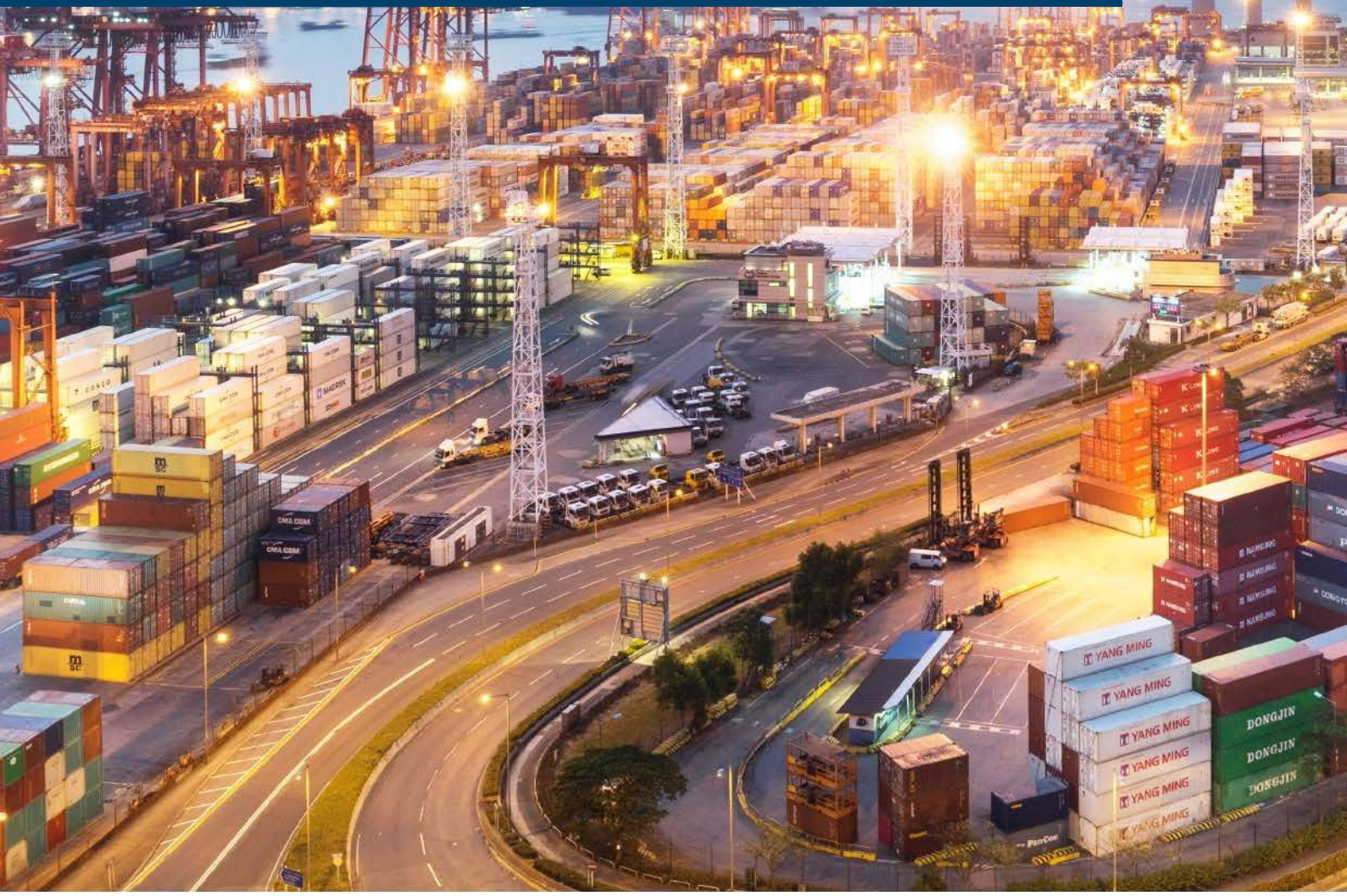
Logistics

Study component catalogue
Logistics Engineering / Logistics Management

Study year 2024-2025



DISCOVER YOUR WORLD

Breda University
OF APPLIED SCIENCES

Foreword

This study component manual contains the programme content of your degree programme. The following elements can be found in it:

- A description per study component with, among other things, learning outcomes, content and forms of assessment
- An overview of the entire study period (4 academic years) with the study load per study component
- An overview of competencies underlying your study programme
- A matrix with the link between all competencies and study components
- 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

Type of study component

You will come across the following types of study components in years 1 and 2:

- In **labs** (BE) / **projects** (LG), you will work on a professional product in a small group with fellow students. You will develop knowledge, skills and the right attitude within the professional context. The focus will lie on project skills and collaboration. You will be guided by a lab or project supervisor and lecturers of various backgrounds and disciplines will direct you as regards content;
- In **modules** (BE) / **cases** (LG), you will acquire knowledge and skills relevant to the profession by attending lectures and actively working on assignments. The lecturer teaches and guides you as an expert.
- For the study component **Personal & Professional Development (PPD)**, you will attend a programme with workshops supporting you in your personal and professional development. To that purpose, you will work on various kinds of assignments and a portfolio, and reflect on your development and the choices you make (e.g. regarding an internship in year 3). During the PPD track, you will be personally guided by your study coach, who will also discuss your study progress;
- During **Connection to Industry and Research** (LG) you will carry out research and/or do an assignment commissioned by a company or organisation.
- During **Placement** and **Graduation** (BE and LG), you will independently carry out a placement assignment for the professional field (e.g. a company or institution) or contribute to a project. You will be supervised by a BUas teacher or Buas professional and a company coach. You will also participate in follow-up days and intervision.

Semester 1 and 2 (year 1), semester 3 and 4 (year 2) and semester 6 (year 3)

Year 1, also called propaedeutic phase, consists of two semesters of 18 weeks. In the first year, you will mainly acquire the necessary basic knowledge and skills you will need for the rest of your studies and professional practice. Each semester comprises a lab/project and several modules/cases. Additionally, you will continuously work - under the guidance of your coach - on building up your portfolio in the context of your personal and professional development.
Year 2 is a continuation of year 1, and also consists of two semesters of 18 weeks. Year 2 consists of modules/cases and labs/projects again offering more possibilities for specialisation. The focus within PPD will lie on preparing the placement.
In the second half of year 3, you follow another 18-week semester of modules/cases and labs/projects focusing on specialisation/profiling.

Semester 7

In semester 7, you take a minor, giving you 18 weeks to deepen or broaden your knowledge in a subject of your choice. You can take a minor at ABEL or another academy within BUas, at another Dutch institution or abroad. This semester therefore also offers the possibility of an international exchange.

Semester 5 and 8

In the first half of the third year, you do a work placement (in the Netherlands or abroad). In project learning in years 1 and 2, you tackled several business cases/practical issues within groups. Now you will do this on your own. That means you will independently carry out (an) assignment(s) or contribute to (an) project(s).

