

Industrial Design (IDES)

School of Industrial Design
Faculty of Engineering and Design

IDES 1000 [0.5 credit] (formerly 85.100*)

Intro. to Industrial Design

The theoretical background of industrial design: definitions of design and industrial design; its nature and its history; aspects of manufactured objects; design methods; design management in industry; professional practice and industrial design promotion, nationally and internationally. (Also listed as ARCH 2006.)

Lectures three hours a week.

IDES 1001 [0.5 credit] (formerly 85.101*)

Industrial Design Analysis

Various aspects of industrial design practice, including: the principles of product analysis; the object/context relationship; the role of the manufactured object; and design analysis from the perspective of the user, the maker and the designer. (Also listed as ARCH 2101.)

Prerequisite: IDES 1000 (ARCH 2006).

Lectures three hours a week.

IDES 1300 [0.5 credit] (formerly 85.130*)

Projects IA

An introduction to the techniques of industrial design including drawing and sketching as an aid to design, basics of line and shape, ideation and visualization, product drawing, presentation techniques, laboratory equipment and practices, introduction to the design process.

Prerequisite: IDES 1000 (may be taken concurrently).

Lectures and tutorials two hours a week, studio four hours a week.

IDES 1301 [0.5 credit] (formerly 85.131*)

Projects IB

Further aspects of industrial design theory and practice, more specifically those dealing with principles of product development and fundamentals of form and colour; case studies. Emphasis is on creative problem-solving techniques and application of visual communication techniques in design; introduction to fundamentals of photography.

Prerequisite: IDES 1300.

Lectures and tutorials two hours a week, studio four hours a week.

IDES 2101 [0.5 credit] (formerly 85.211*)

Mass Production Technology A

Transformation techniques applied to manufacturing materials. Part-design requirements and cost factors for manufacturing processes. In uences and role of assembly, finishing, production tooling, and costing.

Precludes additional credit for IDES 2100.

Prerequisites: IDES 1000, IDES 1300.

Lecture and tutorials three hours a week, laboratory three hours a week.

IDES 2102 [0.5 credit] (formerly 85.212*)

Mass Production Technology B

Continuation of IDES 2101*. Transformation techniques applied to manufacturing materials. Part-design requirements and cost factors for manufacturing processes. The in uences and role of assembly, finishing, production tooling, costing are addressed.

Precludes additional credit for IDES 2100.

Prerequisite: IDES 2101 or permission of the School.

Lecture and tutorials three hours a week, laboratory three hours a week.

IDES 2105 [0.5 credit] (formerly 85.215*)

Computer Applications

Provides industrial design students with a working knowledge of computers and their applications. Topics covered include computer fundamentals and the use of application packages in design. Sample applications may include text/word processors, graphics manipulation, authoring software,

computer-aided design and 3-D modellers. Precludes additional credit for COMP 1004.

Prerequisite: IDES 1301.

Lecture and tutorials three hours a week.

IDES 2106 [0.5 credit] (formerly 85.216*)

Introduction to Multimedia

Analogue and digital systems and graphic processes used in the making of images. Fundamentals of still photography and videography combined with current computer technologies in the application of visual communication techniques.

Lectures three hours a week, laboratory three hours a week.

IDES 2203 [0.5 credit] (formerly 85.223*)

Form and Colour Fundamentals

The course approaches the phenomena of form and colour systematically by exploring basic elements and principles of design. Form giving properties such as structure, proportion, composition and static and dynamic symmetry are studied. Additional topics include typology of objects, surface transitions, and colour specification.

Prerequisite: IDES 1301 or permission of the School.

Lectures two hours a week, studio four hours a week.

IDES 2300 [0.5 credit] (formerly 85.230*)

Projects IIA

An introduction to the design process and basic principles of design. Topics include: basic design theory and practice, design methodology, problem solving methods, visual communication skills and basic modeling techniques. The design project(s) will relate to the principles covered in the lectures.

