LDI

# Bachelor in Industrial Design

Curricular map 2015

# Contact information

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# **UDEM**

## DI 1110 / Conceptual and Morphological Studies I

To solve problems of Industrial Design focusing its emphasis in the conceptual and formal area; based on all the factors involved in the design and its visual impact.

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# DI 1120 / Effective Project Presentations

The student will know and apply various techniques, methods and strategies used to successfully present ideas and design projects to a specific audience.

# DI 1130/ Processing and Manufacturing Wood and Its Derivatives

Know and apply the existing technology and resources in the creation of wooden products and objects and their derivatives. Know the processes of obtaining the derivatives of wood and its physical and chemical characteristics.

# DI 1140 / Fundamentals of Digital Media

At the end of the course the student will be able to test the digital means of two-dimensional representation to communicate product design ideas in its various stages of development, and make drawings of parts or products for subsequent manufacturing processes.

#### DI 1150 / Introducción al Diseño Industrial

The student will reflect on the discipline of Industrial Design from the different approaches that are presented through the exchange of information with graduates or professional practice, the study of the main design paradigms, the anthropological vision and the fundamentals of design.

# DI 1210 / Constructive Geometry

Develop instrumental skills on the essential methods of object drawing and descriptive geometry in their application for industrial design projects.

# DI 1220 / Product Representation I

Develop basic instrumental skills of quick representation in drawings and ideation sketches for visual communication of industrial design projects.

#### DI 1230 / Processing and Manufacturing of Ceramic Materials

Know and understand the physical, chemical and transformation characteristics of Ceramic materials, as well as their applications in the industrial and commercial market.

# DI 1240 / Anthropometry and Ergonomics

Know, identify and apply the elements involved in the man-object relationship for its application in the design of products; Based on its decisions in the international standards of Ergonomics, environmental factors, both labor and daily.

# DI 1250 / Technical Drawing

At the end of the course the student will be able to apply systems and codes of two-dimensional representation, for the development of technical documentation of design of parts and products.

# DI 1260 / Conceptual and Morphological Studies II

Acquire knowledge to analyze and generate forms of greater complexity. These new degrees of complexity will be studied for the generation of spatial surfaces and polyhedra as space computing elements.

#### DI 1310 / Creativity Workshop I

Learn and apply different strategies in the creative development phase, in order that the student can experience different results to the same problem and with it can discover intelligent solutions through these different perspectives.

#### DI 1330 / Processing and Manufacturing of Metals

At the end of the course the student will be able to describe the physical, chemical, and transformation characteristics of the metallic, glass and composite materials existing the market, as well as the existing technology and resources for the processing of them, for their application in the market in the creation of products and objects.

#### DI 1340/ Product Representation II

Apply advanced instrumental skills of quick representation in drawings and sketches to propose designs that convey a visual communication of industrial design projects.

#### DI 2110/ Theory of Sustainable Design

Analyze and study the social, economic and environmental impact of a sustainable project within a particular context to apply international standards and product development processes from a sustainable point of view.

# DI 2120 / Parametric Modeling

Upon completion of this course, the student will be able to understand 3D parametric modeling tools to create detailed models and assimilate criteria of use for the basic development of a product to build its prototype or manufacture it in series.

# DI 2130 / Processing and Manufacturing of Polymers

Know and understand the physical, chemical, and transformation characteristics, with sustainable considerations, of polymers and composite materials existing in the market, for their application in the creation of products and objects.

# DI 2150 / Creativity Workshop II

Create solutions, focused on the basic needs of user groups with limited access to products and services, for geographical and / or socioeconomic reasons. Learn and apply different strategies in the creative development phase.

# DI 2160 / Functions and Procedures

Stimulate and develop in the student a critical attitude and knowledge of the functions and mechanisms commonly used, through the study and analysis of them. The student will know the limitations that the function imposes on the design. The student will know the different types of mechanisms with which he will expand his creative capacity.

## DI 2170 / Parametric Modeling

Understand parametric 3D solid modeling tools, to create detailed models. Assimilate criteria of use for the basic development of a product to build its prototype or manufacture it in series.

# DI 2180 / Digital Surface Modeling

Understand the NURBS 3D surface modeling tools, to create fast models and develop criteria of use for their integration in the process of designing a product.

