

## **Programme content and structure:**

IDE is a 4 Year BSc programme in Industrial Design Engineering delivered in Venlo in the Netherlands. IDE is different to most industrial design courses because from the first day of the study students work in a design studio on projects for real clients. By working 4 days per week on projects and regularly presenting and communicating with clients students quickly learn to understand what it is to be an Industrial Designer.

Each semester students work on a number of different projects through which they will learn how to apply the different methods and develop the skills needed to research, design and present creative solutions to real problems. When specific skills development is needed; sketching, computer modelling or creative thinking or to acquire knowledge of aesthetics, ergonomics or engineering for example, experts and coaches are available to support their learning. The necessary learning happens on an individual basis or through group workshops and dialogue sessions. Because students are working in a close team they also learn from their peers and share their own knowledge within those teams.

The IDE students development towards becoming an Industrial Design Engineer is evaluated, not through examinations, but through a competence portfolio which is worked on constantly and which is assessed at the end of each Semester. The competences on which the students are assessed are based on a nationally agreed competence profile. The assessment profile remains constant throughout the 4 years of the programme varying on the basis of the expected level of the student. The assessment criteria are defined in a rubric ( p4-10 rubrics Level1 ) which translates the competence profile into a set of measurable performance criteria. The students also conform to a generically formulated Body of Knowledge and skills ( p3 BoKS)

## **Professional and Practical Orientation:**

On campus, we have well-equipped wood, metal and plastics workshops for developing, prototyping and testing design proposals. State-of-the-art technologies such as 3D printing and laser cutting are also an integral part of the IDE studies. Potential employers or clients don't just want designers to create conceptual ideas, they also want to know if those ideas are going to actually work. This enables students to demonstrate that their ideas will actually work from a practical as well as theoretical perspective.

Through two integrated internships and numerous design projects with renowned companies students gain relevant professional experience during their studies and establish important contacts with potential employers. To date IDE students have worked on projects for clients including( amongst others) HILTI ( professional power tools ) , Philip (personal care), Miele (domestic appliances ) , Bourgini (domestic appliances) and Vogel's (consumer and professional AV accessories)as well as many other other projectsin the areas of health care, leisure and the industrial sectors. By working on different, concurrent projects they learn to manage their time and learn to work with others in a team whilst developing their own professional skills and knowledge. In the fifth and eighth semesters, students complete an internship in a company and an industry of their choice to deepen their practical experience. Because students on the IDE course are constantly working on real design problems for real clients they will be very well prepared for the professional world when they graduate.

## **International Focus:**

The IDE at Fontys Venlo is characterized by a strong international orientation, which prepares its students for an international career. Students of the Industrial Design Engineering work exclusively in English.

The IDE isn't just about English language however, it's also diversity and about having design students from all over the world working together. The IDE programme currently has students from over 15 nations including Vietnam, Indonesia, Israel, Bolivia, Mexico and Sudan as well as from all over Europe. This means that a student might on one day be working with a team of 5 or 6 different nationalities and cultural backgrounds on a project for a German company with 30,000 employees worldwide and the next day with a different group for a Dutch start-up.

This international orientation of the Industrial Design Engineering course is deepened by the two integrated, 20 week, internships ( one of which is a graduation project) that can be completed in the Netherlands or in fact anywhere in the world. In addition, more than 125 partner universities are available worldwide for an optional semester abroad ( the 'Minor'). Students are encouraged to follow one of the internship, minor or graduation project in a country which is foreign to the student to further broaden their international perspective.

Through these international experiences IDE students have the opportunity to get to know new countries and cultures, but also to make friends with students from all over the world and to further develop their language skills. In addition, self-reliance and self-confidence are promoted.

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**Industrial Design Engineering BoKS:  
National framework 'Body of Knowledge and Skills'.**

The table below shows the relationship between the National Professional and Training Profile (LBOP) and the Body of Knowledge & Skills (BoKS) of the Industrial Design Engineering Programme.

Columns A to F under "Competencies LBOP 2012" concern the competencies of the national profile:

A General / Project management.

B Orientation

C Analysis

D Idea Development

E Concept development

F Materialisation

							Importance to IDE 1 = relevant, 3 = essential				
	Competencies LBOP 2012						Main themes	Sub-division	1	2	3
	A	B	C	D	E	F					
Industrial Design Engineering/ Industrial Product Design	x						1. Professional skills	1.1 Communication			x
								1.2 Career development		x	
								1.3 Project management			x
								1.4 Ethics		x	
								1.5 Evaluation			x
	x						2. Marketing and Business	2.1 Business studies/ Entrepreneurship	x		
								2.2 Marketing		x	
								2.3 Product Strategies			x
								2.4 Market Research		x	
								2.5 Product economics		x	
		x	x				3. Research	3.1 Statistics	x		
						3.2 Patents, Law and standards			x		
						3.3 Research Methods				x	
						3.4 Testing				x	
	x	x	x	x			4. Methods and Techniques	4.1 Design Methods			x
						4.2 Creative Techniques				x	
						4.3 Sustainability				x	
				x	x		5. Form and Function	5.1 Form Studies			x
						5.2 Colour Studies			x		
						5.3 Design History			x		
						5.4 User Experience				x	
				x	x		6. User and Behaviour	6.1 Human factors en ergonomics			x
						6.2 User Research				x	
						6.3 Interaction Design				x	
				x	x		7. Visualisation	7.1 Product Visualisation (en -presentation)			x
						7.2 Visual Communication (digitaal)				x	
						7.3 Model Making				x	
						x	8. Engineering	8.1 3D CAD Engineering		x	
						8.2 Mathematics		x			
						8.3 Principles of Physical Science				x	
						8.4 Embedded systems		x			
						8.5 Mechanics				x	
						8.6 Mechanical engineering principles				x	
					x	9. Materials	9.1 Metals		x		
					9.2 Plastics				x		
					9.3 Other materials				x		
					x	10. Production Techniques	10.1 Production techniques metals		x		
					10.2 Production techniques Plastics				x		
					10.3 Production techniques other				x		
					10.4 Production organisation/preparation				x		
					10.5 Assembly Techniques				x		