Prerequisites: IDES 1001 and IDES 1301, or permission of the School.

Lectures two hours a week, studio four hours a week.

IDES 2302 [0.5 credit] (formerly 85.232*)

Projects IIB

Introduction to the design principles associated with adapting products to an existing product semantic. Topics covered: principles of design, product semantics, design analysis, design synthesis, design evaluation, and modeling techniques. The design project(s) explore some or all of the design principles covered in the lectures.

Prerequisite: IDES 2301; or permission of the School.

Lectures two hours a week, studio four hours a week.

IDES 2401 [0.5 credit] (formerly 85.241*)

Work Term 1

(This course carries a 0.5 option credit)

Prerequisite: registration in the Co-op program of the Bachelor of Industrial Design Program.

IDES 2600 [0.5 credit] (formerly 85.260*)

Ergonomics for Product Design

Physical, biomechanical, environmental and cognitive issues. Displays, controls, workstations, tools and software interfaces are examined from scientific and practical perspectives.

Precludes additional credit for IDES 3600.

Prerequisite: PSYC 1001 and PSYC 1002, or PSYC 1000.

Lectures and discussion three hours a week.

IDES 3102 [0.5 credit] (formerly 85.312*)

Graphics Technology and Design

Techniques and processes used in printing and the relationship of these processes to graphic design. Typeface design and the development of type. Typefaces as exponents of cultural trends. Basic underlying typography and layout in graphic design. Minor graphic design projects.

Prerequisites: IDES 2301 and IDES 2302.

Lectures and tutorials three hours a week.

IDES 3103 [0.5 credit] (formerly 85.313*)

Package Engineering and Design

Processes and materials used in the packaging industry. Principles of package engineering and design for the transportation and distribution of mass-produced products.

Product and brand identification; corporate identity through package design. Minor packaging design projects.
Prerequisites: Third-year registration and IDES 3102.
Lecture and tutorials three hours a week.

IDES 3104 [0.5 credit] (formerly 85.314*)

Exhibition Design

The field of exhibition design is explored through lectures and case studies. Students undertake a preliminary exercise in display and exhibition design prior to the development and implementation of an exhibition; this normally involves the design of the School of Industrial Design's Annual Graduation Exhibition.

Prerequisite: IDES 2300.

Lectures and tutorials three hours a week.

IDES 3201 [0.5 credit] (formerly 85.321*)

Product Communication

The mechanics of communication in general and of communication by means of objects in particular. Analyses of objects and environments with respect to communicative functions.

Prerequisite: third-year registration or permission of the School.

Lecture and tutorials three hours a week.

IDES 3202 [0.5 credit] (formerly 85.322*)

Adv. Studies in Form and Colour

Students may continue the research and study encountered in IDES 2301 and IDES 2302 by doing advanced research in some specific area of the phenomena of form and/or colour. Directed study.

Prerequisites: IDES 2300 and IDES 2302 or permission of the School.

Lecture and tutorials three hours a week.

IDES 3300 [1.0 credit] (formerly 85.330)

Projects IIIA

This course is an introduction to the design principles associated with the evaluation and re-design of an existing product. Topics to be covered include: user/machine relationship, component packaging, and manufacturability. The design project(s) explore some or all of the design principles covered in the lectures.

Prerequisite: IDES 2302 or permission of the School.

Lectures four hours a week, studio eight hours a week.

IDES 3301 [1.0 credit] (formerly 85.331)

Projects IIIB

This course is an introduction to the principles of innovation as found in industrial design. Topics to be covered include: invention, innovation, entrepreneurship, basic mechanisms. The design project(s) explore some or all of the design principles covered in the lectures.

Prerequisite: IDES 3300 or permission of the School.

Lectures four hours a week, studio eight hours a week.

IDES 3305 [0.5 credit] (formerly 85.335*)

IDES 3306 [0.5 credit] (formerly 85.336*)

Special Studies

Special Industrial Design Studies deal with specific projects, which may differ from year to year depending on the availability of specialists in a particular field or study opportunities as they present themselves.

