Master of Industrial Design

JUST FIVE YEARS
LUND UNIVERSITY INDUSTRIAL DESIGN LTH
2001-2006


DESIGN
CENTRUM

Lund University
Faculty of Engineering/Lunds Tekniska Högskola (LTH)
Rector LTH
Gunilla Jönson

Lund was founded in the late 10th century and was a leading, religious, academic and cultural centre in all of Scandinavia already in the 12th century. It became Swedish in 1658 and eight years later Lund University was established. Today, the university is the largest Scandinavian research university with about 40 000 students that make up roughly half of Lund's population. It is a full comprehensive university that is recognised by its democratic attitude, critical thinking and defence of academic integrity. Its creative academic environment is proactive against discrimination; its humanist orientation propagates ethnic and social diversity values.

Today, the university is also recognised for its cross-faculty research, where especially its medical, natural science and engineering faculties together have won prestigious research resources in international competition. The international cooperation is extensive and every year exchange programmes are carried out with universities in 50 countries. Lund University is also part of the Øresund University which is a virtual cooperation between 14 universities and colleges in south Sweden and Denmark. Through this cooperation and strong liaisons with industry, the OECD has identified this part of Europe to be one of the strongest growth areas.

Significant cross-research results are often transferred directly to the nearby medical clinics for treatment of patients or to IDEON, the oldest and largest industrial park where patents and ideas are applied to commercial products and services.

The engineering faculty, LTH, is the youngest faculty and has grown in importance for international companies like TetraPak, Sony Ericsson and Alfa Laval both through its engineering graduates and its PhDs. LTH, contrary to most other technical universities in Scandinavia, has chosen to work within the comprehensive university to enable students to address the complex issues that they are to meet in life. They are able to add for example languages, literature, ethics or human rights to their curriculum to gain perspective beyond engineering skills. One very clear strategic step has also been to add the industrial design education to the curriculum. A close connection between design, engineering and economics has become a necessity in the modern world. Industrial design gives LTH a synthesis of technology, applied aesthetics and industry demands. This programme and its curriculum have been so successful that it today influences some of the more traditional engineering programmes at LTH.

Lund University Industrial Design, LTH
Professor of Industrial Design
Claus-Christian Eckhardt

Just five years…

This book charts and documents the wide spectrum of our activities and development – our enthusiasm – over the last five years (2001-2006); a period that marks the departure from many well-established certainties. The global power balance has steadily tilted, new strategic alliances have emerged and the economic focus has begun to shift eastward. The environmental impact of human intervention has been assessed and confirmed. In more than one way the world has changed beyond recognition and keeps on transforming rapidly – and so is our educational profile which is constantly being altered and adapted with respect to sustainable value creation, diffuse consumer behaviour or technological progress and more. In that sense, our Swedish microcosm duly reflects this macroscopic development. Above all, "Just five years…" is an indication of the challenge we face in restructuring our five-year education in respect to the Bologna Process.

It may seem new to a certain extent that industrial design can be an educational proposition within a traditional university framework. However, it is that particular aspect which characterises our approach: a well-considered merger of the artistic and creative perspective with a sound theoretical and scientific background. Not surprisingly, such balanced orientation is gaining in popularity with respect to imminent changes in design education worldwide.

Design is the one particular field of work that has the potential to instantaneously reflect cultural and technological shifts, incessantly triggered by changing habits and emerging lifestyles. Unfortunately, too much of what is being put forward is mere effluence, a profusion of mimetic products and erroneous services. To prevail over managerial short-term thinking, we position design as a vocation calling for mindfulness, modesty and moral intelligence. A meaningful dialogue between professions is necessary as well as the capacity to relate the incoming research to reality, keeping a critical eye on the relevance of it all.

We hope that our educational profile is a substantial contribution to that end.

Lund University
Industrial Design, LTH

Industrial design education in a university environment

The inception of manufactured objects is meaningless without the focus on people; the consequential intricacies and responsibilities for those involved in the field of design have been extensively debated. A once somewhat obscure vocation has matured to become an amalgamation of culture, sociology, technology, research and economy. It has evolved into what could be described as the first truly global profession. Faced with rapid change, designers must dynamically adapt to different roles, acting as initiators, communicators and upfront problem-solvers. To that end, much expert knowledge, critical awareness and a passion for transformation is a prerequisite. These competences cannot be acquired on a theoretical level alone. Our aim is to enable students to orient themselves in the limitless field of design, to stand the test of their motivations, actions and results.

The industrial design programme is located in the purpose-built Ingvar Kamprad Design Centre (IKDC). It is part of the Faculty of Engineering (LTH) at Lund University which – founded in 1666 – is a centre for education and research in Scandinavia. Embedded in such large and diverse campus, our approach is to encourage and develop interfaces to other key disciplines as well as networking through regional and international institutions. Our interactive take on design education shall enable students to adopt a generalist or specialist profile, depending on the development of their creative personality. The education can be enhanced further by doctoral studies in industrial design (PhD).

Our programme takes five years to complete, concluding with a diploma project entitling students to the Master of Industrial Design degree. Each year, a limited number of students is admitted, based on their artistic and creative potential. The education commences by concentrating on the essentials such as aesthetic skills and creative tools, complemented by a sound technical and theoretical background. In respect to various projects, we introduce design methodology at the core of the design process, supplemented by human factors such as ergonomics, psychology and universal design – issues that continue validating the explicit potential of our university context. Design management know-how further complements increasingly advanced and long-term design projects that include auxiliary tuition in material application and 3D modelling. Comprehension and practice of the fundamentals in design is reinforced, culminating in a complex project that focuses on sustainability and ethics as well as technology and manufacturing. We encourage students to apply their knowledge in internships abroad, verifying and adapting their individual approach to develop insights and understanding for different cultures. The programme concludes with preparatory studies – in some cases in conjunction with international institutions or companies – for the degree project, a final in-depth study merging and confirming all creative and analytical competences.