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

TER

All rules can be found in the 2024-2025 Teaching and Examination Regulations (TER). Wherever ABEL uses the term ‘study unit’ or ‘study component’, the term ‘course’ is used in the TER. Wherever 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: you can earn 60 ECTS credits (EC) in every academic year, where 1 ECTS credit (1 EC) is equivalent to a study load of 28 hours.

We wish you an enjoyable and a successful academic year.

On behalf of the management team of Built Environment and Logistics,

This study component manual is part of the Teaching and Examination Regulations of Built Environment and Logistics.

Logistics Engineering / Management
2024 - 2025: year 1

Semester 1

Name	Osiris-code	ECTS	Page
Getting Started	BLGE1.GETST-01	5	6
Basics of Supply Chain Management	BLGE1.BOSCM-01	5	8
Experience Supply Chain Management	BLGE1.ESCM-02	10	10
Modelling and Planning	BLGE1.MODPL-01	5	12
Personal & Professional Development 1	BLGE1.PPD1-02	5	14
	Subtotal	**30**	

Semester 2

Name	Osiris-code	ECTS	Page
Material Logistics – Basics	BLGE1.MLB-03	5	16
Material Logistics – Improvement & Innovation	BLGE1.MLII-02	10	18
Service Logistics – Basics & Innovation	BLGE1.SLBI-03	5	21
Connection to Industry & Research 1	BLGE1.CIR1-02	5	23
Personal & Professional Development 2	BLGE1.PPD2-02	5	24
	Subtotal	**30**	
	Total	**60**	

LogisticsEngineering / Management
2024 - 2025: year 2

Semester 3

Name	Osiris-code	ECTS	Page
Introduction to Operations Management	BLGE2.INTOM-02	5	26
Cross-Border Supply Chains	BLGE2.CBSC-02	5	27
Operations Management in a Production Environment	BLGE2.OMPE-02P	10	28
Connection to Industry & Research 2	BLGE2.CIR2-02	5	30
Personal & Professional Development 3	BLGE2.PPD3-03	5	31
	Subtotal	**30**	

Semester 4

Name	Osiris-code	ECTS	Page
Running Sustainable Businesses	BLGE2.RSTB-01	5	33
Entrepreneurship	BLGE1.ENT-01	5	35
Supply Chain (re)design	BLGE2.SCRD-03P	10	37
Connection to Industry & Research 3	BLGE2.CIR3-01	5	40
Personal & Professional Development 4	BLGE2.PPD4-02	5	41
	Subtotal	**30**	
	Total	**60**	

Logistics Engineering / Management
2024 - 2025: year 3

Semester 5

Name	Osiris-code	ECTS	Page
Placement	BLGE3.PLACEM-01	30	43
	Subtotal	**30**	

Semester 6

Name	Osiris-code	ECTS	Page
Challenge part 1	BLGE3.CHAL1-01	5	45
Challenge part 2	BLGE3.CHAL2-01	10	"
Deep Dive	BLGE3.DEEP-01	5	"
Supply Chain Execution **(LG Management)**	BLGE3.SCE-01	5	46
Decision Support Systems **(LG Engineering)**	BLGE3.DSS-01	5	47
Personal & Professional Development 6	BLGE3.PPD6-01	5	48
	Subtotal	**30**	
	Total	**60**	

Logistics Engineering / Management
2024- 2025: year 4

Semester 7

Name	Osiris-code	ECTS	Page
Change Management: how to succesfully drive change in organisations	BCM.24MINOR	30	50
Crowd Safety in Hubs & Events	BCS.24MINOR	30	52
International Urban Redevelopment	BUR.24MINOR	30	54
A Supply Chain Cycle Challenge in the Bicycle Industry	BSCC.24MINOR	30	55
Externe Minor ABEL	BEXT.20MINOR	30	
	Subtotal	**30**	

Semester 8

Name	Osiris-code	ECTS	Page
Graduation Thesis	B4.SC-18	30	57
	Subtotal	**30**	
	Total	**60**	

Logistics

Year 1

Semester 1

OSIRIS-code:	BLGE1.GETST-01
Course name:	Getting Started / Intro Supply Chain Logistics
Study load:	5 EC (=140 hours)
Coordinator:	Raechel Torner
Lecturer(s):	Raechel Torner, Rachel Pengel, Sybren Hogewerf
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. 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.
Learning objective(s):	Upon completion of this study component you are able to:

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 Identify various ways of developing intercultural competence;

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

12 Write a short, well-structured report that includes relevant visuals;

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

14 Recall the basic outlines of a Project Plan;

15 Recognize the importance of a step-by step project based approach;

16 Reflect on personal development in written form.

Language:	English
Teaching Activities:	Lecture Workshop Excursion / company visit
Examination:	Individual assignment 100%
Required literature:	Logistics Management - Basics of Supply Chain Management 2024/2025, online EDUbook from Edumundo.

	Getting more out of Excel 2019 (ISBN boek: 9789024402281, ISBN e-boek: 9789024402311)
Other required materials:	--

OSIRIS-code:	BLGE1.BOSCM-01
Course name:	Basics of Supply Chain Management
Study load:	5 EC (=140 hours)
Coordinator:	Tobias de Nooy
Lecturer(s):	Tobias de Nooy, Jan van Elderen, Sijbren Hogewerf, Thato Motloung, Jan-Willem Boskaljon, Claartje Eggermont, Arjan van Leijenhorst, Rachel Pengel
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 able to elaborate an individual case that will be the central theme during the whole study component.
Learning objective(s):	Upon completion of this study component you are able to:

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 plan;* Income statement;* Cash flow statement;* Balance sheets (opening and closing);

11 Process the impact of various taxes on financial statements. E.g. VAT (calculation with percentages);

12 Write a clear, detailed text in English related to the field of logistics synthesizing and evaluating information and arguments from a number of sources.

Language:	English

Teaching Activities:	Lecture	
	Workshop	
	Excursion / company visit	
Examination:	Written exam	50%
	Written exam	50%
Required literature:	Logistics Management - Basics of Supply Chain Management 2024/2025, online EDUbook from Edumundo. Finance & Control - Foundations of Finance & Control year 1 2024/2025, online EDUbook from Edumundo. Getting more out of Excel 2019 (ISBN boek: 9789024402281, ISBN e-boek: 9789024402311)	
Other required materials:	--	

