

LEVEL 100-1

Name: Art and Technology Course Number: ARTG 2024

Specific course information: This basic course presents the relationship between art and technology; on how the technologies of the different eras allowed the birth of new artistic expressions. It ranges from the historical antecedents of classical art, its evolution and direct link with design, technology and digital, to the conception of art in motion and audiovisuals. Finally, it is recognized and experimented with various creative processes linked to the aesthetic generation. This course aims to promote the student in a participatory and constructive criticism, which encourages the formation of principles in relation to artistic trends and the creation of creative proposals.

Name: Problem Solving Course number: INDG1033

Specific course information: In this course, students apply the Design Thinking methodology to identify, analyze real-life problems or needs, to design innovative solutions. Students work in multidisciplinary teams to present solution proposals that add value to customers/users from private companies, public organizations and non-profit organizations.

Name: Mathematics

Course number: MATG2009

Specific course information: This is a basic subject which is part of the transversal axis of the Product Design, Graphic Design and Production for Media careers. It is a first-year course in the curriculum and it is conceived as an introduction to mathematics, providing notions of elementary algebra, geometry and trigonometry in the study of the design, production and appreciation of artistic pieces.

Name: Drawing I

Course number: ARTG2025

Specific course information: This subject of basic training allows the understanding of the bases of technical drawing, the recognition of geometric shapes reaching basic geometry and the systems of dihedral and axonometric representation. The planes, their elements in projections and perspective are analyzed. Specific images are made of elements that signify and / or objectively communicate issues related to graphic design, audiovisual production and product design.

Name: English I

Course number: IDIG1006

Specific course information: This subject of basic training and general education presents the grammatical structures for the production of a simple paragraph, through the development of the writing program in a transversal way. In addition, it allows the identification of specific arguments in oral and written communication, considering issuing one's own criteria on different topics of a social, academic or professional nature. It also applies the vocabulary needed to make



comparisons between the past and the present, describe books or movies, make simple student profiles, give opinions about inventions, make formal apologies, and recount past events.

LEVEL 100-2

Name: History of Industrial Design Course Number: DING2031

Specific course information: The subject belongs to the professional curricular organization unit and is aimed at Product Design students. It presents the evolution of designed products, from the s. XVIII to the present (it could also be said in contemporary times or in contemporaneity, from the Industrial Revolution...), through the relationship between art, design, and crafts. The most influential currents and designers, and iconic products from different times and countries, which gave rise to various approaches, process solutions and products, are analyzed, establishing the profile of the industrial designer.

Name: Design Theory Course Number: DING2043

Specific course information: Students will learn about the basic processes to generate an object, addressing two-dimensional composition, sketch techniques, prototyping, and how to build a portfolio throughout the course. In the process, we work with observation techniques, interpretation of forms, the elaboration of sketches and initial prototypes.

Name: General Physics Course Number: FISG 2002

Specific course information: This subject is basic training and is aimed at students of the careers of Product Design and Biology. In this course, concepts about physics are taught with the use of basic mathematics, focusing on the explanation of phenomenology and relying on practical demonstrations. It has an initial stage where students are induced to the fundamental concepts of physics, using classes, documentaries and laboratory practices; and, a final stage where a project is carried out, which connects physics with its professional areas.

Name: Programming Fundamentals Course number: CCPG1043

Specific course information: The course presents students with strategies to solve common problems in various professional fields through the design and implementation of solutions based on the use of a programming language. It covers the basic principles so that the student can read and write programs; emphasizing the design and analysis of algorithms. In addition, it introduces students to the use of development and debugging tools.

Name: Drawing II

Course number: ARTG2026

Specific course information: This is a professional training course for the careers of Graphic Design, Product Design and Media Production. It offers an approach to academic drawing as a tool for reflection and construction, focusing on observation, visual analysis, and synthesis of the environment. Different aspects of drawing are studied, such as volume, composition, and the human figure, at rest and in movement. Drawing is applied in its analytical and expressive variants using line and shade.

Name: English II

Course number: IDIG1007

Specific course information: This subject of basic training and general education presents the grammatical structures to produce an academic paragraph, through the development of the writing program in a transversal way. In addition, it allows the identification of specific arguments in oral or written communication, considering issuing one's own criteria on different issues of a social, academic or professional nature. It also applies the vocabulary needed to refer to different forms of communication, share work experiences and the use of digital technology, tell short stories about interpersonal relationships and personalities, and give an opinion on the future of the environment.