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Robin Edman
CEO SVID,
The Swedish Industrial Design Foundation

Design pays!

With increasing global competition and the selection of available goods and services becoming boringly standardised, the importance of design has never been greater. User power, driven by known and latent needs, will quickly determine a brand's ability to survive. The need for any organisation to stand out and truly deliver on their promises has become extremely necessary in the world of disloyal customers. One of the few ways to effectively strengthen communication and to transform an organisation from mundane to exciting is to introduce it to the notion of design.

Research tells us that companies that work actively with design enjoy a more positive development in their turnover, profitability and number of employees, than companies that do not invest in design. It is not just a matter of simply using design but rather the way it is utilised and nurtured that counts. To look upon design as an expensive styling exercise is probably worse than not doing anything at all.

To back this up, studies show that the real increases in profitability and revenue are realised once the organisation starts seeing design as an investment and hence starts using it as an innovation driver. Doing this will increase overall creativity and influence the organisation's response to customer needs. Once this is set in motion it will change the entire organisational structure to focus on value creation and – as a consequence – the customer's total perception. The picture will improve over time and include everything from how the phones are answered to supplying merchandise and services.

However, the biggest challenge is not how this is done, but that most small and medium-sized companies have yet to realise the considerable advantages of investing in design at all. To change this situation, the first steps have to be taken under the assumption that this really is the path to the future. At the other end of the spectrum, large companies today see industrial design as a natural competitive tool to ensure maximum brand development. The ability to create distinct individual profiles and unique market offerings is key to survival, since commercial success is mostly a result of how well a service or product's appearance and function manages to reflect the core values of the brand.

On the other hand, value for the user is created once the known and latent needs regarding function, content and appearance are satisfied. At the same time as increased value is created for the user, profitability and growth of the client's organisation should also increase. This can only happen if the value of the delivered design service is at the highest level, with a true understanding of the situation from both the buyer and the seller. The goal of engaging a design consultant must be to make something better than it was, to create value, take a leap forward and to surprise. Therefore it is extremely important that all involved parties understand and support the process, no matter what the initial situation may have been – good, broken or just plain bad.

It is no easy task to achieve this but only with improved education and understanding does this have a chance. Business schools need to have design on their agenda and the design schools need to breed a new type of designer with a far more advanced business understanding than presently found. The future buyers of design are willing, interested and ready to spend time and resources on new and innovative ways of finding success – design is such an avenue! Not only does design bring good looking figures to the bottom line – with proper support and organisational structure, it connects and helps create a common overall view within. The process builds strong teams where the designer typically collaborates with other areas of expertise to create enterprise-wide ownership of the organisation's offerings.

To further complicate the issue, the sphere of design is also growing in the sense that it includes other areas in addition to traditional goods manufacturing businesses. Because of globalisation and increased local competition, many service organisations now need new methods of adding greater customer benefit and quality to their offers. By using a design-influenced mode of thought and assimilating established design methods, these companies can increase the attractiveness and relevance of their services on the market.

Design can also save millions and the only thing stopping businesses from reaping the benefits is to not dare to find out. One could almost regard it as gross misconduct not to invest in design – yet many organisations still struggle to see the advantages due to a lack of convincing reasons launched from among our practicing designers. Some designers are good, very good, but there are still improvements to be made to the vast majority of proposals. We need to strengthen the consultancies with education and competence building to make them more powerful with broader pallets. To be able to match this, the buyers need to be educated and trained in how to best utilise the potential in front of them. We know that our entrepreneurs listen to each other so they need to share their successful examples and show proof of financial and corporate well-being among their peers.

This cannot happen without more research – research that shows the value of design and how it affects our present or future societies – how businesses can prosper while driving innovation. Cross-pollination will breed a new order of understanding to the future ways of doing business, where the secrets of success are embedded in the increased and wide-spread knowledge of design.

Lennart Ekmark
Senior Advisor to Ingvar Kamprad and IKEA
Stichting Foundation
Former Creative Director IKEA of Sweden

FORM FOLLOWS FUNCTION
Forget it! An outmoded view from the outmoded modernism movement.

FORM FOLLOWS ANYTHING
Can always work in the postmodern period. Anything goes.

FORM FOLLOWS MONEY
Now we're talking! Short life cycles, fashions and trends, product styling. It's a piece of cake.

FORM FOLLOWS FORM
Wannabes. Everyone keeps their eye on what others are doing. Selection is reduced and becomes uniform.

FORM FOLLOWS NOTHING
Absolutely! Only surface; otherwise completely empty!

FORM FOLLOWS YOU
As designer and user you have to take responsibility for your actions. No one else does that in our society obsessed with individuality. Public debate and legislation are conspicuous by their absence.

Design, to what use!?
We have to revitalise the critical analysis and debate on design and the added value it should contribute (cf. the 60s and 70s). A state of naiveté reigns today, while aspirations in Design-Sweden are obvious (cf. "concept design" at the National Museum during Design Year 2005). "Design" is one of our most misused words. Nearly everything is design, while analysis and criticism are almost nonexistent. Everyone wants to be a megastar designer; there appear to be no other driving forces, with a few exceptions. At the same time, universities and colleges chug along with their design programmes to an ever-increasing extent, where quality is just now starting to be discussed.

Here are some thoughts and ideas for getting out of the dilemma, with the best of intentions:

You can view the concept "industrial design" as "a specific design competence, the mission of which is to create added value through industrial change processes." This creation of added value can be divided into three levels or structures:

- Micro level. The needs of users/people for safety and security, for health and well-being, as well as our psycho-social desire for a positive, pleasurable and meaningful social life.