Prerequisite: third- or fourth-year registration, or permission of the School.

Lectures, tutorials and laboratory six hours a week.

IDES 3402 [0.5 credit] (formerly 85.342*)

Work Term 2

(This course carries a 0.5 option credit.)

Prerequisite: registration in the Co-op option of the Bachelor of Industrial Design Program.

IDES 3403 [0.5 credit] (formerly 85.343*)

Work Term 3

(This course carries a 0.5 option credit.)

Prerequisite: registration in the Co-op option of the Bachelor of Industrial Design Program.

IDES 3404 [0.5 credit] (formerly 85.344*)

Work Term 4

Prerequisite: registration in the Co-op option of the Bachelor of Industrial Design Program.

IDES 3405 [0.5 credit] (formerly 85.345*)

Work Term 5

Prerequisite: registration in the Co-op option of the Bachelor of Industrial Design Program.

IDES 3501 [0.5 credit] (formerly 85.351*)

Fine Arts and Design

Cultural subjects from the fields of fine and performing arts. The context and relevance of industrial design as an integral part of our culture. Guest lecturers.

Precludes additional credit for IDES 3500.

Prerequisite: IDES 1000 (ARCH 2006).

Lectures and tutorials three hours a week.

IDES 3502 [0.5 credit] (formerly 85.352*)

Contextual Nature of Products

Cultural subjects which have an influence on contemporary industrial design. The perspective of the course is anthropological: the context and cultural relevance of industrial design.

Precludes additional credit for IDES 3500.

Prerequisite: IDES 1000 (ARCH 2006).

Lectures and tutorials three hours a week.

IDES 3601 [0.5 credit] (formerly 85.361*)

Industrial Design and the User

Design methodology and the value of scientific methods for data collection and decision-making. Techniques such as interviewing, focus groups, usability testing, brainstorming, and value analysis will be covered.

Teamwork techniques and values are considered.

Prerequisite: IDES 2600 (ARCH 2006).

Lectures three hours a week, laboratory three hours a week.

IDES 4000 [0.5 credit] (formerly 85.400*)

Professional Practice

The organizational aspects of consultancies and client responsibilities within the framework of corporate management. Topics include: the form of contracts for consultancy, determination of fees, legal implications, patents and copyrights. Guest lecturers.

Prerequisite: IDES 1000 (ARCH 2006).

Lectures and discussion three hours a week.

IDES 4001 [0.5 credit] (formerly 85.401*)

Industrial Design Seminar

Each year a special topic is chosen to be elaborated on and discussed. The topics deal with problems in the relationship of industrial design to other disciplines or problems regarding the theoretical aspects of industrial design itself.

Prerequisite: registration in fourth-year Industrial Design projects.

Seminar three hours a week.

IDES 4101 [0.5 credit] (formerly 85.411*)

Adv. Studies in Manufacturing

Directed study in the field of manufacturing, centred on such topics as: cost analysis, new materials and processes, computer aided manufacturing, numerically controlled machining, machining of moulds, etc.

Prerequisites: IDES 2101 and IDES 2102.

IDES 4200 [0.5 credit] (formerly 85.420*)

Form Organization

Using form organization as a tool to design, the definition and prescription of monolithic solids by means of an abstract system; making and verifying materialized approximations of such solids.

Prerequisites: IDES 2300 and IDES 2302 or permission of the School.

Lectures, tutorials and laboratory six hours a week.

IDES 4300 [2.0 credits] (formerly 85.430)

Major Project

Application of design principles in a comprehensive design

project. Problem area chosen should be product oriented and of sufficient complexity. Normally undertaken in consultation with off-campus organizations and industry; supervised by faculty members.

Prerequisite: IDES 3301 or permission of the School.

Lectures and tutorials two hours a week, studio ten hours a week.

