Industrial Design Intensive

One-year course, 60 credits
**Umeå Institute of Design**
In the far north of Sweden, in Umeå, one of the top industrial design educations in the world is situated. Umeå Institute of Design, UID, has been ranked as the best design school in Europe and the Americas by Red Dot Institute, one the top international design schools world wide by BusinessWeek, and was named Centre of Excellence in Higher Education by the Swedish National Agency for Higher Education in 2008. Each year, around three hundred applicants from more than forty countries send in their portfolios to UID and approximately fifty students are accepted. UID is a department within the Faculty of Science and Technology at Umeå University. We offer a three year BA education taught in Swedish, and three master programmes: Interaction Design, Advanced Product Design, Transportation Design, all taught in English. We run one one-year course and some fifteen shorter courses in industrial design, mainly taught in Swedish. A PhD programme in industrial design is also run at UID, with enrolled PhD students from five different countries. Our students come from all over the world, and in total 26 different nationalities are currently represented at Umeå Institute of Design. As a step in UID’s professional orientation, nearly all projects are carried out in collaboration with external partners. We cooperate successfully with both the local community and international companies such as Nokia, Toyota, Sony Ericsson, Komatsu, Philips and many others.

**Umeå Arts Campus**
Umeå Institute of Design is situated at Umeå Arts Campus, on the banks of the Uman River, a five minute walk from the Umeå city centre. The newly built Umeå Arts Campus is already a hotspot for internationally competitive study programs, research, and development work in the fields of art, design, architecture and creative companies. Umeå Institute of Design, Umeå School of Fine Arts and Umeå School of Architecture, Bildmuseet Museum of Contemporary Art, and the HUMlabX experimental workshop in digital culture form the Umeå Arts Campus, and currently a space for the creation of new businesses for creative companies is being built up. Umeå Arts Campus includes a library, restaurants and cafés to stimulate cross-border artistic and public meetings, and functions as a venue for education, research and professional activities within architecture, design, art and digital culture.
Industrial Design Intensive

Industrial Design Intensive is a one-year course package that runs over a whole study year, from autumn to spring term. The autumn term is dedicated to basic methods in industrial design with focus on the product design process, while the spring term includes basics in interaction design, service design and design management. This one-year course package aims at giving an intensive introduction to the methods and processes used in the field of industrial design. The goal of the course is that the student should acquire basic knowledge about, and understanding of, the methods and proceedings that are used within industrial design. The course is mainly focused on methods for analysing problems, methods for ideation and creativity and methods for visualisation, presentation and communication.

The course is open for students from other backgrounds than industrial design who wish to specialise within the design field, as well as for students in industrial design wishing to refine their skills – or do a year of exchange studies. Many of the students on the course have degrees in non-design disciplines and are looking to either broaden their competence in design in order to collaborate with industrial designers or to change study direction and specialise within the field of design. Students who already have a design education that apply to the IDI course often have a more theoretical design education background, and wish to work more with their skills development, and with expanding their portfolio, to prepare for MA applications.

The course does not in itself give competence to perform industrial design professionally, but is aimed at giving students a basic competence in industrial design work methods and processes. in order to work with designers, or to use design methodology in their own profession. Upon completing the course students are well equipped to work in design related areas on the basis of their previous field of study and with specific knowledge of the design process, and students are also qualified for applying to an MA education within the design field, as the course includes portfolio work as a theme throughout the year. However, in order to apply for an MA education in design, it is necessary that the student already holds a BA degree (in any previous subject). If your goal is an MA degree after IDI studies, please inform yourself on acceptance and degree details at the university where you plan to study.

Study method

The curriculum is structured in four ten-week course elements, in which the students will work individually or in small groups. The education stresses the importance of group learning and the processes in which learning is situated in both theory and practice. Therefore, attendance in class is mandatory daily at least three and six hours per day. The study language is English.