- Macro level. To ensure sustainable development of our civilisation and environment, cf. Karl-Henrik Robert's, Det Naturliga Steget (The Natural Step), and Stefan Edman's report, Bilen, Biffen, Bostaden (Cars, Beef, and Housing). Globalisation and today's material consumption contribute to us moving in an entirely erroneous and dangerous direction. Many designers also contribute to this negative development in their roles as professionals.

- Industrial level. To understand the technical and financial possibilities and prerequisites of production. To also understand the mechanisms of the market economy, its advantages as well as weaknesses and limitations and how you achieve long-term and sustainably positive economic development and profitability; how you create good competitive capacity for a manufacturing industry. Technology, economy, environment and human aspects – all have to be considered.

That is why industrial design training programmes at the international bachelor and master levels must be characterised by "The Understanding Business" which means that you, in addition to more conventional and specialised design training, also have to deliver education and knowledge in the different subject areas of relevance so that when students start their professional careers as designers, they are able to contribute to the creation of genuine added value.

Students have to develop and be offered opportunities to actively search for relevant information themselves, and to then be able to implement critical analyses of this material in order to create the conditions for a conscious, relevant and creative design process based on well defined and described contexts.

They have to be good communicators and build good relationships in the multidisciplinary industrial teams in which they work and thus master a professional as well as a personal authority.
If they succeed with this in their educational programmes, design colleges will contribute to breaking today's in many respects negative development, and to a more long-term and sustainable view of the role of design in our society, a view that will result in positive synergies.

Words of wisdom:
"If you as a designer can create attractive objects with several layers of understanding than are first apparent, you have achieved something."
Ineke Hans, Dutch designer

"Above all, to implant in our young designers that they have to know and understand what they are doing and for whom they are designing."
Tom Dixon, British designer

"Creating a better everyday life for many people."
Ingvar Kamprad, IKEA's founder

Joe Ballay
Professor Emeritus
Carnegie Mellon University

A Design Opportunity

We're at a point of opportunity in design education, and the research universities of the world are in an ideal position to do something about it.

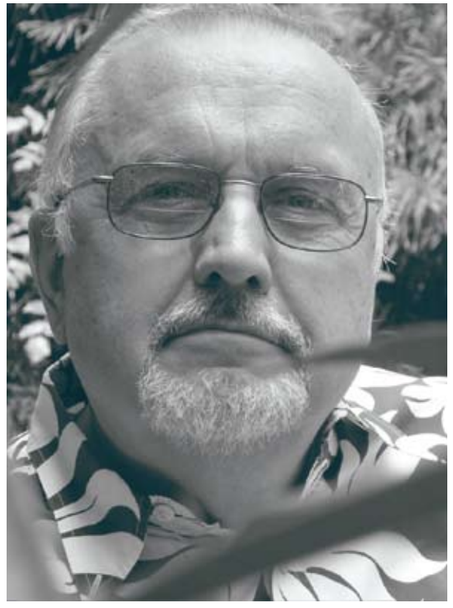
In the interdisciplinary enterprise that design has become, visual designers (industrial designers, information designers, etc.) bring two valuable skills to a crowded table: 1. the skill of integration – pulling the contributions of the other disciplines together into a product that is a coherent whole, and 2. the skill of manipulating form. Integration skills are learned by designers (and others, too) through working on interdisciplinary projects – and that seems to work pretty well. Form skills are not faring so well.

Design education programs are feeling the legitimate pressure to provide instruction, or at least exposure, to other disciplines so their graduates can successfully participate in the business of design – not only the traditional broad exposures to science, the humanities and the arts, but now more specific instruction in green technology, information science and legal principles, to name a few. Time for learning and maturation is scarce in a traditional undergraduate design program. And, unfortunately, time for these other disciplines is increasingly made at the expense of acquiring form skills. To stress the situation even further, the best students – the ones with the intelligence and temperament to become design leaders; the ones we want – are coming from a high school preparation that is more academic and less artistic. It's a troubling intersection of developments. Education in visual fundamentals and form skills is diminishing just at the time it is needed more than ever.

A partial remedy can be found in the growth of graduate design programs; providing more time for the preparation of professionready young designers. And many of the candidates for these grad programs are coming from a background in other disciplines. The good news is that the student mix itself has become more interdisciplinary. The bad news is that these students further swell the ranks of those who most need a solid grounding in form development.

The missing part of the remedy is a relevant way of teaching visual form fundamentals. And it's here that I think the research universities have the advantage. We need a way to intensively study form – not the subjective art school method, but a method that is both systematic, to appeal to the rational mind, yet subtle enough to challenge and grow the intuitive mind. It will take innovative teaching methods; research universities reward innovation. It will take a pluralistic faculty and an intellectually heterogeneous student body; research universities have that. It takes interdisciplinary projects for incubation; research universities can do those. And it takes a dedicated cadre of visual designers to work their form magic; and some of the best research universities – Carnegie Mellon, Lund Faculty of Engineering and Georgia Tech, to name a few I have worked with – have that cadre too.

The bottom line is this: of all the skills the new designer can bring to the table, all but one are some other discipline's core, and they can do it better. Only that one – our form-giving skill – is our core. Understand it, nurture it, proclaim it.



Gunnar Bolmsjö
Chairman of the Board of Education
Industrial Design and Technical Design 2002-2005

In developing and shaping the master's programme in industrial design, its location within a large university was a key factor in creating a first-rate education in such a short time. It was only in 1999 that the programme started. Its roots were in the former "Design Programme" which focused on the building environment and home-based products. Positioned at the Faculty of Engineering, it is natural to bring forward two important aspects of industrial design: its multi-disciplinary and multi-faculty nature. These aspects were also central, and still are, in making use of existing resources while at the same time contributing to the university with a programme that provides an excellent education on the highest level.