OSIRIS-code:	BLGE1.ESCM-02
Course name:	Experience Supply Chain Management
Study load:	10 EC (=280 hours)
Coordinator:	Jan van Elderen
Lecturer(s):	Sijbren Hogewerf, Arjan van Leijenhorst, Rosa Hagenaars, Arna van Strien, Justin van de Pas, Erik van Diffelen, Paul Schuurmans, Rutger Thielen, Jan-Willem Boskaljon, Bas Groot, Rachel Pengel, Karolien Kampstra, Azadeh Irajifar
Content description:	In this 'Serious Gaming' project, your group will start a new production company to experience all the elements of Logistics & Supply Chain in practice. You will be overloaded with different sources of (unstructured) information. From customer, strategy, sales, procurement, production, transport and distribution of the final products. You have to create your own structure. Your company will be faced with (the complexity of) Physical, Financial and Information Flows, and you will learn how to work in a multi person organisation. This also includes the setup, control and execution of all activities within- and outside of your company. Your goal is to work together, with all different roles and responsibilities, and to make sure that - even though sometimes there are conflicting interests - you build up a smooth organisation to serve the customer(s). Finally, your company must be able to determine and present their profits and/or losses. In the final weeks of this project, this will all come together in two reallife simulation games.
Learning objective(s):	Upon completion of this study component you are able to:

1 Deploy the basic elements of supply chain management;

2 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;

3 Recall and use the basic functions of software on Spreadsheet /Data management (Excel e.g.) and Visualisation software (Visio, Bizagi e.g.) in the contecxt of the project;

4 Recall and reproduce the basics of descriptive statistics/data analysis;

5 Intepret results with different types of (KPI) dashboards and explain how to use/apply these in practice;

6 Recognize the potential impact of Blockchain on a supply chain;

7 Create financial statements as part of the financial component of the business plan, for budgeted as well as realized results (e.g. in Excel):* Investment plan;* Financing plan;* Income statement;* Cash flow statement;* Balance sheets (opening and closing);

8 Give insight into the relation between operational activities and profitability of a company (e.g. by means of tools like DuPont chart);

9 Translate the basic legal aspects of a company to a decision on the legal form of this company;

10 Identify the position/role of Sales and Marketing in the suppy chain and

apply a marketing/sales strategy in the project context;

11 Set-up a functional organization and create a strategy for dealing with the organisation's environment;

12 Recognise collaboration and inter-relations between the different departments within a (virtual) company and define the position of each department within the Supply Chain;

13 Deploy the basic elements of procurement;

14 Respect the existence of ethical dilemmas within HRM;

15 Apply appropriate tools to perform more effectively within intercultural groups;

16 Present a goal- and target group-oriented business plan;

17 Write a structured goal and target group oriented business plan which makes appropriate use of visuals;

18 Participate in a target oriented meeting;

19 Write a well-structured, target-group oriented improvement plan;

20 Explain the essence of theory in a project and application of content oriented theory;

21 Create a project plan and project charter in which you recall all steps and elements of a project based work approach;

22 Recognise (the importance of) data gathering and analyses within Project based working and apply this in the context of the project;

23 Recognize the (value of) breaking down a project in a systematic step-wise project approach and apply this in the context of the project;

24 Use written tools to structure a meeting or project.

Language:	English	
Teaching Activities:	Project with coaching	
	Lecture	
	Workshop	
Examination:	Group assignment	35%
	Individual assignment	50%
	Process assessment	--
	Serious game / simulation	15%
Required literature:	Getting more out of Excel 2019 (ISBN boek: 9789024402281, ISBN e-book: 9789024402311)	
Other required materials:	Edubook Finance & Control jaar 1/year 1 Edubook Logistics: The basics	

OSIRIS-code:	BLGE1.MODPL-01
Course name:	Modelling and Planning
Study load:	5 EC (=140 hours)
Coordinator:	Jan Willem Boskaljon
Lecturer(s):	Jan-Willem Boskaljon, Sijbren Hogewerf, Irene Meeuwesen, Arjan van Leijenhorst, Jan van Elderen, Azadeh Irajifar, Rutger Thielen

Content description:

During this study component you will learn to distinguish between the different levels in planning and the information needs of these processes. You will learn that business decisions are supported with process mapping, cost calculations and integrated information systems. This module takes place simultaneously with Experience SCM in the first semester. The relevant theory of this course is applied in both study components.

The module consists of four sub-areas:
- Business Process Modelling – What is a business process and how can you, for example, design a warehouse process? In this part of the study component, you will learn techniques to visualize processes and make them understandable;
- Production Planning – How do you ensure that required materials and capacities such as labour and machines are available in a factory in a timely manner? In these part of the study component you will learn what, among other things, MRP1 and MRPII systems do, as well as how supply and demand are matched (S&OP);
- Cost Accounting – How do you provide insight into the costs associated with manufacturing goods and the provision of services? In this part of the study component, you will learn how to value products in the different stages of production in accounting;
- ICT & ERP – What exactly is ICT, and which digital developments are important for the development of the logistics field? During this part of the study component you will become acquainted with various programs and systems that logistics organizations work with and you will gain insight into what an Enterprise Resource Planning system is and what you can do with it.

Learning objective(s):

Upon completion of this study component you are able to:

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	
Examination:	Individual assignment	50%
	Written exam	50%
Required literature:	Logistics: Principles & Practices (ISBN boek: 9789081649117)	
Other required materials:	Edubook Finance & Control year 1	

OSIRIS-code:	BLGE1.PPD1-02
Course name:	Personal & Professional Development 1
Study load:	5 EC (=140 hours)
Coordinator:	Bas Groot
Lecturer(s):	Rachel Torner, Bas Groot, Sijbren Hogewerf, Rachel Pengel, Paul Schuurmans, Arna van Strien, Thato Motloung
Content description:	Topics that will be addressed include finding your way on the Buas campus and the online study environment, 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.
Learning objective(s):	Upon completion of this study component you are able to: 1 Discover the way in the online and offline Buas study environment; 2 Identify the study approach that works best and to apply it; 3 Recognize and identify the logistics competencies in the first semester of the curriculum; 4 Identify your role in (project) teams and state how to add valuable contributions to project teams; 5 Recognise the importance of teambuilding; 6 Reflect on your personal development and on your development regarding the logistics competences; 7 Identify various ways of developing intercultural competence; 8 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
Examination:	Portfolio 50% Oral assessment / presentation 50%
Required literature:	--
Other required materials:	Hogeschooltaal English (Licence via www.hogeschooltaal.nl)

Logistics

Year 1

Semester 2

OSIRIS-code:	BLGE1.MLB-03
Course name:	Material Logistics - Basics
Study load:	5 EC (=140 hours)
Coordinator:	Paul Schuurmans
Lecturer(s):	Robin Audenaerdt, Azadeh Irajifar, Luuk Koopman, Arjan van Leijenhorst, Tobias de Nooy, Paul Schuurmans
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.
Learning objective(s):	Upon completion of this study component you are able to:

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	
Examination:	Individual assignment	50%
	Written exam	50%
Required literature:	Logistics: Principles and practice: a demand and supply chain management (Visser en van Goor, ISBN 9789081649117) A practical guide to logistics (Rudd, ISBN 9780749486310) The logistics and supply chain toolkit (Richards en Grindsted, ISBN 9781789660869)	
Other required materials:	Required: Edubook Finance & Control year 1 Recommended: Management en Logistiek (Grit & de Geus), H6; Recommended: Voorraadbeheer & Materials Management (Engelbregt, Kalkhoven & Keuijer), H1, H13, H16; Recommended: Incoterms® 2020 by the International Chamber of Commerce (ICC): ICC regels voor het gebruik van binnenlandse en internationale handelscondities (International Chamber of Commerce (ICC) 2019, ISBN 9789090322346)	