We work with small study groups and high teacher density. Permanently employed teachers and programme leaders, as well as supporting staff are present daily at UID during office hours. Students are encouraged to contact staff and teachers in person when they need assistance, tutoring or have other study related questions. Contacts between staff, teachers and students are easy and informal in character. Our firm belief is that this is one of the foundations of a creative and open study environment where students from different programs, courses and study levels have continuous contact with each other and with staff, both informally and in learning situations.
**Pedagogical Foundation**

Our pedagogic strategy of combining theory and practice through conducting most of the education in realistic projects with external partners was established when UID was founded in 1989, and has been developed and improved ever since. We strive after a close cooperation with the surrounding community – nationally and internationally – in these student projects. Therefore, we also strive to have a wide variety of external lecturers and consultants with extensive professional experience from their respective subject areas, from society, industry and the university who instruct parallel with the permanent UID teachers.

A gender equality perspective that is built into admission, education and examination characterizes the pedagogical outlook. In Umeå Institute of Design’s articulated profile of user perspective and process orientation, diversity and equal opportunity perspectives are central in both project descriptions and completion of projects. A variety of educational methods and processes are employed, such as problem based learning, case-studies, learning by doing, balance and variation between theoretical and practical sections, studying and tests, advising in project form, lectures, discussion seminars and self-reflection. In general, students are expected to take responsibility for their learning process through methodical preparation before, active participation in and self-reflection after all types of teaching and learning situations.

One pedagogical building block is the students’ work with “realistic” projects with experienced supervision, often together with an external collaboration partner. The students work independently in the different phases of the design process and they have the possibility to reflect on successful and unsuccessful methods and results. The work with different phases of the design process in project form is in itself an example of problem-oriented learning.

Another pedagogical building block is based on the observation that the students often learn as much from each other as from the tutors or teachers. We believe that knowledge to a large extent is built through group processes and that individual’s experiences and knowledge are valuable starting points for collective learning. As part of this view on group learning, Umeå Institute of Design applies openness at presentations and advising so that all students have the possibility to partake in and learn from each other and from the teachers’ and advisors’ comments to other students. For this reason we also strongly emphasize that all work should take place at the school during the study hours, between 8 am and 5 pm.

All study results are reported individually most often in the form of oral, visual and written presentations but the process is often based on moments of collaboration in student groups. The importance of student group collaboration, group dynamics and group processes are included in the teaching. In the teaching framework we strive to discourage competition and rivalry between students and instead encourage students to share with one another and help each other because the success of the project is based on the sum of the many parts that each and everyone contributes. Therefore, we work actively with keeping an open, investigative and encouraging atmosphere in all learning situations and in the day-to-day activities.
Design Process Basics, 15 ECTS credits

The course provides an overview of and introduction to the methods and processes used in the field of industrial design and in the product development process. An introduction to visualisation techniques in 2D (sketching) and 3D (modelling techniques), as well as in graphic design, is given. Focus is on the design process in development of physical products and on the visualisation and communication of ideas and design concepts. The perspectives of design for all and sustainable design are introduced in relation to the design process. The aim is that student understands and performs a basic application of design methods and processes in supervised projects. The course is structured in six sub-courses:

Sub-course 1. Introductory project, 1.5 credits
The sub-course consists of an introduction to Umeå Institute of Design and the course package Industrial Design Intensive. Work methods and educational philosophy are presented and discussed, and a basic introduction is given to the UID infrastructure of facilities, computer systems, economy and materials (DOLF system) and study techniques. Students carry out a short project with the aim of introducing the methodology of project work and fundamentals of group dynamics. Examination through active participation in education and a visual and oral project presentation.

Sub-course 2. Sketch basics, 3 credits.
The sub-course focuses on how to communicate ideas through 2D sketching techniques. Focus is on the basics of visual communication, and on introducing sketching as a tool for ideation and communication. The course covers basic sketching techniques, such as work methods, materials and perspective. A brief introduction is given to the tools to scan sketches, clean them and place them in a document for printing. The aim is that students shall feel confident in communicating ideas visually and orally, and to introduce basic sketching techniques with special focus on ideation sketching and concept exploration sketching. Part one (1.5 credits) covers the fundamentals in sketching techniques and materials and is examined through active participation in education and submission of required assignments. Part two (1.5 credits) continues developing sketching as a tool for ideation and communication, and is examined through active participation in education and submission of required assignments.