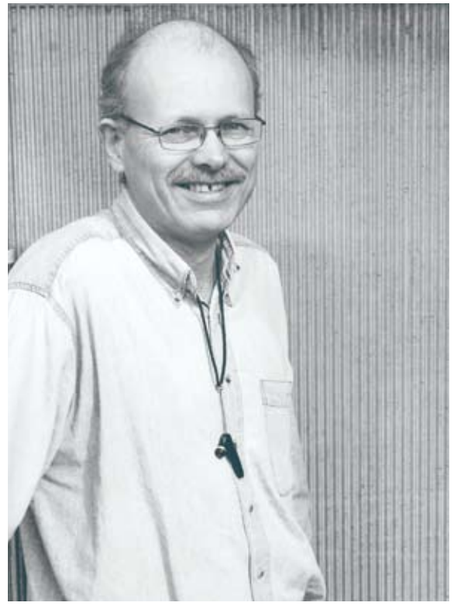
Industrial Design with its teachers and students is also an integral part of the research in the main subject of the programme and interrelated subjects in technology and economics. This is important as excellence in higher education can only truly be achieved by the acquisition of new knowledge through research and creative activities. It also made it possible in a short time to recruit the kind of students and teachers who would cultivate and develop the intellectual spirit and climate of learning and scholarship which are the hallmarks of an institution of higher education. Thus, our position within a large university is an integral and important element in our success that will further strengthen us in the future.

Industrial design is generally viewed as a creative activity, the aim of which is to establish the multifaceted qualities of objects, processes, services and their systems in entire life cycles. In Lund we embrace this generic view, because it offers students and teachers freedom of choice.

Design means making good things and good decisions for the well-being of people. With our roots in a large university we are able to put forth highly creative solutions based on research and development in different areas that address the complexities of the modern world. This includes globalisation and sustainability issues as well as ethics, which is of increasing importance.

Design is also about communication and meeting. Over time the programme has developed into a truly international forum with active international collaboration and exchange of both students and teachers. This, along with the top-ranking positions our recently graduated industrial designers have reached is, if nothing else, an inspiring benchmarking indicator.

With the approach described above, we focus on the growing need for professionals who can deal with the ever increasing complexities of modern life. Design is about creating comfort, pleasure and personal choices for individuals while supporting a way of life which considers sustainability and ethical values. This will be the case even more so as we adapt the programme to align it with the Bologna Process with a three-year bachelor's- and two-year master's degree. I am confident that these new programmes too will succeed in becoming fine examples of higher education.



Johan Huldt
Professor of Industrial Design, University College of Borås

Design is definitely a job with a future, but at the same time or rather as a result of this fact, a profession undergoing major changes. Many of the looming threats to our civilisation are associated with lifestyle issues. Design is involved in everything that the concept of lifestyle encompasses; housing, transportation, clothing, work and recreation are focus areas of design today. To this we must add upcoming necessary tasks of design within areas that we now can barely imagine.

At present, humanity faces massive challenges. Every day we are able to experience, or read about, new threats to the envronment and thereby our chances of survival.

One might pose the question if this is the concern of the designer or an issue of design. Is it possible that good design can present solutions to the obvious problems we are facing? Or is it the other way around, that design itself is the core, or at least a part, of these problems?

Designers are a progressive and curious group of professionals who greatly influence our lives. It is therefore important that they suggest a resource-efficient lifestyle, including new products and processes. A significant component of the work for sustainability is a financially stable and socially sustainable society. Environmental degradation is caused not only by war and natural disasters, but also by exaggerated bureaucracy. As a result it will be difficult to obtain a sustainable society without simultaneously paying attention to social sustainability. Everyone should have the opportunity for regular work, and trade between countries needs to be developed. These issues also entail an enormous amount of work for designers, not least in regards to intelligent transport solutions and new packaging.

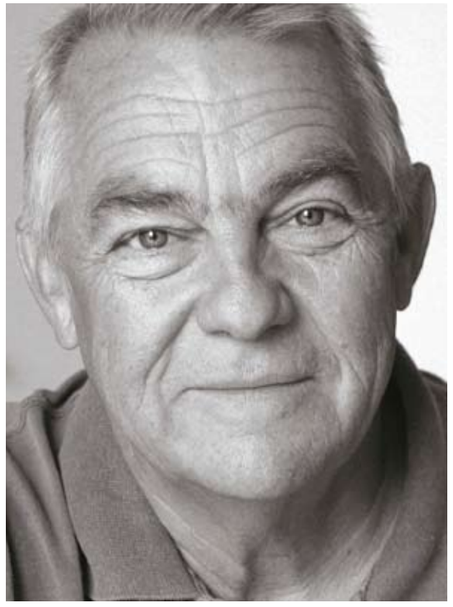
I would also like to remind you of the significance of beauty for humanity. The need for beauty has followed human beings throughout history manifesting itself in various ways through embellishment, symbolic forms and art. Apart from food and shelter, rest and relationships, beauty is a basic human need.

In the past the main objective of design was to develop human extensions, i.e. things that reinforced the human body thereby improving its capabilities. We nail more efficiently with a hammer than without one, drink more easily from a cup than from the hand and travel faster on wheels than on foot. The hammer, the cup and the wheel prolong the arm, the hand and the leg. Computers, telephones and CD-players expand our senses in time and space. Together with technological innovation design increases the natural capabilities of human kind.

Our industrial society, and as a result the conditions for working with design, has so far been evolved on the basis of the following unspoken assumptions:
- the supply of raw material is unlimited
- nature's ability to endure environmental impact is unlimited
- the supply of stored energy is unlimited
- peoples' ability to tolerate changes in their living environment is unlimited.

We are now facing a sort of trend reversal that will involve entirely new conditions for design operations. From now on The Three R's - Reduce, Reuse and Recycle - apply. Up to now we have been used to working in accordance with the so-called design process - beginning with a BRIEF and ending with a PRODUCT or a PROCESS. We will continue to do so but with new information and demands included in the "brief".

More than ever before, the creative and coordinating competence of the designer is required in society.



