INDUSTRIAL ENGINEERING EXPERIENCE PACKAGE

TU/e

INDUSTRIAL ENGINEERING EXPERIENCE PACKAGE (This flyer will be updated soon)		
Offered by	Department of Industrial Engineering and Innovation Science	
Language	English	
Primarily interesting for	All students, but most relevant for students with background in Major Industrial Engineering	
Prerequisites	isites Required courses: -	
	Recommended courses: -	
Contact person	Prof.dr. T. van Woensel (t.v.woensel@tue.nl)	

Content and composition

In this deepening elective package, you will prepare yourself to execute business projects in the full spectrum of the industrial engineering domain, covering operations management, information systems, product innovation and human performance management. The first course (fundamentals of algorithmic programming) for data analysis and solving problems. In the second course, you will deepen your knowledge on one of the Industrial Engineering domains that is not part of your personal major program. In the third course (extension Bachelor End Project) you will get the chance to apply the knowledge from the previous courses, combined with your major program in project focusing on the analysis of a business problem in the field of your interest, and performed in a company or external organization.

Course code	Course name	Level classification
1BK60	Fundamentals of algorithmic programming	1.
Choose 1 of 3 (out of major): 1BVK00 1CVK00 1ZVK00	Business analytics and decision support Supply chain management Strategic and organizational perspectives on product Innovation	3. 3. 3.
1BEPIEX	Extension Bachelor end Project	3.

Course description

Fundamentals of algorithmic programming (1BK60)

In this course students learn the fundamental algorithmic programming skills needed to make a computer solve certain problems. The solutions to these problems may include simple algorithmic ones to those that are non-trivial and address -for instance- optimization problems that are common in operations management. The course also introduces the basic steps to configure programs with tool chains consisting of existing program libraries.

Business analytics and decision support (1BKV00)

Agile organizations can gain competitive advantage via making decisions that are driven by analysing their (past) performance data. Coupling the results of this analysis to operational and management decisions leads to operational excellence. In the first part of this course, students learn about basic techniques of data analysis by following the Cross Industry Standard Procedure for Data Mining (CRISP-DM) methodology. The second part covers decision models for business cases with limited data availability.

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Supply chain management (1CKV00)

Supply chains comprises organizations, people, knowledge, resources and activities that enable a product or a service to be delivered to a customer. Supply Chain Management is the managerial field that coordinates these activities and ensures that the customer satisfied in a timely and cost-effective manner. In this course you will learn the most important concepts in supply chain management. You will learn a variety of models and concepts that will help you to analyze, optimize and coordinate complex supply chains. Theoretical models will be supported with closely related real-world applications.

Strategic and organizational perspectives on product innovation (12KV00)

The aim of the course Strategic and Organizational Perspectives on Product Innovation (SOPPI) is to provide to Industrial Engineering students an understanding of the broader organizational and environmental context for innovation in businesses. We consider strategy as the overarching choice about how to position the organization within its competitive environment, and about how to design the organization and its processes to capture that position.

Extension Bachelor End Project (1BEPIEX)

Within the BEP you will apply all knowledge of your major program to business problem in the industrial engineering domain. Focus is on the analysis of the problem. BEPIEX is always done at/ in close collaboration with a company or external organization. This course can only be done in combination with the major course 1BEPIE.