LEVEL 200-1

Name: Product Design I
Course Number: DING2023

Specific course information: This professional training subject focuses on the analysis of user behavior and decisions, through reflective dialogues in classes, interviews with professionals and research. It begins with a view to cultural anthropology and the historiography of design, in order to connect symbolic and experiential representations with design, and consequently with consumption. Products and techniques that have changed the habits or behaviors of the human being are analyzed, through the comparison of mental models of previous and current decades. It discusses environmental and use aspects that are related to the user's decision making. During the subject, various research tools and methodologies will be used for the development of tasks and the mentioned analyses.

Name: Design Workshop I Course Number: DING2039

Specific course information: This professional training subject addresses the analysis and creation of shapes, their meaning, and their relationship with product design through the exploration of materials that are easily manipulated such as paper and cardboard, among others. Space and three-dimensional shapes are experimented with to create volumetric elements capable of transmitting functionality and contextual messages. The module works in workshops with the use of several basic tools.

Name: Materials and Manufacturing I

Course Number: DING2033

Specific course information: This theoretical/practical vocational training course addresses the different types of technological materials used in product design, with a historical review of their development and impact worldwide. Provides guidance on the origin and extraction processes of materials from their natural or mineral state as raw material. The behavior of materials is analyzed based on their properties and structure according to the transformation processes used. The study covers ferrous and non-ferrous metallic materials, thermoplastic, thermosetting and elastomeric polymers, ceramics, glass, wood, fibers (textiles, animal, vegetable and synthetic), cellulosic (paper, cardboard) and composite materials. Technical, aesthetic, and environmental aspects are analyzed. The course ends with material selection criteria applicable to product design. The subject is complemented with laboratory tests.

Name: Estructures and Mechanisms I Course Number: DING2029

Specific course information: This professional training course introduces the concepts of mechanical analysis of bodies in static equilibrium, providing the student with a solid base of knowledge about the effects of the forces that can act on these bodies. It will start with an overview of the definition and functions of a structure, as well as the most common types of structure and their characteristics. Quantitative analysis of balanced systems in 2 and 3 dimensions will be carried out, starting with particles and then moving to rigid bodies. For rigid bodies, support points and connections of these will be considered. Subsequently, calculations are made of the effects of internal external forces on structures, including distributed forces, centers of gravity and stresses to which they are subjected.

Name: Statistics

Course number: ESTG2004

Specific course information: The Statistics course provides students with the basic knowledge that will help them convert a data set into useful information for making decisions in scenarios of uncertainty. It encompasses different methods of tabulation and data analysis, the introduction of the concept of probability as a measure of uncertainty and mathematical models of discrete and continuous random variables. Additionally, analysis techniques such as regression and hypothesis testing of population parameters are included.

Name: English III

Course number: IDIG1008

Specific course information: This basic training and general education subject present grammatical topics for the elaboration of an outline and a structured composition, through the development of the writing program in a transversal way. In addition, it allows the identification of arguments in verbal and written communication on contemporary and academic issues. Additionally, appropriate vocabulary is applied to discuss issues related to different cultures, places where we live, daily news, entertainment media, and past and future opportunities.



LEVEL 200-2

Name: Communication (spanish)
Course number: IDIG2012

Specific course information: These subject studies the structuring of the academic prosumer profile of students that must be consolidated throughout the life of each subject, based on the processing of complex, holistic and critical thinking, seeking the understanding and production of academic knowledge, from the rigorous analysis of realities and readings of various academic / scientific sources.

Name: Product Design II Course Number: DING2024

Specific course information: This professional training subject of the Product Design career focuses on the process of developing industrial production products. It begins with the classification and analysis of the life cycle of a product for the integral understanding of the challenges involved in its development at a professional and productive level. Strategies for identifying needs that respond to market trends and customer requirements are reviewed to carry out a process of generation and selection of proposals. Subsequently, concepts of architecture and modularity that influence the definition of the specifications of a product at a detailed level and the key considerations for the realization of an industrial prototyping are reviewed. Finally, economic and feasibility aspects are reviewed, reflecting on the importance and impact that this has on industry and society.