OSIRIS-code:	BLGE1.MLII-02
Course name:	Material Logistics - Improvement & Innovation
Study load:	10 EC (=280 hours)
Coordinator:	Paul Schuurmans
Lecturer(s):	Mariana Chinellato Ferreira, Claartje Eggermont, Azadeh Irajifar, Luuk Koopman, Arjan van Leijenhorst, Tobias de Nooy, Justin van de Pas, Paul Schuurmans, Rutger Thielen, Irene Weijts, Robin Audenaerdt, Rosa Hagenaars
Content description:	The study component Material Logistics - Basics and the study component Material Logistics - Improvement and Innovation together form a whole, in which you work on a project. Storage4all is a company that distributes High Tech Fast Moving Consumer Goods. At the moment they distribute their goods from 5 distribution centers in Europe. Goods are delivered from these distribution centers to approximately 5,000 customers in the western part of Europe. The lease of 3 of the current buildings is expiring and because these buildings will no longer meet the requirements due to the structural condition in the future, the Storage4all company has decided to move to 1 new central European DC. Storage4all does not have sufficient expertise and capacity to perform the task itself and will therefore engage a logistics consultancy. This agency is asked to perform a threefold task. These study components together consist of four sub-areas. In the study component Material Logistics - Improvement & Innovation, the sub-areas are: - MLI&I Work Package 1: contains a critical reflection on the current stock management concept supported by a new -and recalculated- stock management concept for the new situation. - MLI&I Work Package 2: Here a choice must be made for a suitable location for the new DC and a suitable transport partner. - MLI&I Work Package 3: this concerns the organization of the processes, the organization of the physical operation (including stock management and planning the workload) and the design of the work floor where the products will actually pass through. The new warehouse to be designed must be designed based on expected flows and stocks in the future. You will also write a professional article with AI and do a test in English proficiency.
Learning objective(s):	Upon completion of this study component you are able to: 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;

34 Write a well-structured and target group oriented article using relevant visuals;

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

36 Manage basics of law and legislation related to transport, warehousing and distribution (x-border transport law, liability etc.);

37 Explain the impact of sustainability and it's impact on (re)design of warehouses and operations;

38 Apply the basics of descriptive statistics;

39 Recognize connection between mathematics, statistics and the formula's which are used in inventory management.

Language:	English	
Teaching Activities:	Project with coaching	
	Lecture	
	Workshop	
Examination:	Individual assignment	30%
	Individual assignment	20%
	Group assignment	50%
	Process assessment	--
	Hogeschooltaal exam	--
Required literature:	Logistics: Principles and practice: a demand and supply chain management (Visser en van Goor, ISBN 9789081649117) A practical guide to logistics (Rudd, ISBN 9780749486310) The logistics and supply chain toolkit (Richards en Grindsted, ISBN 9781789660869)	
Other required materials:	Edubook Finance & Control year 1; Licence Hogeschooltaal	

OSIRIS-code:	BLGE1.SLBI-03
Course name:	Service Logistics - Basics & Innovation
Study load:	5 EC (=140 hours)
Coordinator:	Justin v.d. Pas
Lecturer(s):	Justin vd Pas, Arna van Strien, Irene Weijts, Sanne Kuipers
Content description:	This study component gives you an introduction in service logistics, with emphasis on people logistics, healthcare logistics and event logistics. You will work with a group of students on a case within an organisation that delivers a service tot their clients. You will present the case outcomes in a group report and next to that you will work on an event logistics related simulation that you will deliver via a presentation. Subsequently you will sit an individual open written exam.
Learning objective(s):	Upon completion of this study component you are able to:

1 Recognize the concepts of service logistics in relation to transport & warehousing;

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 a transformation process;

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 in the service industry on their organisation and process capabilities;

8 To be able to define the importance of the optimization of supply and demand in the service sector and recognize opportunities to apply capacity management;

9 Apply the basics of functional designing (blueprint) 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;

13 Describe specific trends within the scope of service logistics;

14 Identify the customer journey within service logistics.

Language:	English	
Teaching Activities:	Lecture	
	Workshop	
Examination:	Group assignment	60%
	Written exam	40%
Literature:	Recommended "Operations management in the service sector" Joyce	

	Walstra, (ISBN ebook: 9789043037129) Not mandatory!
Other required materials:	--

OSIRIS-code:	BLGE1.CIR1-02
Course name:	Connection to Industry & Research 1
Study load:	5 EC (=140 hours)
Coordinator:	Bas Groot
Lecturer(s):	Bas Groot, Raechel Torner, Luuk Koopman
Content description:	You will work within organisations or projects that are either linked to the supply chain and logistics industry, or work within organisations in a logistic process. You make your own choices in which (sub) segment of the industry 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.
Learning objective(s):	Upon completion of this study component you are able to: 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
Examination:	Individual assignment 100%
Required literature:	--
Other required materials:	--

OSIRIS-code:	BLGE1.PPD2-02
Course name:	Personal & Professional Development 2
Study load:	5 EC (=140 hours)
Coordinator:	Raechel Torner
Lecturer(s):	Bas Groot, Raechel Torner, Paul Schuurmans, Azadeh Irajifar, Rachel Pengel, Rutger Thielen, Sijbren Hogewerf, Arna van Strien
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 aids you with making choices in which industry segments you would like to develop yourself.
Learning objective(s):	Upon completion of this study component you are able to:

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	
Examination:	Individual assignment	50%
	Portfolio	50%
Required literature:	--	
Other required materials:	--	

Logistics

Year 2

Semester 3

OSIRIS-code:	BLGE2.INTOM-02
Course name:	Introduction to Operations Management
Study load:	5 EC (=140 hours)
Coordinator:	Andre Gijsberts
Lecturer(s):	Piet Berkers, Claartje Eggermont, 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 Case 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.
Learning objective(s):	Upon completion of this study component you are able to:

1 Recognise the complexity of a (production) planning issue with the use of specific tools (MRP-I & MRP-2);

2 Outline the different roles of inventory in a (production) planning issue;

3 Explain and make use of different Algorithm Logic Techniques and Linear Programming Techniques;

4 Identify quality concepts (control, management, measurements/tools) in operations;

5 Make use of data and formulas to analyse material management processes;

6 Optimise one or more processes with the use of specific tools and techniques (e.g. lean);

7 Summarise the roles of physical flows elements (TDWI) within Material Management in a single- and multi location environment;

8 Recognise the various functions impacted when a production planning is changed (in single/multi-location environment);

9 Identify capability- and capacity requirements within a multi-location (network) production environment;

10 Recognise the strategic value of procurement (incl. S&OP);

11 Define implications of sales-/procurement-/logistics-/production choices on other departments and their respective operations in an organisation.