Michel Sabouné
Vice President Sony Ericsson
Creative Design Centre

For a long time now industrial design and industrial designers have been looked at as the people that give form to the products at the final phase of the product development and unfortunately, most ID university programmes emphasise mostly this area. In my opinion industrial designers have a much more important role in the product development phase and, even more so, play an even greater role in product innovation and business strategy! More and more companies are just discovering the full potential of the ID organisation they have. Companies are discovering that ID can be a great tool for communication both internally and externally; it is a great asset in product marketing and a huge asset in new product development!

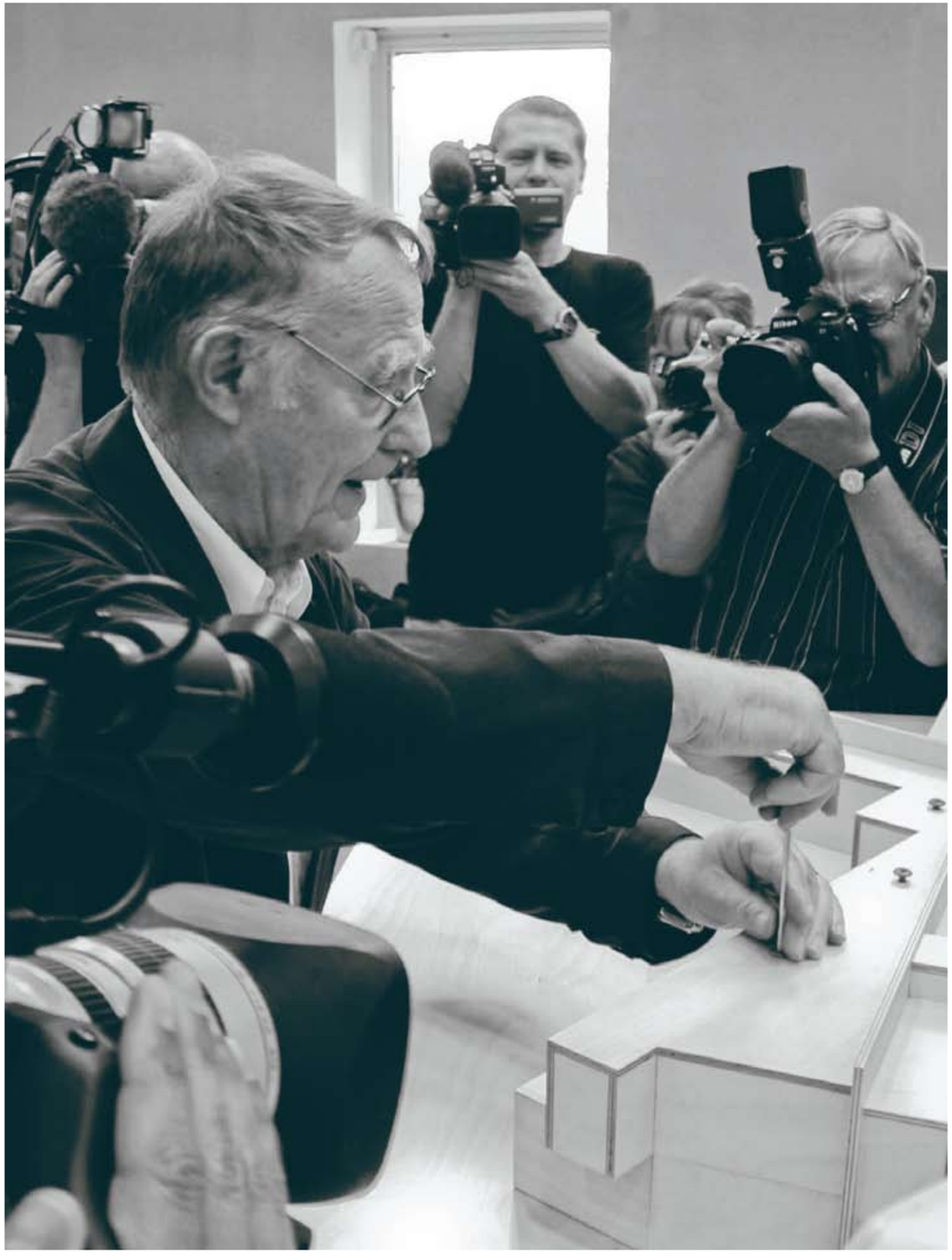
This change of scope means that the pressure and expectations put on the industrial designer are increasing. Eventually those requests should be reflected by the education that we give designers at university so that they can be better equipped to face these expectations and challenges. Examples of this can be: communication skills, cross-functional group work, basic business knowledge, project management, etc…

I feel, as I have preached for many years now, that the place for industrial designers is not only in the design department – there is a place for a designer depending on his or her interest in almost every discipline in an organisation; from idea to concept to development to launch and marketing!

Ingvar Kamprad Design Centre
Building year: 2001-2002
Architect: Gunilla Svensson

Inaugurated by Ingvar Kamprad on the 4th of September, 2002.