Sub-course 3. Form basics and modelling techniques, 1.5 credits
Fundamentals in form studies are introduced, in connection to the basics of manual three dimensional modelling techniques. The goal of the sub-course is to give the student an introduction to the practice and the understanding of form, in order to train skills and abilities related to form exploration and basic semantics of form in different materials. An introduction is given to the wood workshop hand tools and machinery, such as band saws, milling machines, drills etc., and to the paint system and paint box. The aim is that the student acquires the skills to independently handle painting and wood workshop machines and equipment according to safety measures and UID rules. Examination through active participation in the wood workshop education, and submission of 3D foam models accompanied by required 2D visual material.
Sub-course 4. The design process, 4.5 credits
The sub-course introduces the methods used in the design process in product development work. Theory and practice are joined in a project throughout the sub-course, where the steps of the design process are taught and implemented in the project. Methods for problem definition, visualisation and research, such as function analysis, target group definition, scenario and board techniques are introduced. Focus on learning, understanding and using methods for defining a design problem, research, ideation, evaluation, conceptualisation and presentation. Brand values in relation to design process. Defining user groups, and working with board techniques to communicate brand value, user groups etc.
Introduction to the perspectives of sustainable design and design for all in the design process as a whole. The aim of the sub-course is that the student is familiar with the steps of the design process, can apply these in a tutor-led project, and can present both the result and all steps of the process visually and orally. Examination through active participation in education, submission of required deliverables, and the oral and visual presentation of a product design project.

Sub-course 5. Graphic design, 3 credits
The basics of layout, typography and graphic design are introduced in relation to different media and means of communication: portfolio, digital presentations, posters and other visual and textual media. Different tools for graphic design work are introduced, as are theories and practices in visual and graphic communication and methods for visual and graphic narration. The aim is that the student becomes familiar with graphic design tools, and can begin to adapt different types of visual and graphic communication to different situations, contexts and scopes. Examination through active participation in education, with oral, visual and written presentations of required deliverables.

Sub-course 6. 3D digital modelling techniques, 1.5 credits
The sub-course introduces the tools of digital modelling techniques, in relation to visualisation and form exploration. Examination through active participation in the education, and submission of 3D digital visual material.
Design Implementation, 15 ECTS credits
The course provides a deeper exploration into methods and processes applied in industrial design, with a special focus on ergonomic design, user studies and form development. The sub-course includes applied studies in project form, in which the main focus is on methods for analysis, problem solving and evaluation in relation to user focus, design for all, ergonomics and branding in the product development process. Visualisation skills focused in the course include sketching and computer aided digital modelling, and physical 3D modelling (sketch models and presentation models). A basic introduction to working systematically with colour in design is given, and an elective part of the course gives the student an opportunity to choose to develop specific design skills or areas. The course is structured in six sub-courses:

Sub-course 1. Form exploration, 1,5 credits.
The goal of the sub-course is to promote an exploratory and investigative approach to form, introducing the basics in clay modelling. An aim is that the student, through exercises in two- and three dimensional visualisation, develop the ability to work with the transition from sketch to 3D model. A focus of the sub-course is relating semantics and formal expressions to emotion, qualities and the perception of an object’s message. The course also aims to introduce specific concepts and basic theories of form and semantics. Examination through active participation and submission of required 2D- and 3D deliverables.

Sub-course 2. Ergonomic design, 6 credits.
The sub-course combines the basics of ergonomics and brand management with project studies in the design process. Focus of the project is ergonomic design, especially ergonomics of the hand. Introduction of ergonomic perspectives on design, prototyping techniques, ergonomic user studies and tests using function models. The student shall be able to apply ergonomic theory and practice in the design process as a whole. Equally important in the project is brand management, and relating brand values to form and expression in process as well as in the final concept, in 3D and 2D visualisations. Examination through active participation in education and submission of required deliverables, through carrying out a design project focused on ergonomics and brand management and presenting this orally and visually in both 2D and 3D.

Sub-course 3. Visualisation techniques, 3 credits.
Manual and digitally aided sketching techniques in relation to ideation, presentation and form exploration. The aim of the sub-course is that the student continue working sketching as a tool for ideation and communication, in order to start developing a personal style and own mode of working with sketching as a tool in the design process. Exercises in digital 3D modelling are connected to a previous project. Examination through participation in education and submission of required 2D visual deliverables.