Language:	English	
Teaching Activities:	Lecture	
	Workshop	
Examination:	Written exam	70%
	Individual assignment	30%
Required literature:	Operations Management -Processes and Supply Chains 13th edition, 2021, by Krajewski e.o	
Other required materials:	--	

OSIRIS-code:	BLGE2.CBSC-02
Course name:	Cross-Border Supply Chains
Study load:	5 EC (=140 hours)
Coordinator:	Peter Kole
Lecturer(s):	Letty Zhu, Peter Kole, Ron van der Wegen, Raechel Torner, Robin Audenaerdt, Tobias de Nooy, Paul Schuurmans, Mariana Chinellato Ferreira.

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.

Learning objective(s): Upon completion of this study component you are able to:

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	
Examination:	Group assignment	40%
	Written exam	60%
	Hogeschooltaal exam	--
Required literature:	--	
Other required materials:	Edubook Finance & Control (Y1 and 2) via Edumundo. Other readers/articles will be provided by Buas	

OSIRIS-code:	BLGE2.OMPE-02P
Course name:	Operations Management in a Production Environment
Study load:	10 EC (=280 hours)
Coordinator:	Irene Meeuwesen
Lecturer(s):	Letty Zhu, Irene Meeuwesen, Andre Gijsberts, Peter Kole, Paul Schuurmans, Rachel Pengel, Jan-Willem Boskaljon, Azadeh Irajifar, Arjan van Leijenhorst.

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. You learn to have an eye for quality management.
You learn to work in ERP. The engineering student delves into software implementation and planning. The management student will focus on financing.

Learning objective(s):

Upon completion of this study component you are able to:

1 Develop purchasing strategies that support organisational strategies;

2 Apply basic concepts of Contract- and Labour law;

3 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;

4 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;

5 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);

6 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 preset value and internal rate of return;

8 Solve a complex (production) planning issue with the use of specific tools (MRP-I & MRP-2);

9 Demonstrate the capability to plan total material requirements, from

procurement (sourcing) to delivery to the customer (Material Man.);

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

11 Apply different Linear Programming Techniques;

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

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

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

15 Execute a supplier evaluation as part of an organisation's procurement strategy;

16 Resolve (potential) issues with material availability on single/multiple physical locations when a (production) plan changes (inventory, transport, network);

17 Demonstrate capability- and capacity requirements (from a physical flows perspective) in a multi-location production environment;

18 Analyse the different aspects within Quality management and Continuous improvement.

Language:	English	
Teaching Activities:	Project with coaching	
	Lecture	
	Workshop	
Examination:	Group assignment	40%
	Individual assignment	20%
	Individual assignment	20%
	Written exam	20%
	Process assessment	--
Required literature:	Operations Management: Processes and Supply Chains, 13th global edition (2022), by Krajewski and Malhotra; ISBN 13: 978-1-292-40986-3	
Other required materials:	Edubook Finance & Control (Y1 and 2) via Edumundo.	

OSIRIS-code:	BLGE2.CIR2-02
Course name:	Connection to Industry & Research 2
Study load:	5 EC (=140 hours)
Coordinator:	Luuk Koopman
Lecturer(s):	Rutger Thielen, Letty Zhu, Luuk Koopman, Rachel Pengel
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.
Learning objective(s):	Upon completion of this study component you are able to: 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
Examination:	Individual assignment 50% Group assignment 50%
Required literature:	--
Other required materials:	--

OSIRIS-code:	BLGE2.PPD3-03
Course name:	Personal & Professional Development 3
Study load:	5 EC (=140 hours)
Coordinator:	Rosa Hagenaars
Lecturer(s):	Ilse Hens, Paul Schuurmans, Rosa Hagenaars, Mariana Chinellato Ferreira, Raechel Torner, Karolien Kampstra, Irene Meeuwesen, Luuk Koopman
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 internship(s). 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 LPL competencies.
Learning objective(s):	Upon completion of this study component you are able to: 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 Lecture Excursion / company visit
Examination:	Portfolio 50% Individual assignment 25% Individual assignment 25%
Required literature:	--
Other required materials:	--

Logistics

Year 2

Semester 4

OSIRIS-code:	BLGE2.RSTB-01
Course name:	Running Sustainable Businesses
Study load:	5 EC (=140 hours)
Coordinator:	Erik van Diffelen
Lecturer(s):	Peter Kole, Paul Schuurmans, Rachel Pengel, Letty Zhu, 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.
Learning objective(s):	Upon completion of this study component you are able to:

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

Examination:	Written exam	60%
	Group assignment	40%
Required literature:	Organizing for Sustainability (Jonker, J, Fabe,r N. et. al) (free E-book)	
Other required materials:	--	

OSIRIS-code:	BLGE1.ENT-01
Course name:	Entrepreneurship
Study load:	5 EC (=140 hours)
Coordinator:	Erik van Diffelen
Lecturer(s):	Jan van Elderen, Tobias de Nooy, Erik van Diffelen, Rachel Pengel, Sijbren Hogewerf.
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.
Learning objective(s):	Upon completion of this study component you are able to:

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	
Examination:	Group assignment	50%
	Individual assignment	30%
	Serious game / simulation	20%
Required literature:	--	
Other required materials:	--	

OSIRIS-code:	BLGE2.SCRD-03P
Course name:	Supply Chain (re)design
Study load:	10 EC (=280 hours)
Coordinator:	Thato Motloung
Lecturer(s):	Jan-Willem Boskaljon, Ron van der Wegen, Sijbren Hogewerf, Claartje Eggermont, Thato Motloung, Paul Schuurmans, Arna van Strien, Letty Zhu, Marco Miranda Ackerman, Cindy Martens
Content description:	This project is devided into two parts: In the first part, you will have the chance to gain experience in practical research, supported by indepth supply chain management theory. You will be guided through all the different steps of research (literature, qualitative and quantitative), including reporting skills. As a group you will make your Plan of Approach as a preparation for your research. This is the perfect preparation for your first internship. In the second part the focus will be on Business Intelligence, including the tool 'PowerBi', where you will work, as a group, on a '(re)design' of a specific supply chain topic. The Logistics Engineers will focus on Big Data/ Quality/Architecture, and the Management students will have the focus on different Legal and Supply Chain Finance aspect of the Supply Chain as well as Change Management. At the end of this project you will deliver your group advisory report and an individual defence will take place, where you can prove that you have gained the knowlegde to be ready for the next step: Into to 'real' world for a research internship!
Learning objective(s):	Upon completion of this study component you are able to:

1 Apply the basics of a Supply design process;

2 Describe the desirability, feasibility, and viability of an innovation;

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;

