

Course Catalogue Engineering and ICT

EXCHANGE PROGRAMME

Operational Management in Industry 2023-2024

University of
Applied Sciences

Windesheim



Course summary			
VOE Code: EDPOMI.21		ECTS credits: 10	
Level: Bachelor's degree (full-time)			
Course Title	Project Operational Management in Industry		
Type	Compulsory		
Learning competences			
Learning outcomes	<p>Objectives:</p> <ul style="list-style-type: none"> • Experience the challenges of an operational manager in a real life situation. • Experience the conflict of interest between short term targets and long term targets. • Analyse how the mission and vision of a company can be translated in a strategy and can be implemented in the days work. • To analyse these situations. • To reflect on this experience. 		
Course content	<ul style="list-style-type: none"> • This project is executed within a company or external organization. • The language is either Dutch or English depending upon the guest organization. • The project will normally be carried out in small groups. • Individual assignments are possible in relevant situations. 		
Planned learning activities and teaching methods	Assignments for an external organisation.		
Recommended or required reading and other learning resources / tools	No special tools needed		
Prerequisites and co-requisites	You are required to have two years of Bachelor's study experience in a relevant field and English-language skills at B2 level.		
Level	Bachelor		
Grading scale	P1 = 1 up to 10, 1 dec., P2 – Not Achieved/Achieved		
Assessment methods and criteria	Type of assessment	Grade weighting	Criteria
	P1: Project Operational Management	1	Higher or equal to 5.5
	P2: Theme	0	Higher or equal to 5.5
Language of Instruction	English		
Name of lecturer	For information about the lecturers you can contact Frank Evers		
Mode of delivery	Coaching		

Course summary			
VOE Code: EDAPS.21		ECTS credits: 5	
Level: Bachelor's degree (full-time)			
Course Title	Advanced Planning & Scheduling		
Type	Optional		
Learning competences			
Learning outcomes	<p>Objectives:</p> <p>The student shows how to apply planning and scheduling as forms of decision-making to play an important role in manufacturing and services industries. Detailed course objectives: see study guide</p>		
Course content	<p>Objectives:</p> <p><i>Lectures Main topics</i></p> <ol style="list-style-type: none"> 1. Intro, MPC systems, S&OP, Manufacturing and Dispatching rules 2. Characteristics of service industries, Project and CPM. 3. Scheduling: Programming, Shifting Bottlen Annealing, Tabu- and Beam Search 4. Interval scheduling, Reservation systems a 5. Economic Lot Scheduling 6. Personnel scheduling problems 		

	7. Continued : Scheduling : Programming, Simulated Annealing, Tabu- and Beam Sea		
Planned learning activities and teaching methods	Contents: • Courses • Assignments		
Recommended or required reading and other learning resources / tools	Pinedo, Michael L. (). <i>Planning and Scheduling in Manufacturing and Services.</i> : Springer		
Prerequisites and co-requisites			
Level	Bachelor		
Grading scale	1 up to 10, 1 dec.		
Assessment methods and criteria	Type of assessment	Grade weighting	Criteria
	T1 Advanced Planning & Schedule	1	Higher or equal to 5.5
Language of Instruction	English		
Name of lecturer	For information about the lecturers you can contact Frank Evers		
Mode of delivery	Coaching		