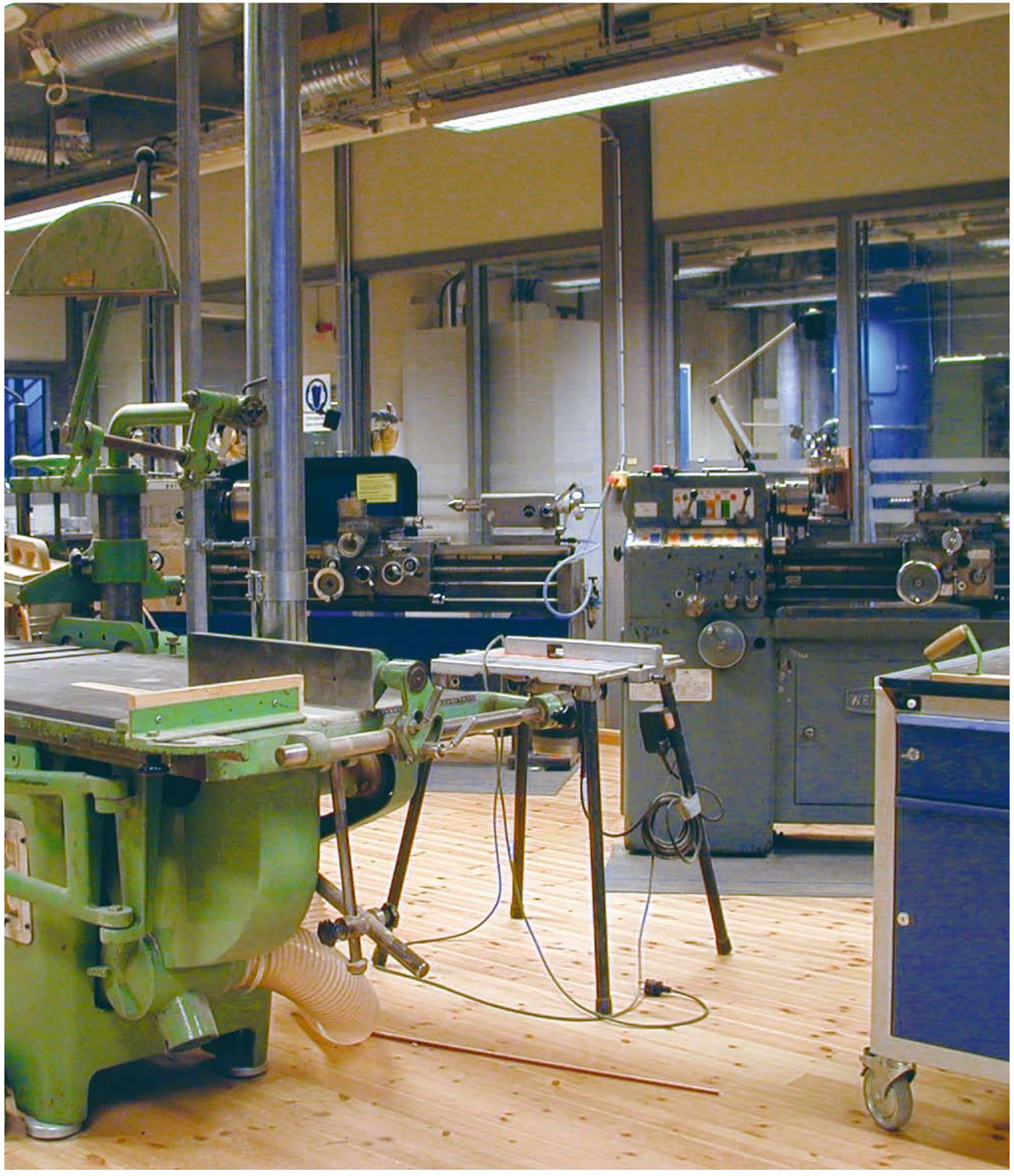
Donation
In 1998 the IKEA Stichting Foundation donated funds to LTH in order to facilitate the development of education and research in the field of industrial design.