13 Analyse gathered data and draw conclusions with use of statistical principles by using appropriate tools;

14 Create a research model based on an integrated approach for the situation;

15 Create simple scenarios and scenario planning;

16 Explain the theory with regard to validity and reliability and apply this theory when designing a research proposal;

17 Gather relevant data and literature based on self selected research questions;

18 Identify risks and advise on possible measures (risk management);

19 Select and apply data collection methods in order to gather data for answering research questions;

20 Select the appropriate data sources and collection techniques to operationalise specific subjects and theory used within the research;

21 Use data collection techniques for questioning (surveys, interviews and conversations);

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:	Project with coaching	
	Lecture	
	Workshop	
Examination:	Group assignment	30%
	Oral assessment / presentation	20%
	Written exam	30%
	Oral assessment / presentation	20%
	Process assessment	--
Required literature:	Operations Management - Processes and Supply Chains, Lee J. Krajewski, Manoj K. Malhotra (13th edition)	
Other required materials:	Edubook Finance & Control - Supply Chain Finance PowerBI, Grasple E-learning	

OSIRIS-code:	BLGE2.CIR3-01
Course name:	Connection to Industry & Research 3
Study load:	5 EC (=140 hours)
Coordinator:	Letty Zhu
Lecturer(s):	Letty Zhu, Jan-Willem Boskaljon, Justin van de Pas, Piet Berkers, Arna van Strien, Sanne Kuipers, Robin Audenaerdt
Content description:	The project starts by choosing one of the themes in Logistics (Event Logistics, Healthcare Logistics, Material Logistics or Production Logistics). The aim of the project is to give an improvement advise to an organisation or (research) project. By analysing the core processes or participating in a (research) project you will be able to find possible bottlenecks and trends, which form the bases of possible improvement ideas. You will transfer the knowledge and experience from projects, courses and trainings into the analysis of the organisation or project. By making choices and experiencing you will broaden your horizon regarding the (career) possibilities within the industry. You will be working with both Dutch and international students to develop cross cultural understanding and communication skills.
Learning objective(s):	Upon completion of this study component you are able to: 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
Examination:	Group assignment 70% Oral assessment / presentation 30%
Required literature:	--
Other required materials:	--

OSIRIS-code:	BLGE2.PPD4-02
Course name:	Personal & Professional Development 4
Study load:	5 EC (=140 hours)
Coordinator:	Raechel Torner
Lecturer(s):	Bas Groot, Paul Schuurmans, Rosa Hagenaars, Raechel Torner, Karolien Kampstra, Irene Meeuwesen, Luuk Koopman, Mariana Chinellato Ferreira, Ilse Hens
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. Besides you will reflect on you're your development, your qualities and your points for development for the next phase of your study.
Learning objective(s):	Upon completion of this study component you are able to: 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 placement / 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 placements.
Language:	English
Teaching Activities:	Lecture Workshop Individual coaching
Examination:	Portfolio 50% Oral assessment / presentation 50% Individual assignment --
Required literature:	--
Other required materials:	--

Logistics

Year 3

Semester 5

OSIRIS-code:	BLGE3.PLACEM-01
Course name:	Placement
Study load:	30 EC (=840 hours)
Coordinator:	Irene Meeuwesen
Lecturer(s):	Irene Meeuwesen, Luuk Koopman

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 with your university supervisor and you will attend workshops on themes and skills related to your placement.

Learning objective(s): Upon completion of this study component you are able to:

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 implementation 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 / graduation	
	Workshop	
Examination:	Oral assessment / presentation	100%
Required literature:	--	
Other required materials:	Placement manual	

Logistics

Year 3

Semester 6

OSIRIS-code:	BLGE3.CHAL1-01 / BLGE3.CHAL2-01 / BLGE3.DEEP-01
Course name:	Challenge part 1 / Challenge part 2 / Deep Dive
Study load:	5 EC (=140 hours) / 10EC (=280 hours) / 5 EC (=140 hours)
Coordinator:	Rutger Thielen
Lecturer(s):	Marco Miranda Ackerman, Paul Schuurmans, Luuk Koopman, Mariana Chinellato Ferreira, Raechel Torner, Peter Kole, Bas Groot, Rutger Thielen, Ron van der Wegen, Hans Quak
Content description:	For semester 6, you return to BUas after after having carried out a placement assignment at a company or institution (semester 5). You now understand the complexity of amongst others: innovation, change, (company) culture, ethics and research in practice. In semester 6, you will further dive in these topics. For both Logistics Management and Logistics Engineering, Semester 6 is the semester in which you can choose a specific, current specialisation. Through a specialised learning community, you immerse yourself in an individually chosen topic within the specialisation boundaries. Next to that, you will work on a challenge, with design thinking method, in a mixed group of Logistics Engineering and Logistics Management students. During this semester, you will also continue working on your knowledge and skills on logistics themes that transcend the Specialisation topics. You will be further prepared for the graduation year through personal and professional development.
Learning objective(s):	The specific learning goals depend on your study programme, the chosen specialisation and challenge. More information will follow during the kick-off in week 1. Topics you can expect to be part of the specialisation semester amongst many others: software and architecture, simulation, process improvement techniques, data patterns and statistical principles, macro, meso and/or micro analysis, strategic and sustainable HRM, HR issues and policy development, change awareness, impact of elasticities on company policy and results, impact of innovation/changes on financial performance, supply chain risks for processes and solutions.
Language:	English
Teaching Activities:	Project with coaching Lecture Workshop
Examination:	Group assignment CHAL1 100% Group assignment CHAL2 100% Process assessment Individual assignment DEEP 100%
Required literature:	--
Other required materials:	--

OSIRIS-code:	BLGE3.SCE-01
Course name:	Supply Chain Execution (LG Management)
Study load:	5 EC (=140 hours)
Coordinator:	Rutger Thielen
Lecturer(s):	Rutger Thielen, Luuk Koopman

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.

Learning objective(s): Upon completion of this study component you are able to:

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	
Examination:	Serious game / simulation	15%
	Individual assignment	35%
	Individual assignment	50%
Required literature:	--	
Other required materials:	--	

OSIRIS-code:	BLGE3.DSS-01
Course name:	Decision Support Systems (LG Engineering)
Study load:	5 EC (=140 hours)
Coordinator:	Andre Gijsberts
Lecturer(s):	Andre Gijsberts, Jan van Elderen

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 Automation Techniques section, 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 this study component, a number of (research) techniques and software systems pass in review. With simulation, it is possible to analyze dynamic systems and look into the future by simulating logistical alternatives through a computer model. In the Logistics Simulation section, a simple simulation study is set up and carried out using the simulation software Flexsim.

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.