# DI 2190 / Solid Digital Modeling

At the end of the course the student will be able to use and assimilate the criteria of use and the tools of parametric modeling of three-dimensional solids, to create detailed models of a product to build their prototype or manufacture it in series

# DI 2210 / Product Development and Study I

Create solutions, focused on problems of use of medium complexity, which require product sets. From the techniques of research, analysis and problem detection, apply them to the design of different configurations of lines, families and sets of products that address various parameters: use, context, brand and market languages.

#### DI 2220 / Product and Distribution

Upon completion of the course, the student will design products focused on logistics systems, designing the packaging according to the structure of the supply chain, considering product costs, packaging and damages.

# DI 2240 / Prototyping Lab

Know and learn about the use and selection of materials, tools and equipment common in the development and development of prototypes, from existing designs and applying the knowledge acquired in the Materials courses.

# DI 2310 / Business Strategies for Designers

The course offers the designer the tools to start his own business. You will know the accounting principles and their application.

# DI 2320 / Industrial Processes and Digital Prototyping Know and understand the parameters and technological

variables and their processes for the transformation of materials in the production of fast and standard production, as well as its manufacturing viability.

# DI 2330 / Product Development and Study II

Create solutions, focused on problems of high complexity use, which require the systematic development of the project. From the techniques of research, analysis and detection of problems, applied to the design of different configurations of systems that address various parameters: use, context, brand and market languages.

# DI 2340 / Industrial Design Seminar

Review the application of the Industrial Design task and its future trends. Provide the tools to identify the present and future trends of Industrial Design for its application in the different types of design project.

# DI 3110 / Introduction to Means of Transport

To learn and apply illustration techniques to visualize their design and development of research systems and communication of ideas to the client. The idea is to develop a vehicle that can somehow increase the excitement we have towards a car or another type of vehicle.

# DI 3120 / Introduction to Consumer Goods and their Life Cycle

At the end of the course the student will be able to use and assimilate the criteria of use and the tools of parametric modeling of three-dimensional solids, to create detailed models of a product to build his prototype or manufacture it in series.

#### DI 3130 / Specialty ILD Study

Enable the student to study and interpret an environment, detect design opportunities and be able to propose design solutions with an argument based on an investigation.

# DI 3140 / General Studies in Industrial Design

The student will know and investigate specific topics, to deepen in some area of industrial design. With the aim of knowing and expanding its range of professional development possibilities.

#### DI 3150 / Introduction to Packaging and Packaging

Analyze the needs of the product, the materials with their properties and transformation processes, to develop and select containers and packaging, and with them satisfy the needs of the client, the manufacturer and the market and ensure the international standards and agreements.

#### DI 3200 / Design of Goods and Trends

Understand and know how to identify the different types and classifications of products and goods in the commercial market, knowing and understanding the characteristics and final results expected by users and consumers of the products in each of their typologies.

# DI 3210 / Commercial Packaging Design

At the end of the course the student will be able to apply methods to develop packaging, packaging, and distribution with characteristics consistent with the sales markets, considering aspects of sustainability, regularizations, standards and certifications that support their success in the market

# DI 3220 / Transportation Design

Apply illustration and representation techniques, using views, freehand sketches to design proposals for transport designs and show the ideas to the client.

DI 3230 / Advanced Industrial Design Study Enable the student to study and interpret an environment, detect design opportunities and be able to propose design solutions with an argument based on an investigation.

# DI 3230 / Advanced Industrial Design Study

Enable the student to study and interpret an environment, detect design opportunities and be able to propose design solutions with an argument based on an investigation.

#### DI 3240 / Select Studies of Industrial Design

The student will know and investigate specific topics, to deepen in some area of industrial design. With the aim of knowing and expanding its range of professional development possibilities

# DI 3310 / Interdisciplinary Design Solutions

Develop projects in conjunction with students from other design programs and value collaborative learning.

#### DI 3320 / Materials Strenght and Simulation

Know and interpret the characteristics of the product or the environment that surround it through specialized software. Be able to analyze the internal and external forces of the product to calculate its resistance.

#### DI 3330 / Design and Merchandising of Goods

Know the tools and processes for the development of new tangible and intangible assets for commercialization.

# DI 3340 / Packaging Design

Apply knowledge and skills in creative study to design new ideas and proposals for packaging designs in both image and structure.

# DI 3350 / Current Industrial Design Studies

The student will know and investigate specific topics, to deepen in some area of industrial design. With the aim of knowing and expanding its range of professional development possibilities.