Name: Design Workshop II Course Number: DING2040

Specific course information: This subject of theoretical/practical professional training of the Product Design career deals with the construction of models and prototypes with various materials, such as metal, wood, and ceramics. It starts with understanding the different types of workshops and their safety requirements. The student is familiarized with the work environment and the correct interaction with tools and possible machines, and the use of personal protection implements according to the activity to be carried out. The materials are analyzed in a theoretical and practical way, to know and understand the characteristics, which will influence the techniques and technologies required for their transformation into products. Finally, simple models and prototypes are built with the materials, considering the desired final finishes.

Name: Materials and Manufacturing II

Course Number: DING2034

Specific course information: This theoretical/practical professional training subject of the Product Design career addresses the processes of transformation and industrial manufacturing, which can be considered for designing a product or prototypes made from raw materials for technological and engineering use. Fundamental concepts about clean and sustainable manufacturing are introduced with criteria for handling recyclable materials without affecting the environment and society. Different manufacturing processes are analyzed, and emphasis is placed on the fundamental criteria for the manufacture of a product based on its properties, structure and durability or useful life. Laboratory practices focused on the processing of different materials and analysis of the properties of the products obtained are carried out.

Name: Marketing Fundamentals Course Number: ADMG2030

Specific course information: Marketing Fundamentals is a mid-level subject of the Business Administration career, to which the student arrives with the ability to understand the consumer from a microeconomic perspective, as well as knowing the forces of the environment that influence their consumption decisions. Therefore, to complement the existing knowledge of the students, this subject focuses on the link between the consumer and the company, from a relational perspective. The process for the generation of value, for the consumer and for the company is studied through actions and strategies of product, price, place and promotion. The focus of the subject is theoretical-practical, with emphasis on the analysis of problems of local companies using cases and market data.

Name: Digital Design

Course Number: DING2027

Specific course information: This professional training subject of the Product Design career delves into sketching and technical drawing techniques to be applied in the construction of parts, products, structures, and spaces. The standards and requirements established for different industrial applications such as architecture, design and engineering, consi-



dered in real projects of preparation of plans, are reviewed. Students are guided to use the plans made as communication and planning tool regarding the use and exploitation of resources. Computer drawing is also introduced to develop two-dimensional blueprints and three-dimensional figures that contribute to the creation of objects and systems.

Name: English IV

Course number: IDIG1009

Specific course information: This subject of basic training and general education presents the grammatical structures to produce a persuasive essay, through the development of the writing program in a transversal way. In addition, it allows the identification of specific arguments in oral or written communication considering one's own criteria on different topics of a social, academic or professional nature. It also applies the vocabulary necessary to engage in discussions, relate environmental situations and activities to achieve goals, perform analysis of cause, effect, and personal and professional opportunities.

LEVEL 300-1

Name: Entrepreneurship and Innovation

Course number: ADMG1005

Specific course information: This transversal course addresses the conditions required to innovate and the process associated with developing an innovation from an entrepreneurial point of view. Subsequently, topics such as the identification of opportunities, value creation, and prototyping and validation of products/services proposals are reviewed, as well as the elements of the business model and financial considerations that are essential for the feasibility and adoption of an innovation. Finally, entrepreneurial competences and process associated with the development and adoption of an innovation are studied.

Nombre: Ergonomics Código: DING2028

Descripción de la Asignatura: This subject of professional training, of the Product Design career, is focused on the analysis and application of ergonomic principles for product development, with emphasis on user experience. The fundamental concepts of ergonomics and their historical importance are studied, considering the effects on the health of users. It is sought that students understand the different risks that exist in the work environment and in the actions of daily life. For this, emphasis is placed on anthropometric study and the usability experience, both in the design of digital and physical interfaces.

Name: Design Workshop III
Course Number: DING2041

Specific course information: This subject of theoretical / practical professional training of the Product Design career addresses the design of modular products in different contexts with different approaches and approaches taking advantage of their benefits and complements it with the learning and handling of standardized production materials and their restrictions. The student receives technical information and experiments with some materials and surface finishes and physical and thermal treatments for the preparation of materials in the elaboration of prototypes or decoration. Special emphasis is placed on the use of metal as it is a versatile material for the creation of products and structures. Finally, techniques are taught for the representation of models and physical prototypes of their designs, using materials such as metal, ceramic, paper, cardboard, synthetic woods, or foams.