Learning objective(s): Upon completion of this study component you are able to:

1 You support management on tactical and stragecial decision making on complex problems.

Language:	English	
Teaching Activities:	Lecture	
	Workshop	
Examination:	Individual assignment	40%
	Individual assignment	40%
	Individual assignment	20%
Required literature:	--	
Other required materials:	--	

OSIRIS-code:	BLGE3.PPD6-01
Course name:	Personal & Professional Development 6
Study load:	5 EC (=140 hours)
Coordinator:	Karolien Kampstra
Lecturer(s):	Karolien Kampstra, Paul Schuurmans, Rutger Thielen, Bas Groot, Raechel Torner
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.
Learning objective(s):	Upon completion of this study component you are able to: 1 Student shows a self-critical attitude and motivation for further development as a professional and has his/her own development points for the further course of his/her studies and the first (work) experiences thereafter, including actions he/she needs to take for this.
Language:	English
Teaching Activities:	Lecture Workshop Individual coaching
Examination:	Portfolio 50% Oral assessment / presentation 50%
Required literature:	--
Other required materials:	--

Logistics

Year 4

Semester 7

OSIRIS-code:	BCM.24MINOR
Course name:	Change Management: how to succesfully drive change in organisations
Study load:	30 EC (=840 hours)
Coordinator:	Karolien Kampstra
Lecturer(s):	Erik van Diffelen, Karolien Kampstra, Arna van Strien, Rutger Thielen
Content description:	- Change Management - Project Management - Learning & Development - Business Development - Organisational Behaviour
Learning objective(s):	Upon completion of this study component you are able to:

1 Successfully plan, execute, and evaluate change initiatives;

2 Make an analysis of external developments which can be of influence on the organisation;

3 Set up a business model;

4 Formulate strategic options based on the analyses;

5 Analyse your own organization in terms of strengths and weaknesses;

6 Formulate strategic objectives in such a way that operational objectives can be derived from them;

7 Diagnose a complex situation with appropriate diagnosis models;

8 Provide insight into how the current situation is maintained by various factors;

9 Identify the core of the change issue;

10 Properly substantiate the choice for a specific change strategy, considering the nature of the issue, the change history of the organisation, the change agents and the energy and resistance of all those involved;

11 Translate the chosen change strategy in an intervention plan with a mix of interventions, aimed at the effective and efficient implementation of the
change
(including a training plan);

12 Develop a communication plan which fits the change strategy;

13 Determine the feasibility of the intended change (financial, legal and organisational);

14 Being able to write a resistance handling plan.

Language:	English	
Teaching Activities:	Project with coaching	
	LAB with coaching	
	Workshop	
Examination:	Group assignment	67%

	Individual assignment	33%
	Process (obligatory)	
Required literature:	J. Kotter. Leading Change. Harvard Business School Publishing (ISBN 9781422186435)	
Other required materials:	--	

OSIRIS-code:	BCS.24MINOR
Course name:	Crowd Safety in Hubs & Events
Study load:	30 EC (=840 hours)
Coordinator:	Justin van de Pas
Lecturer(s):	Justin van de Pas, Sanne Kuipers, Arna van Strien
Content description:	-crowd safety backgrounds and dynamics; -crowd safety, modelling and monitoring; -crowd safety, design & organization; -crowd simulations and the use of simulation; -crowd safety, decisions & response; -crowd simulations; -(event) logistics; -mobility and accessibility; -complexity theory; -law, permits and regulations

Learning objective(s): Upon completion of this study component you are able to:

1. Clear understanding of important concepts of Crowd Management and application of crowd modelling;
2. 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;
3. Ability to discuss appropriate risk assessment methodologies for crowd safety, how this impacts on legislation and guidance, and/or which areas of crowd safety need improvement;
4. Demonstrating understanding of core principles and applications of the tools. Providing some detail of use of models, information they provide and how this assists in the risk analysis of crowd dynamic;
5. Clear understanding of important concepts within mobility and urban design by applying and analysing integtal alignment, design and planning processes and urban and spatial design;
6. Ability to discuss the application of crowd simulations by analysing crowd simulations, applying measuring and monitoring tools, queing theories and crowd simulations;
7. Ability to discuss application of stakeholder analysis, procedures and permits and law and regulations;
8. Ability to discuss appropriate risk assessment methodologies for crowd safety, how this impacts on legislation and guidance, and/or which areas of crowd safety need improvement;
9. Communicate the information about the tools to users and/or team, with the goal to communicate with the audience;
10. Analysing an event or venue, including four core modelling elements;
11. Recognise group behavior and understanding causality;
12. (Deep) researching and correct referencing;

	13 The use of clear graphics.	
Language:	English	
Teaching Activities:	Lecture,	
	Workshop	
	Project with coaching	
	Excursion	
Examination:	Group assignment	50%
	Individual assignment	50%
	Process (obligatory)	
Required literature:	Still, G.Keith. Introduction to Crowd Science. (ISBN 9780367866709)	
Other required materials:	--	

OSIRIS-code:	BUR.24MINOR
Course name:	International Urban Redevelopment
Study load:	30 EC (=840 hours)
Coordinator:	Paul van de Coevering
Lecturer(s):	Paul van de Coevering, Zhan Goosen, Ed Ravensbergen, Ineke Spapé
Content description:	- In depth analysis of a case study area in North America; - Differences in land use and transportation networks between European and Northern American cities; - Societal challenges related to urban sprawl and a car dependent culture; - Hardware, software and orgware measures and their synergies; - Designing and planning from masterplan to detailed street designs; - Urban Guerilla tactics and connection with hardware, software orgware measures; - Effective presentation skills; poster presentations, videos, brochures and other means of conveying your message.
Learning objective(s):	Upon completion of this study component you are able to: 1 Assess the current situation in your international case study area with the STEEP and SWOT analysis tools; 2 Create integrated concepts with hardware, software and orgware interventions for the redevelopment and revitalization of your case study area which are grounded in theory and are alligned with the results of your SWOT analysis; 3 Create a detailled integrated plan to tackle societal issues related to urban sprawl and car dependency in your case study area; 4 Provide a coherent storyline from the SWOT analysis to concepting and the specific measures; 5 Conduct targeted Urban Guerilla tactics in practice.
Language:	English
Teaching Activities:	Project with coaching
Examination:	Individual assignment 50% Group assignment 50%
Required literature:	--
Other required materials:	--

OSIRIS-code:	BSCC.24minor
Course name:	A Supply Chain Cycle Challenge in the Bicycle Industry
Study load:	30 EC (=840 hours)
Coordinator:	Luuk Koopman
Lecturer(s):	Luuk Koopman, Rutger Thielen
Content description:	Experience what it is and how it feels to make a solid improvement in the supply chain. This improvement is based on tools, theory and methods from Supply Chain Management: Processes, Partnerships & Performance. Lots of teamwork, fun, collaboration and personal/professional development.
Learning objective(s):	Upon completion of this study component you are able to: 1 Apply knowledge and theories about integrated supply chain management from dedicated workshops; 2 Review a supply chain related problem or challenge from a company/organisation within the strategical, tactical and operational context of that company or organisation; 3 Develop and pilot improvements in the end-to-end supply chain and present these, together with outlining needs and wants for/from the organisation to make these improvements sustainable; 4 Define and apply an end-to-end supply chain management solution, based on different perspectives from business functions and processes; apply in this methodology a systematic literature review,including data-collection and analysis on validity and reliability.
Language:	English
Teaching Activities:	Project with coaching Lecture Workshop Excursion / company visit
Examination:	Group assignment 50% Individual assignment 50%
Required literature:	Douglas M. Lambert, Supply Chain Management: Processes, Partnerships, Performance, 4th edition (ISBN 978-0975994993)
Other required materials:	--

Logistics

Year 4

Semester 8

OSIRIS-code:	B4.SC-18
Course name:	Graduation Thesis
Study load:	30 EC (=840 hours)
Coordinator:	Irene Meeuwesen / André Gijsberts
Lecturer(s):	--

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.