Course summary	
VOE Code: EDSIM.21	ECTS credits: 5 Level: Bachelor's degree (full-time)
Course Title	Simulation
Type	Optional
Learning competences	
Learning outcomes	<p>Theory</p> <ul style="list-style-type: none"> • To learn how to implement a simulation study for logistical purposes. • To recognize when simulation can be used as a tool for decision-making, especially for logistical problems in a manufacturing environment. • To be able to make simple calculations as a means of validating a simulation study. <p>Practical</p> <ul style="list-style-type: none"> • To acquire knowledge of simulation as a tool for decision support. • To practice to be able to use simulation while tackling logistical problems. • To learn how to work with the simulation software Enterprise Dynamics. • To learn how to interpret and analyse the results from a simulation study.
Course content	<p>Theory</p> <ul style="list-style-type: none"> • simulation: what, why and when? • inside simulation software • simulation studies: an overview • conceptual modelling • developing the conceptual model • data collection and analysis • model coding • experimentation: obtaining accurate results • experimentation: searching the solution space • implementation • verification, validation and confidence <p>Practical</p> <ul style="list-style-type: none"> • tutorial layout • Enterprise Dynamics background • first contact with Enterprise Dynamics • model building basics • analysing the results • playing with strategies

	After the introduction to Enterprise Dynamics the student will perform several case studies.		
Planned learning activities and teaching methods	<ul style="list-style-type: none"> • lectures • practical 		
Recommended or required reading and other learning resources / tools			
Prerequisites and co-requisites			
Level	Bachelor		
Grading scale	1 up to 10, 1 dec.		
Assessment methods and criteria	Type of assessment	Grade weighting	Criteria
	P1 Simulation	1	Higher or equal to 5.5
Language of Instruction	English		
Name of lecturer	For information about the lecturers you can contact Frank Evers		
Mode of delivery	Coaching		

Course summary			
VOE Code: EDOS.21	ECTS credits: 5	Level: Bachelor's degree (full-time)	
Course Title	Operations Strategy		
Type	Optional		
Learning competences			
Learning outcomes	Operations can operate in accordance with customer needs or because the company possesses specific competences. How can you produce products or services according to customer needs? Your customer demands a flexible product? What processes, technology and supply chain solutions are at your disposal to achieve optimal customer satisfaction? This is what you will learn during this course.		
Course content	Operations can operate in accordance with customer needs or because the company possesses specific competences. How can you produce products or services according to customer needs? Your customer demands a flexible product? What processes, technology and supply chain solutions are at your disposal to achieve optimal customer satisfaction? This is what you will learn during this course.		
Planned learning activities and teaching methods	Contents: <ul style="list-style-type: none"> • Courses • Assignments 		
Recommended or required reading and other learning resources / tools	Slack, Lewis (). <i>Operations Strategy</i>		
Prerequisites and co-requisites			
Level	Bachelor		
Grading scale	1 up to 10, 1 dec.		
Assessment methods and criteria	Type of assessment	Grade weighting	Criteria
	P1 Operations Strategy	1	Higher or equal to 5.5
Language of Instruction	English		
Name of lecturer	For information about the lecturers you can contact Frank Evers		
Mode of delivery	Coaching		

Course summary			
VOE Code: EDCE.23	ECTS credits: 5	Level: Bachelor's degree (full-time)	
Course Title	Circular Economy		
Type	Optional		
Learning competences			
Learning outcomes	The student is able to advice companies on strategies to increase circularity, thereby demonstrating knowlegde on the concept of circular economy and business models. The student is able to perform the steps that are associated with a basic life cycle assessment by using methods such as fast track LCA.		
Course content	The student is able to advice companies on strategies to increase circularity, thereby demonstrating knowlegde on the concept of circular economy and business models. The student is able to perform the steps that are associated with a basic life cycle assessment by using methods such as fast track LCA.		
Planned learning activities and teaching methods	• Theory - and workingclasses		
Recommended or required reading and other learning resources / tools	• Book • Calculator		
Prerequisites and co-requisites			
Level	Bachelor		
Grading scale	1 up to 10, 1 dec.		
Assessment methods and criteria	Type of assessment	Grade weighting	Criteria
	P1 Circular Economy	0.4	Higher or equal to 5.5
	P2 Circular Economy LCA	0.6	Higher or equal to 5.5
Language of Instruction	English		
Name of lecturer	For information about the lecturers you can contact Frank Evers		
Mode of delivery	Theory classes Coaching of assignments during working classes		