Name: Estructures and Mechanisms II
Course Number: DING2030

Specific course information: This professional training course of the Product Design career introduces the basic concepts related to the study of mechanisms and types of motion transmission. It will begin with the study of the basic concepts of mechanism kinematics, and then move on to the basic characteristics of machines and mechanisms. Graphical linkage synthesis will be performed as a method of fundamentally understanding how mechanisms work. Different types of mechanisms are analyzed, emphasizing those of transmission and transformation of movement. Throughout the course, the application of the mechanisms studied in various contexts will be analyzed, for the subsequent design and prototyping of products with moving elements.



Name: Three-Dimensional Design Course Number: DING2036

Specific course information: This training subject of the Product Design career delves into three-dimensional modeling techniques to be applied in the construction of parts, products, and spaces. The standards and requirements established for different applications in design and engineering are reviewed, considered in real projects of elaboration of pieces and plans. Students are guided to use the plans made as a communication and planning tool regarding the use and exploitation of resources. It also delves into digital modeling to develop three-dimensional figures of high graphic quality, which contribute to the presentation of different products in environments of use.

Name: English V

Course number: IDIG1010

Specific course information: This subject of basic training and general education presents the necessary structures to produce a persuasive essay, through the development of the writing program in a transversal way. It also allows the identification of specific arguments both in oral and written communication, in order to issue their own criteria on social, academic or professional issues. It also applies the vocabulary needed to engage in discussions about choices to make, changes in daily life and home, financial problems as well as moral dilemmas and achievements made over the course of your personal, student and professional life.

LEVEL 300-2

Name: Sustainability Science Course number: ADSG1026

Specific course information: This transversal training course for all students of the institution has five chapters. It introduces the key principles of sustainability and the path to sustainable development. Addresses ecological principles by deepen into biodiversity, ecosystems, human population and ecosystem services. Study the fundamentals of renewable and non-renewable resources as well as the alternatives for sustainable use. Analyzes environmental quality specifically in the air, water and soil components, delving into issues such as climate change, eutrophication and deforestation. Finally, it emphasizes on the economic axis with topics such as circular economy and on the social axis on topics such as governance and urban planning.

Name: Product Design III (english)
Course Number: DING2025

Specific course information: This course, corresponding to the professional training in Product Design, presents a holistic study of the core concepts of universal design, shifting the view from a set of specifications of accessibility to a design approach that includes as many users as possible. The course starts with the study of the spectrum of human abilities and the factors leading to it in a process that seeks to develop a high level of empathy and a new perspective of how design has shaped this reality. This is followed by an analysis of the evolution and general context of Universal Design, including aspects like changing demographics, markets, economics, technologies, and social impact. The course will study the universal design principles, exploring methods and tools to evaluate the inclusivity levels of products, environments, and systems. Finally, special applications of universal design guidelines will be revised, including transgenerational design, supportive technology, and spatial design.

Name: Design Workshop IV Course Number: DING2042

Specific course information: This subject of theoretical / practical professional training of the Product Design career addresses the development of products using electronics for human interaction. It begins with the relevance on the impact of technology on society, then laws and statements are presented that allow the design of analog and digital electronic systems for the development of embedded systems in traditional products and finally explains the technological trends today and how to incorporate them into the products following the requirements of the end user with programming, simulation, implementation and human-machine interaction using free mobile and web applications. Finally, the different commercial applications and trends in the industry for the manufacture of products are studied.

Name: Materials and Manufacturing III

Course Number: DING2035

Specific course information: This subject of theoretical / practical professional training of the Product Design career



addresses the use of materials and manufacturing processes at different scales of production. Initially, the life cycle of the products is analyzed in relation to their use and impact on the environment. Knowledge is imparted in a multidisciplinary way from the point of view of manufacturing engineering, materials study, quality control and cost analysis. Theoretical concepts are studied through the analysis of real local or external cases that include different scales of production. The subject is concluded with criteria for selection of materials and appropriate manufacturing processes according to the specific circumstances of each product.