Sub-course 4. Design management, 1,5 credits.
An introduction to design management in relation to marketing strategies design strategies and branding of products and services. Areas covered are how design strategy is implemented in a professional design context, how design methodology is used strategically in brand management, and how design projects are organised. Examination through active participation and submission of assigned deliverables.
**Sub-course 5. Prototyping the future, 1.5 credits**

The goal of the sub-course is to give a starting point for the student to reflect over how knowledge and skills trained during the course can contribute to the own professional development. A special focus is given to how skills and abilities can be trained in relation to different strategies and methods in preparation to future societal and professional development and change. The student will reflect over the own strengths and weaknesses in the own professional “tool box” in relation to how she/he can work with competence development in a longer perspective. The course consists of workshops and exercises, in the areas of design skills, design thinking and artistic development, that the student chooses between. Examination through active participation in workshop, submission of deliverables and through a written assignment.

**Sub-course 6. Colour studies, 1.5 credits**

The purpose of the sub-course is to increase the knowledge of the importance of the practical use of colour as a tool within industrial design, focusing both theoretical and practical colour studies and introducing colour systems. The sub-course focuses colour as a visual phenomenon, and colour communication through the whole design process, from idea to final product. Examination through, active participation in education, submission of required assignments, and the oral and visual presentation of a small colour project.

**Interaction and expression, 15 ECTS credits**

The course includes work in project form with the design process in interaction design and the development of non-physical products, in relation to basic cognitive ergonomics, prototyping and visualisation through different 2D- and 3D techniques. The course also focuses work with form, styling and visualisation in reference to transportation design, including modelling techniques, and integrating this in project work. During the course students work with producing a portfolio, and are trained in different graphic and visual tools in order to express personal skills as well as processes in a design professional context. The course is structured in three sub-courses:

**Sub-course 1. Interaction design, 6 credits.**

An introduction to the phases of the design process in interaction design and the development of non-physical products. Interaction methods for observation, evaluation, and perspectives on semantics are introduced, as are methods for lo-fi and hi-fi prototyping. Applied studies in project work. Examination through participation in education and submission of required assignments (The design process in interaction design, 1.5 credits) and the visual and oral presentation and written/visual documentation of the design process of an interaction design project (4.5 credits).

**Sub-course 2. Portfolio, 3 credits**

The sub-course aims at introducing how to document and present a design project visually and verbally in a portfolio. Focus is on introducing basic methods for visual and graphic narration, and on how to work with layout, visual imagery and text in order to convey a design process and result. Production of a portfolio communicating the skills, strengths and capabilities of the student in visual, textual and graphic form. The portfolio shall demonstrate the student’s design process and results of project work, in relation to the social and professional context of design portfolios. Examination through active participation in education and the submission and presentation of a portfolio.

**COLORS FOR EACH TARGET GROUP**

- Professional Craftsman:
  - **S4055 B**
  - **S7502 G**
Sub-course 3. Form and visualisation, 6 credits.
The sub-course introduces methods of working with form and visualisation in transportation design through a project with the main focus on form work, styling, and visualisation techniques. The students shall be able to work with expressing values and/or brands through both 2- and 3-dimensional form work, and present these in relation to basic concepts in product semantics. Examination through submission of a physical model, an oral presentation and written and visual documentation of the project process.

Design communication, 15 ECTS credits
An aim of the course is that the student shall be able to communicate design problems, design processes, design concepts and the role of the industrial designer through different media and in different situations: in exhibitions, in oral presentations and in digital or printed visual and written materials. The design process in service design is introduced and a project in the area of service design is carried out, in relation to both product development and interaction design. Students conduct studies of consultancies, companies and other institutions relevant to design management and design education, in relation to both design communication and the role of the industrial designer. The role of the industrial designer is examined from a strategic perspective and related to the historical context of the industrial design profession. The course constitutes the fourth part of the one-year course Industrial Design Introduction, 60 ECTS and is structured in five sub-courses:

Sub-course 1. Exhibition, 1.5 credits.
During the sub course, the student works with presenting the design process of a completed project in 2D and 3D in a public exhibition. The basics in exhibition techniques are introduced, and in relation to this also how poster layout and graphics relate to a three dimensional model. Examination through the public exhibition of required exhibition materials.