Assembly room
IKDC

Student studios
IKDC

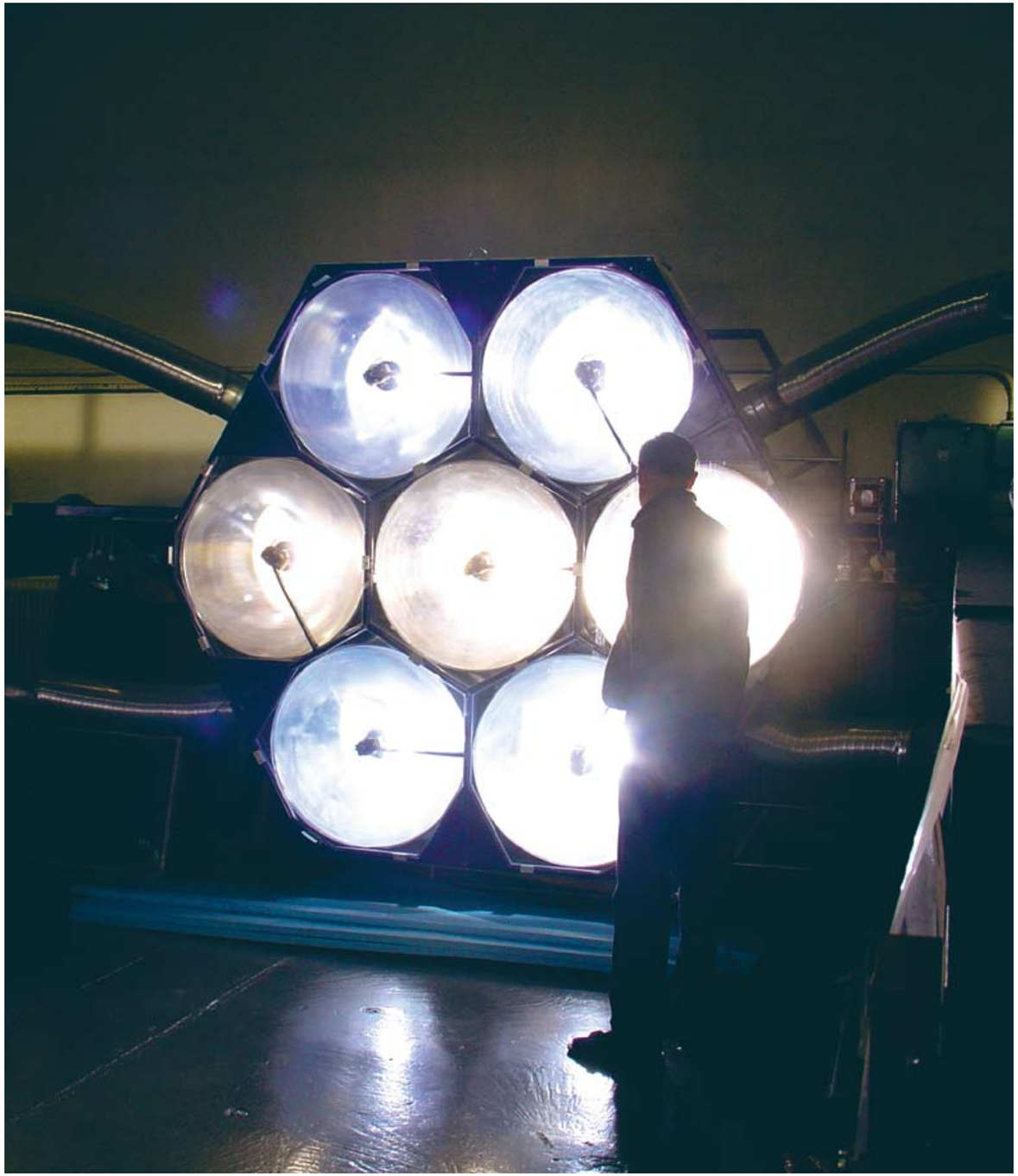
Café Bryggan
IKDC



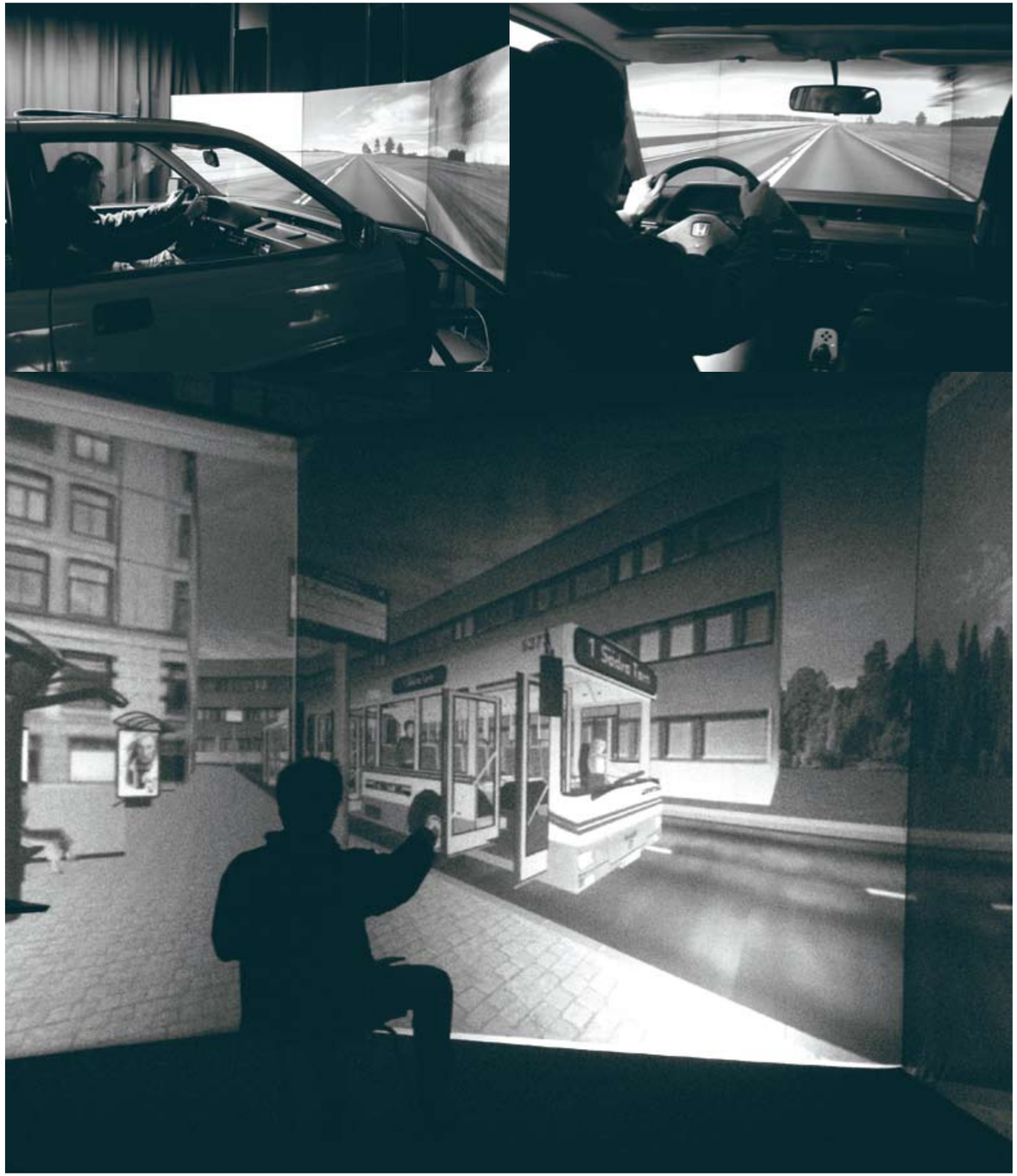
Educational workshop
IKDC

Metal workshop
A-building

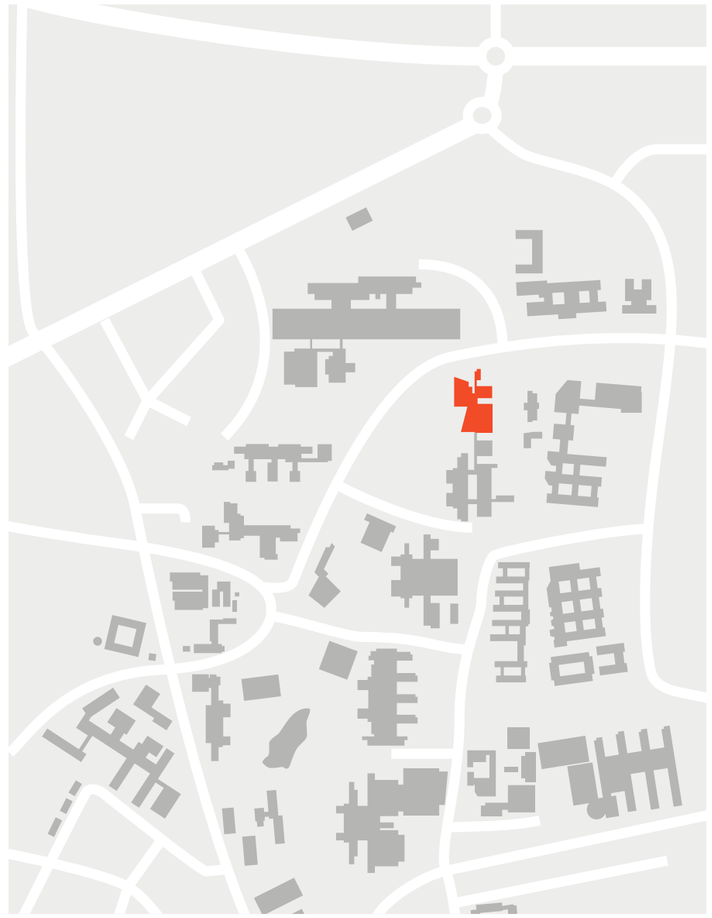
Wood workshop
A-building



Sunlight laboratory
A-building



Virtual Reality laboratory
IKDC



The Ingvar Kamprad Design Centre is located in the city of Lund which is part of the Øresund Region with the Øresund bridge connecting Malmö to Copenhagen and Sweden to the rest of Europe.

In Lund, the Ingvar Kamprad Design Centre is located in the northern part of the campus, on Sölvegatan 26.

Lund University

Lund University was founded in 1666 and is Scandinavia's largest institution for education and research with approximately 42 000 students.

The University consists of eight faculties:

- Faculty of Engineering
- Faculty of Science
- Faculty of Law
- Faculty of Social Sciences
- School of Economics and Management
- Faculty of Medicine
- Faculties of Humanities and Theology
- Malmö Academies of Performing Arts

In total 85 educational programmes of which one is the Industrial Design Programme with about 150 students.

The Industrial Design Programme was founded in 1999. It benefits from the large campus, fostering the crossover and interaction with other faculties, departments and divisions of LTH, Lund University and the rest of the world.

Divisions and departments contributing to the Industrial Design Programme

The Department of Design Sciences
- Ergonomics and Aerosol Technology
- Industrial Design
- Machine Design
- Rehabilitation Engineering Research

The Deparment of Architecture
- Architecture and Development Studies
- Theoretical and Applied Aesthetics
- Environmental Psychology

The Department of Art History and Musicology
- The Division of Art History

The Department of Building and Environmental Technology
- The Division of Structural Mechanics

School of Economics and Management

The Department of Electroscience

The Department of Mechanical Engineering
- Materials Engineering
- Production and Materials Engineering

Curriculum

Year one

Autumn

Computer Tools and Techniques
Rehabilitation Engineering Research

History of Design
Art History

Elements for an Industrial Designer, part 1
Industrial Design

Workshop Practice
Industrial Design

Inspiring Introduction to Industrial Design, part 1
Industrial Design