Name: Design Research
Course number: DIGG2041

Specific course information: This vocal training subject addresses general research studies, from the philosophical and scientific point of view, and its application in the Design and Visual Communication area. It starts with an introduction to the research from its starting point concepts, types, and contexts. It continues with discussions around the resources and structure of research. Then addresses the different aspects of research methodologies and their approach to design. Finally, it focusses on the processes of data recollection, analysis, and discussion of results applied to practical research cases on selected topics under the paradigms "For - About - Through" the design. The selected themes are developed in stages from the first sessions of the subject until formalizing the presentation and discussion of its results in a documented manner.

LEVEL 400-1

Name: Product Design IV Course Number: DING2026

Specific course information: This subject of professional training of the Product Design career addresses as a model the natural world to apply its properties, forms and behaviors in the design of products. The characteristics of plants, animals and the ecosystem in general will be analyzed, as inspiration and example of functionality in various topics, seeking in turn sustainable design from various points of view such as: technological, social, environmental and design. The effects of the development of new products throughout their life cycle are analyzed, in search of practical applications and responsible decisions with the environment and responding to the needs of niche markets.

Name: Portafolio

Course Number: DING2037

Specific course information: This subject of professional training of the career of Product Design presents the fundamentals of creating an engaging showcase for professional use and personal promotion in the industry. Concepts of personal identity and personal branding will be introduced to develop a visible participation in projects. Additionally, the product design industry will be analyzed. Methods and techniques are known through the application of research processes are used for the development of the acquired skills. Furthermore, students will create a personal product portfolio in different digital platforms by taking in consideration specialized social media, printed materials, and personal presentation.

Name: Advanced Prototyping Course Number: DING2038

Specific course information: This subject of theoretical / practical professional training of the Product Design career addresses the different requirements in the process of prototyping products, going through phases that include the realization of 3d digital models, scale models, to the realization of a life-size model of the product with artisanal techniques and through rapid prototyping technologies using computer-aided production equipment (CAM). The aim is to understand the steps that lead to the creative result, focusing attention on the best design decision for serial production. In addition, reference will be made to the difference between seriality and personalization of products and how this can influence the value perceived by the user.

Name: Strategic Design Course number: DIGG2028

Specific course information: This professional training course of the Graphic Design career develops the vision of design from a systemic approach to the product, service and communication. It begins by laying the foundations of the system-product methodology together with the management of strategic business tools; those that will be used in



a practical case of the local context, which will finally lead to the formulation of a strategic design project that adds value to the company.

Name: Design Management Course number: ECOG2041

Specific course information: This subject of professional training, corresponding to the career of graphic design, develops the study of design management. It begins with the stage of the conception of projects and design initiatives; the needs of the clients and the search for solutions are determined, which will be paid for and budgeted until the formulation of a commercial proposal. Finally, in the stage of project management and presentation of results, the planning of activities, distribution and administration of material and financial resources are considered, using word processing tools, spreadsheets and planning.

LEVEL 400-2

Name: Product Design Capstone Course number: DING2032

Specific course information: This is a degree course of the Product Design career, in which a project is carried out where the application of the declared profiles in your career is evidenced, creativity, organization and relevance processes are developed that involve a professional design experience. In the first part of the course, the needs of the client/user/public are identified, the problem/opportunity is defined, data is collected, and critical factors are analyzed. In the second part, alternative solutions are created framed in the regulations and restrictions of each user. It concludes with the design and elaboration of prototypes, analysis and validation of results.

COMPLEMENTARY COURSES

Art, sport and languages

LEVEL 100-1 and 100-2

Name: Dance

Course number: ARTG2018

Specific course information: The course deals with general knowledge about the history of dance from prehistoric times in the East and West to the XXI century in Ecuador. It studies improvisation in dance, reviewing dance concepts and structures. It also deals with the processes and techniques of choreographic production, theory on the construction of the character, as well as the techniques for the creation and scenic interpretation.

Name: Film Appreciation Course number: ARTG2035

Specific course information: This complementary training course is aimed at all students of the institution of any level and any career. It focuses on the interdisciplinary analysis of international art films (not commercial films), gathering artistic, cultural, sociological, psychological, and technical approaches in order to better understand and interpret these films. Students will be required to read texts and articles about the films and write papers analyzing both the plot and the various areas of cinematic language of the films, in order to develop their knowledge and aesthetic sensitivity to art cinema.