Sub-course 2. Visual storytelling, 1.5 credits.
The sub-course introduces the basics in visual storytelling, relating narrative techniques and different visual media to the field of design. Examination through the submission of required visual deliverables and oral presentation of these.

Sub-course 3. Service design, 6 credits.
The design process in service design is introduced and a project in the area of service design, relating to design management, is carried out during the sub-course. Examination through oral, visual and written presentation of a service design project.

Sub-course 4. The role of the industrial designer, 3 credits.
The sub-course gives an overview of the history of industrial design, starting in the 1850s and with focus on social context, ideas and styles in western Europe and USA. Special attention is given to the roots of the industrial design profession, and to ideals and expectations related to it. A study is made of how consultancies, companies, design educations and other institutions relevant to the establishment of the design profession understand and express the essence of the designer role. The examination consists in the submission of a written essay and other deliverables.
Sub-course 5. Design communication, 3 credits.
The aim of the sub course is that the student shall analyse and compare how design problems, design processes and design concepts are communicated through different media and in different situations: in exhibitions, in oral presentations and in digital and printed materials. Examination through submission of required deliverables, active participation in seminar and public exhibition of a poster.

Facilities
Since Umeå Institute of Design opened in 1989, the school has gained a reputation as a dynamic environment with exceptional possibilities for creative studies. UID is housed in a carefully renovated industrial building as well as in newly built premises located on the shore of Umeälven, the river of Umeå, and close to the centre of town. The building is characterized by its large spaces and light atmosphere. Well equipped workshops are provided for woodwork, metal, plastic, clay modelling, assembly and painting.

Each student has their own personal workspace in an open studio environment, where a desk, chair, bookshelf, and Internet access is available. The studio environment promotes interaction between students, and is also used for studio teaching, tutoring and presentations. The open studio system, and our pedagogical methods, also encourages student cooperation between educations. Students have full 24 hour access to the school seven days a week throughout the entire study year. The permanent staff at UID is always available to the students for support and tutoring, and everyone has an “open door” practice, that mirrors the openness of the student studios, so that students can approach all staff for guidance during office hours.

The computer labs and studios, which are managed by UID’s Computer Services, provide qualified facilities for students and researchers. The computer labs are also connected through a network to a full-scale milling machine, advanced NC milling machine, laser engraving machine and rapid prototyping machine run by the school’s Technical Workshop Manager. In connection to this, there is also an interaction workshop for prototyping and testing, where support is available through the Interaction workshop technician.
High-speed network access is available from all the studios, and floating licences allow students to access necessary software also outside the computer labs during their UID studies. The facilities are also equipped with a wireless network. High resolution scanning and printing equipment, servers, DVD-recorders, digital cameras and video equipment are also available. The institute also provides a 250 square meters full-scale laboratory for building full-scale models and test-rigs. A project studio is available for presentations and exhibitions. Additional facilities include art studio, library, seminar rooms and an auditorium with 120 seats. At the institute there is also a typical Swedish sauna and a student kitchen, both run by the student group Ställverket.

**Application and admission**

Application to Industrial Design Intensive is made in two steps. Firstly, an application is made through [www.universityadmissions.se](http://www.universityadmissions.se). Secondly, a home assignment consisting of several specified tasks should be completed and sent in by regular mail directly to the Umeå Institute of Design. February 15 is the deadline for the home assignment to reach UID. Applications that reach UID after the deadline will only be considered if study places are available after considering the applications that have reached UID on time. Exchange students apply as well with student portfolios/home assignments as regular applicants, but the application dates might differ depending on the exchange programme. Please contact your home university exchange office to find out. Each year, a maximum of 20 students can be accepted to the course. The admission criteria for admission focus skills related to innovation, visualisation and ideation as well as aptitude for design studies. An admission committee reviews the applications and chooses the students that may be accepted to the course.

**Necessary Prerequisites**

*Academic prerequisites:* A minimum of one year of previous full-time university studies (60 ECTS credits). Please note that if you are aiming for a Master level degree in the design field you must previously hold a BA, Bfa or BSc degree (in any subject) in order to be apply for an MA, Mfa or MSc education after IDI. Transcripts of records and relevant documents are to be sent in with your application.