IDES 4301 [0.5 credit] (formerly 85.431*)

Minor Projects A

Enables students to demonstrate through a series of short projects their versatility in product design or in complementary design fields such as communication, graphic design or design experiments. Emphasis is on time management and the ability to work independently on assigned projects.

Precludes additional credit for IDES 4301.

Prerequisite: IDES 3301 or permission of the School.

Lectures and tutorials two hours a week, studio four hours a week.

IDES 4302 [0.5 credit] (formerly 85.432*)

Minor Projects B

The application of required skills and team work in a comprehensive design project. The subject matter deals with broad issues in design.

Precludes additional credit for IDES 4302.

Prerequisite: IDES 3301 or permission of the School.

Lectures and tutorials two hours a week, studio four hours a week.

IDES 4305 [0.5 credit] (formerly 85.435*)

IDES 4306 [0.5 credit] (formerly 85.436*)

Special Studies

Like the Third-year Special Industrial Design Studies, those of fourth year deal with specific projects, which may differ each year depending on the availability of specialists among the faculty of the School of Industrial Design or on particular opportunities as they present themselves.

Prerequisite: fourth-year registration or permission of the School.

Lectures and tutorials two hours a week, studio four hours a week.

IDES 4400 [0.5 credit] (formerly 85.440*)

Internship Field Report

Work experience related to industrial design. Following the internship period (12 weeks minimum), a comprehensive report describing observations and insights must be submitted by the end of the fourth week of the fall term.

Graded Sat or Uns.

Tutorial hours arranged.

Information Technology (BIT, IMD, NET)

Carleton School of Information Technology
Algonquin College of Applied Arts and
Technology

BIT 1000 [0.5 credit]

Mathematics 1 for NET

Tailored for students in the Network Technology program, this course covers definite and indefinite integrals, differentiation and integration of the elementary functions, techniques and applications of integration.

Lectures three hours a week, tutorial and laboratory one hour a week.

BIT 1001 [0.5 credit]

Mathematics II for NET

Tailored for students in the Network Technology program, this course covers systems of linear equations, vector space of n-tuples, subspaces and bases, matrix transformations, kernel, range, matrix algebra and determinants, inner products and orthogonality, eigenvalues, diagonalization and applications.

Lectures three hours a week, tutorial and laboratory one hour a week.

BIT 1002 [0.5 credit]

Physics I

A calculus-based course covering mechanics, properties of matter, and thermodynamics. The laboratory is an essential and autonomous part of the course.

Lectures three hours a week, tutorial/laboratory three hours a week.

Prerequisites: either Ontario Grade 12 Mathematics: Advanced Functions and Introductory Calculus, or an OAC in Calculus or BIT 1100.

BIT 1003 [0.5 credit]

Physics II

Electricity and magnetism, DC and AC circuits, wave motion and light. Elements of modern physics. The laboratory is an essential and autonomous part of the course.

Lectures three hours a week, tutorial/laboratory three hours a week.

Prerequisite: BIT 1002.

BIT 1004 [0.5 credit]

Introduction to Psychology I

A survey of topics associated with psychology's role as a natural science, including neuroscience, cognition, and learning.

Lecture three hours a week.

BIT 1005 [0.5 credit]

Introduction to Psychology II

A survey of topics associated with psychology's role as a social science, including social psychology, personality and abnormal psychology.

Prerequisite: BIT 1004 or PSYC 1001.

Lecture three hours a week.

BIT 1100 [0.5 credit]

Mathematics 1 for IMD

Tailored for students in the interactive Multi-media Design program, this course covers definite and indefinite integrals, differentiation and integration of the elementary functions, techniques and applications of integration.

Lectures three hours a week, tutorial and laboratory one hour a week.

BIT 1101 [0.5 credit]

Mathematics II for IMD

Tailored for students in the interactive Multi-media Design program, this course covers systems of linear equations, vector space of n-tuples, subspaces and bases, matrix transformations, kernel, range, matrix algebra and