Name: Artistic Drawing Course number: ARTG2037

Specific course information: This complementary course offers an approach to academic drawing as a tool for reflection and construction, focused on observation, visual analysis and synthesis of the environment in which different aspects of drawing are studied, such as volume, composition, visual analysis and the human figure, both at rest and in movement. Drawing is applied in its analytical and expressive variants through the use of line and stain.

Name: Corporal Expression Course number: ARTG2038

Specific course information: In this course, non-verbal communication is studied, emphasizing the communication process of emotions: body-mind. Discovering, enhancing and taking advantage of physical resources in the theatrical process. It introduces the practice of interpretive reading, text and subtext management, fundamental tools in the mastery of the playwright's work.

Name: Photography

Course number: ARTG2039

Specific course information: This is a complementary subject oriented to the study of the history of photography, the main photographers, the handling of the camera, composition and illumination and finally the realization of images with technical criteria.

Name: Latin American Folk Music Course number: ARTG2040

Specific course information: This theoretical-practical course of complementary basic training studies the musical genres and instrumentation used to sing the different Latin American melodies and rhythms. It introduces the instrumental practice by applying techniques of execution and intonation of traditional songs played with guitar, charango, güiro, Peruvian cajón, bombo, melodica, quena and zampoña; where the melodic rhythmic reading is fundamental for the intonation of some songs of Latin American folklore.

Name: Contemporary Popular Music

Course number: ARTG2041

Specific course information: This is a theoretical and practical course that deals with the importance of Ecuadorian music as part of the national identity. It analyzes the characteristics of music throughout the history of mankind, placing it in an important place from the cultural perspective of the people due to its social influence. During the course there



are expositions of the cultural and traditional elements that become the environment of music as a cultural fact. Students experience firsthand emotions that are experienced when attending concerts of different musical genres, to then be able to express them through the interpretation of contemporary music, in a large final project, using musical instruments and their voices.

Name: Painting

Course number: ARTG2042

Specific course information: In this complementary training course, students experiment with different techniques of pictorial creation, mainly in water-soluble materials such as watercolor/acrylic. In the first units, the fundamental concepts for visual production are approached in a practical way, such as color theory and composition exercises. In addition, a more personal search is carried out for experimentation of styles and defense of concepts to graphic proposals that demonstrate the development of an own visual language.

Name: Performance

Course number: ARTG2044

Specific course information: This course studies acting in its various types and genres of application. It introduces acting from the theoretical framework and stage practice. It works on the development of body skills and abilities, as well as the intellectual strengthening through the application of techniques and resources consecrated in the disciplines that integrate its universe in the artistic-acting formative process.

Name: Music Appreciation Course number: ARTG 2045

Specific course information: This course, of complementary formation of the Media Production career, develops the aesthetic sense of musical styles, the structure and origin of their genres and the influence of folkloric traditions, in the historical processes during the musical development in general.



ITINFRARIES

LEVEL 400-1

Name: Branding and Packaging Basics

Course Number: DING2046

Specific course information: This subject of the Branding and Packaging Itinerary for the Product Design career introduces students to packaging design as an strategic element of communication and interaction of a brand. Initially, trademark concepts are introduced to understand the different categories and requirements according to the different markets. The design and research process for the conceptualization and generation of brands and packaging are explained. Different techniques are applied for the generation of a graphic-conceptual identity and its communication elements. Finally, we proceed to the design of a visual and narrative system based on packaging, focused on the generation of consumer experiences.

LEVEL 400-2

Name: Visual Merchandising and Packaging

Course Number: DING2047

Specific course information: The subject of the Branding and Packaging Itinerary for the Product Design career guides students towards the production of elements of exhibition, contact and sale of brands and their products. Initially, the different principles for the development of visual merchandising in different distribution channels and interaction with people are presented. The components required by a packaging or product for optimal display in an indoor environment or its projection to the exterior of a commercial space are studied. The different types of exhibitors are explained according to their visibility needs and the techniques for their conceptualization, design and elaboration. Finally, the key factors for the design of shop windows from their different physical and communicational elements are explained.