Learning objective(s): Upon completion of this study component you are able to:

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
Examination:	Individual assignment 100%
Required literature:	--
Other required materials:	Graduation manual

Appendices

Overview of curriculum
Overview of competencies
Matrix of competencies
Link to year schedule and assessment programme

Curriculum overview

Semester 1 (year 1)

Semester week																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Project – Getting Started (5ECTS)						**Project – Experience Supply Chain Management (10 ECTS)**											
			Case - Basics of Supply Chain Management (5 ECTS)							**Case – Modelling and Planning (5 ECTS)**							
Personal & Professional Development 1 (5 ECTS)																	

Semester 2 (year 1)

Semester week																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Case – Material Logistics – Basics (5 ECTS)				**Project – Material Logistics – Improvement & Innovation (10 ECTS)**								**Case – Service Logistics – Basics & Innovation (5 ECTS)**					
Connection to Industry & Research 1 (5 ECTS)																	
Personal & Professional Development 2 (5 ECTS)																	

Semester 3 (year 2)

Semester week																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Case – Introduction to Operations Management (5 ECTS)				**Project – Operations Management in a Production Environment (10 ECTS)**										**Case – Cross Border Supply Chains (5 ECTS)**			
Connection to Industry & Research 2 (5 ECTS)																	
Personal & Professional Development 3 (5 ECTS)																	

Semester 4 (year 2)

Semester week																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Case – Sustainable Businesses (5 ECTS)				**Project – Supply chain re-design (10 ECTS)**						**Supply chain re-design for Log Management**							
										Supply chain re-design for Log Engineering							
				Case – Entrepreneurship (5 ECTS)													
								Connection to Industry & Research 3 (5 ECTS)									
Personal & Professional Development 4 (5 ECTS)																	

Year 3

18 Weeks	18 Weeks
Internship (30 ECTS)	**Specialisation (30 ECTS)**

Year 4

18 Weeks	18 Weeks
Minor (30 ECTS)	**Graduation (30 ECTS)**

Overview core competency & sub competencies

Complexity

Autonomy

Core competency: Developing, managing and executing logistics processes in a professional manner.

A-competencies **Developing policy** **(Strategic level)**	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).
	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.
	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.
	A4. Creates support for substantiated advice about designing, improving or applying the logistics process, product and/or service.
	A5. Draws up an implementation plan for the new/improved logistics process, product and/or service, taking the logistic objectives into consideration.
B-competencies **Directing** **(Tactical level)**	B1. Effectively manages a logistics process and/or project.
	B2. Contributes to a change process that allows the logistics objectives of an organisation or organisational unit to be achieved, while considering consequences for and support base within the organisation.
	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.
C-competencies **Implementing** **(Operational level)**	C1. Puts solutions in place to address bottlenecks in logistics operations.
	C2. Plans logistics operations and takes care of implementing these, while demonstrating a professional and entrepreneurial attitude.
	C3. Collaborates in a professional logistics environment, takes cultural differences into account and acts ethically and responsibly.
	C4. Communicates effectively and professionally in the common corporate language at all levels.

As a student you are being prepared for the following *career progression* competencies belonging to the B-competencies:

B-competencies **Directing** **(Tactical level)**	B4. Is able to control national and international logistics processes from an interdisciplinary perspective, taking into account the dynamics of the business environment and cultural differences.
	B5. Is able to provide direction and guidance to logistics processes (including logistics change processes) and the staff involved, with the aim of achieving the goals of the organisational unit or the project that is being led and taking into account any consequences for the organisation.

Level of sub competencies

The sub competencies are described at final level of the study degree programme. This means that we expect you to possess these sub competencies when you start as a logistics specialist on the labour market. During your study programme you will work on the development of these sub competencies and we monitor how far you are in your development and level. For this we use level indications that relate to the degree of complexity:

Level	Assignment characteristics	Context characteristics	Degree of autonomy
I	- Simple - Structured - Applies well-known methods	- Familiar - Simple - Monodisciplinary	- Guidance based on providing direction
II	- Complex - Structured - Uses well-known methods in varying situations	- Familiar - Complex - Monodisciplinary practice-based	- Guidance based on coaching
III	- Complex - Unstructured - Uses methods in new situations	- Unfamiliar - Complex - Multidisciplinary practice-based	- Independent / autonomous - Guidance / coaching if needed

A number of sub competencies must be achieved at level 2 upon completion of the study programme and a number of sub competencies at level 3. An overview of the sub competencies and associated levels per study phase can be found in the competency matrix.

Competency matrix for both Logistics Engineering and Logistics Management

	Sub competencies	A 1	A2	A3	A4	A 5	B1	B2	B3	B4	B5	C1	C2	C3	C4
Year 1 Semester 1	Case - Getting Started														
	Case - Basics of SCM														
	Project – Experience SCM														
	Case - Modelling & Planning														
	PPD - Personal & Professional Development 1														
Year 1 Semester 2	Case - Material logistics - Basics														
	Project - Material logistics - Improvement & Innovation														
	Case - Service logistics - Basics and innovation														
	CIR - Connection to Industry & Research 1														
	PPD - Personal & Professional Development 2														
End level sub competencies Year		1	1	1					1			1	1	1	1
Year 2 Semester 1	Case - Intro Operations Management														
	Project - Operations Management in a production env.														
	Case - Cross Border Supply chains														
	CIR - Connection to Industry & Research 2														
	PPD - Personal & Professional Development 3														
Year 2 Semester 2	Case - Sustainable Businesses														
	Project - Supply chain redesign														
	Case - Entrepreneurship														
	CIR - Connection to Industry & Research 3														
	PPD - Personal & Professional Development 4														
End level sub competencies Year 2		2	2	2	1	1	1		2	1		2	2	2	2
Year 3	Semester 5	2	2		2		2		3						
	Semester 6				3			2		2	1				
End level sub competencies Year 3		2	2		3			2	3	2	1				
Year 4	Minor														
	Graduation	3	3	3		2	3				2	3		3	
End level graduation		3	3	3		2	3				2	3		3	

Link to year schedule:

https://edubuas.sharepoint.com/sites/studentabel/Site Pages/Timetables&Groups.aspx

Link to assessment programme:

https://edubuas.sharepoint.com/sites/studentabel/Site Pages/Exam-information.aspx

Games

Media

Hotel

Facility

Built Environment

Logistics

Tourism

Leisure & Events

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