#### DI 3360 / Manufacture of 3D Transportation Models

Develop skills to make HD mock-ups through base preparation, 3D sketching, making fiberglass molds, for the creation of model making models

# DI 4110 / Industrial Design Internship Program

Apply in the field of real work the criteria, knowledge and responsibilities, trained and acquired through the study of the career.

# DI 4220 / Industrial Design Final Evaluation Program

The student is trained to practice his profession. To achieve this, the student is exposed to models of situations he has to face in his professional life.

	FIRST	SECOND	THIRD	FOURTH	FIFTH	SIXTH	SEVENTH	EIGHT	NINETH
DESIGN STUDIES AND CREATIVITY	DI1100 12 Conceptual and Morphological Studies I	DI1260 12 Conceptual and Morphological Studies II	DI1310 12 Creativity Workshop I	DI2150 12 Creativity Workshop II	DI2210 12 Product Development and Study I	DI2330 12 Product Development and Study II	DI3230 12 Advanced Industrial Design Studio Course	DI3130 12 Industrial Design Specialty Course	DI4220 12 Industrial Design Final Evaluation Program
DESIGN CULTURE, OF THE USER AND THE ENVIRONMENT	DI1150 6 Introduction to Industrial Design	DI1240 6 Anthropometry and Ergonomics		DI2310 6 Business Strategies for Designers	DI2110 6 Theory of Sustainable Design	LI3090 6 Design Philosophy	DI3310 6 Soluciones Interdisiplinarias de Diseño	DI4110 6 Industrial Design Internship Program	
2D AND 3D REPRESENTATION	AA1211 6 Life Drawing and the Human Figure	DI1220 3 Product Representation I	DI1340 3 Product Representation II	DI1120 6 Effective Project Presentations	DI2220 6 Product and Distribution	DI2340 6 Industrial Design Seminar	Elective General Studies	Elective General Studies	AD1200 6 Leadership in Organizations
TECHNOLOGICAL TOOLS	DI1210 3 Geometría Constructiva	LI1040 6 Fundamentals of Digital Media	LI2030 6 Processing and Manufacturing of Polymers	DI2180 6 Digital Surface Modeling	DI2120 6 Parametric Modeling	DI3320 6 Materials Strenght and Simulation	Elective General Studies		HU1010 6 Global Competitions
MATERIALS AND PROCESS	DI1130 6 Proc. and Manuf. Wood and Its Derivatives	DI1230 6 Proc. and Manuf. of Ceramic Materials	DI1330 6 Processing and Manufacturing of Metals	DI2130 6 Processing and Manufacturing of Polymers	DI2240 3 Prototyping Lab	DI2320 6 Ind. Processes and Digital Prototyping	Professional General Studies	Professional General Studies	
LOGIC AND EXACT SCIENCES	FM1045 6 Mathematics for Arch. and Design	DI1250 Technical Drawing	FM1100 6 Interpretation of Statistical Information	DI2160 6 Functions and Procedures	ID1500 6 Academic Writing	Professional General Studies	HU1005 6 Social Thinking of the Church	HU1015 6 Comparative International Contexts	
CONCENTRATION AND OPTIONAL	TOEFL			THREE CONCENTRATIONS  GOODS - ACCESSORIES, — PRODUCTS AND MACHINES - MEANS OF TRANSPORT -		DI3150 6 Introduction to Packaging	DI3210 6 Des. of Comm. Packaging	DI3340 6 Packaging Design	
MANDATORY GENERAL STUDIES						DI3110 6 Intro. to Means of Transport	DI3220 6 Transport Design	DI3360 6 3D Model Making - Transport	
COMMON COURSES AT (36 CREDITS) COMMON COURSES BT (258 CREDITS)				PACKAGING - COMMERCIAL AND FOR DISTRIBUTOR		DI3120 6 Intro. to Cons. Goods-Life Cycle	DI3200 6 Design of Goods and Trends	DI3330 6 Design and Merch. of Goods	
ELECTIVE COURSES B2 (18 CREDITS) COURSES ANOTHER DISCIPLINE A3 (6 CREDITS) PRACTICAL AND EVALUATION						DI3110 6 General Est. of LDI	DI3240 6 Selected Est. of LDI	DI3350 6 Current Est. of LDI	
COURSES C (18 CREDITS)	Induction Seminar	Co-Curricular	Co-Curricular	Co-Curricular	Social Training Workshop	Co-Curricular			
	39 CREDITS	36 CREDITS	33 CREDITS	42 CREDITS	39 CREDITS	42 CREDITS	42 CREDITS	36 CREDITS	24 CREDITS