Applied Aesthetics, Visual Communication Ability, part 1
Theoretical and Applied Aesthetics

Spring

Elements for an Industrial Designer, part 2
Industrial Design

Mechanics
Structural Mechanics

Inspiring Introduction to Industrial Design, part 2
Industrial Design

Materials
Materials Engineering

Kitchen in Progress
Architecture and Development Studies

Applied Aesthetics, Visual Communication Ability, part 2
Theoretical and Applied Aesthetics

Year two

Autumn

Cognitive Ergonomics
Rehabilitation Engineering Research

Computer Aided Product Modelling and Simulation
Machine Design

Ergonomics
Ergonomics and Aerosol Technology

Design Methodology
Industrial Design

Applied Aesthetics, Visual Structures, part 1
Theoretical and Applied Aesthetics

Spring

Disabilities – Universal Design
Rehabilitation Engineering Research

Applied Aesthetics, Visual Structures, part 2
Theoretical and Applied Aesthetics

Product Semiotics
Theoretical and Applied Aesthetics

Photo and Videotechnics: The Photographic Image as a Tool
Theoretical and Applied Aesthetics

Light and Colour
Environmental Psychology

Year three

Autumn

Industrial Design Project 1
Industrial Design

Material, Shape and Force
Structural Mechanics

Space and Interiors
Theoretical and Applied Aesthetics

Applied Aesthetics, Visual Metamorphoses, part 1
Theoretical and Applied Aesthetics

Spring

Design Management
Business Administration

Industrial Design Project 2
Industrial Design

Electronics: Possibilities and Limitations
Electroscience

Applied Aesthetics, Visual Metamorphoses, part 2
Theoretical and Applied Aesthetics

Year four

Autumn

Industrial Design Project 3
Industrial Design

Theoretical and Applied Aesthetics
Theoretical and Applied Aesthetics

Materials and Production Technology
Production and Materials Engineering

Entrepreneurship and Business Development
Business Administration

Spring

Practical External Training / Internship
Industrial Design

Year five

Autumn

Design Project, three alternatives:

NASA, STAR Design
Architecture and Development Studies

Design in Unfamiliar Cultures
Architecture and Development Studies

Industrial Design Project 4
Industrial Design

Research Methods in Industrial Design
Industrial Design

Design Management and Future Forecasting
Business Administration

Spring

Master Project
Industrial Design

Extracurricular courses offered by Industrial Design

3D-modeling, part 1

3D-modeling, part 2

Automotive Design