*Language prerequisites:* Proficiency in English should be equivalent to the Swedish upper secondary course English B. Alternatives are: IELTS (Academic) with a minimum overall score of 6.5 and no individual score below 5.5. TOEFL PBT (Paper-based Test) with a minimum score of 575 and a minimum TWE score of 4.5. TOEFL iBT (Internet-based Test) with a minimum score of 90 and a minimum score of 20 on the Writing Section). When signing up for a TOEFL test please inform our institution code 7843. A copy of the result will then be sent directly to us. For further information please check the Umeå University website.

**Admission criteria**

The selection process for admission to Industrial Design Intensive focuses the applicant’s skills and development potential related to innovation, communication abilities, visualisation and ideation, problem solving and creativity as well as aptitude and motivation for design studies. An admission committee reviews the applications and chooses the students that may be accepted to the course. The home assignments are assessed according to certain evaluation criteria, such as specific aspects of artistic ability, level of maturity, innovative thinking and other aspects relevant for assessing the applicant’s potential to carry out the studies. The assessment and selection of short listed candidates is done without regard to the identity of the applicants, thereby securing a fair judgement that does not take into account background, previous studies, nationality or gender.

**Tuition fees**

For European and EES students, the tuition fees are covered in full by Swedish government grants. Students from within the EU/EES and Switzerland are entitled to free education in Sweden. In addition, students coming to Sweden as part of an exchange agreement - regardless of nationality - are
exempt from both application and tuition fees. For non-EU/EES students the tuition fees are SEK 270 000 (= €28 700 or $38 800). UID has secured additional funding that enables full or substantial reduction of these fees. This financial aid is only applicable to non-european students. More information about the fee reductions are given during the application process.

### Industrial Design Intensive Q&A

**What study backgrounds do most IDI students have?**
The applicants to the IDI course have very varied backgrounds. Some have previous industrial design studies behind them, and several come from various engineering backgrounds. The majority of students have no industrial design background at all, but come from totally different areas: business administration, political science, business economics, architecture, fashion design, interior design, the humanities, psychology, human factors and ergonomics and so on.

**Do you accept exchange students?**
Yes, we accept students on exchange programmes. To be able to come to Umeå as an exchange student your university must have an existing student exchange agreement with Umeå University. Contact an international coordinator at your university to find out if such an agreement exists.

**Do I receive a diploma in industrial design after IDI studies?**
No, but you will receive a course certificate. IDI is a one-year course (not a programme), and does not give a degree in industrial design. The course prepares the student for either working and collaborating with industrial designers, or within the area of industrial design, or for pursuing an MA or BA education in the area of industrial design.

**Can I apply to MA educations in industrial design after IDI studies?**
Yes, you can apply to both BA and MA educations in the design field. The IDI education provides the students with an insight into methods and skills central to the industrial design field, and you can definitely apply to design educations after completing the course. However, in order for the MA studies to lead to an MA degree in design, it is necessary that the student already holds a BA degree (in any previous subject). If your goal is an MA degree after IDI studies, please inform yourself on exam and degree details at the university where you plan to study after IDI.

**Will I be accepted to MA programmes at UID after IDI studies?**
You will not be guaranteed a study place on any other programme or course at UID. All students apply for study places in competition with all other applicants.

**To which educations have graduated IDI students been accepted?**
Former IDI students have been accepted to the BA Industrial Design Programme, the MA programmes in Interaction Design, Transportation Design and Advanced Product Design at Umeå Institute of Design. Other IDI students have been accepted to the MA programme Formgiving Intelligence at Konstfack (Sweden), The Interaction Design programme at CIID (Denmark), MA programmes at Borås School of Textiles (Sweden), MA Strategic Design at the Politecnico di Milano (Italy), Master programme in design at the HDK School of Design and Crafts (Sweden), Design Academy Eindhoven (the Netherlands), and MA in Integrated Design at Köln International School of Design (Germany), to name a few.

Please see our web page [www.uid.umu.se](http://www.uid.umu.se) for more information.