Bachelor of Design (Industrial Design) (DE40)

Year offered: 2010
Admissions: Yes
CRICOS code: 056386C
Course duration (full-time): 4 years
Domestic fees (indicative): 2010: CSP $3,784 (indicative) per semester
International Fees (indicative): 2010: $11,000 (indicative) per semester
Domestic Entry: February
International Entry: February
QTAC code: 412382
Past rank cut-off: 81
Past OP cut-off: 10
OP Guarantee: Yes
Assumed knowledge: English (4, SA)
Preparatory studies: For information on acquiring assumed knowledge visit http://www.student services.qut.edu.au/apply/ug/info/knowledge.jsp
Total credit points: 384
Standard credit points per full-time semester: 48
Course coordinator: Mr Andrew Scott (as of July 2010 - previously Ms Sheona Thomson)
Discipline coordinator: Dr Marianella Chamorro-Koc (as of July 2010 - previously Mr Andrew Scott)
Campus: Gardens Point

Career Outcomes
Industrial designers create and produce commercial and industrial products to improve people’s lives. They make models and prototypes of designs that cover a wide range of manufactured goods from toasters to computer terminals to rapid transport systems. When designing new or improving existing products they must consider factors influencing product design such as useability, costs, materials, technology or environment. They research product usage, make detailed drawings and supervise the construction of prototypes for testing. They mainly work in small business or consulting practices. QUT Industrial Design graduates are working worldwide in places such as the UK, Singapore and France.

Overview
Students in this course develop their capacity to contribute to the design of products and systems for the mutual benefit of users and manufacturers of a wide range of products.

QUT Entry Bonus Scheme
The QUT Entry Bonus Scheme applies to students completing Year 12 or equivalent in 2009 and applying for entry in 2010.

QUT will award two bonus QTAC ranks for students who successfully complete Maths C or LOTE (Language Other Than English) in secondary school and apply to start a Bachelor of Urban Development at QUT in 2010.

QUT will also award one bonus rank to students who, while at school, successfully complete one or more university-level subjects at any Australian university.

Professional Recognition
The Bachelor of Design (Industrial Design) is recognised by DIA (Design Institute of Australia). Graduates of this course are eligible for DIA Membership. Industrial Design QUT is also an Educational member of ICSID (International Council of Societies of Industrial Design).

Second majors and minors
You will be able to select from two 4 unit approved minors or one 8 unit approved second major to enhance and broaden your knowledge in a related field or area of interest. Please refer to the rules at the following location before making your selection:

INDUSTRIAL DESIGN Second Major and Minor Options
Second Major:
A 2nd major from anywhere in QUT.
Minors:
A minor from anywhere in QUT.
Please remember that one minor must be from outside of your course.
(Design students interested in enrolling in the BEE Applications minor, must first consult and obtain approval from the Subject Area Coordinator/Course Coordinator.)

Deferment
QUT allows current Year 12 school leavers to defer their undergraduate admission offer for one year, or for six months if offered mid-year admission, except in courses using specific admission requirements such as questionnaires, folios, auditions, prior study or work experience.

Non-year 12 students may also request to defer their QTAC offer on the basis of demonstrated special circumstances.

Find out more on deferment.

Further Information
The School of Design - Phone +61 7 3138 2626, Fax +61 7 3138 5280, email: bee.enquiries@qut.com

Course structure - Commencing February 2010
### Course Structure - Commencing February 2006 - 2009

#### Year 1 - Semester 1
- **DEB100** Introducing Professional Learning
- **DEB101** Introducing Design
- **DEB102** Introducing Design History
- **DNB101** Industrial Design 1

#### Year 1 - Semester 2
- **DEB200** Introducing Sustainability
- **DEB201** Digital Communication
- **DNB201** Industrial Design 2
- **DNB202** Product Usability

#### Year 2 - Semester 1
- **DNB301** Industrial Design 3
- **DNB302** Computer Aided Industrial Design
- **DNB303** Manufacturing Technology  
  Second Major/Minor unit

#### Year 2 - Semester 2
- **DNB401** Industrial Design 4
- **DNB402** Socio-cultural Studies  
  Second Major/Minor unit  
  Second Major/Minor unit

#### Year 3 - Semester 1
- **DNB501** Industrial Design 5
- **DNB502** Industrial Design History, Theory and Criticism  
  Second Major/Minor unit  
  Second Major/Minor unit

#### Year 3 - Semester 2
- **DEB601** Collaborative Design
- **DNB601** Industrial Design 6
- **DNB602** New Product Development  
  Second Major/Minor unit

#### Year 4 - Semester 1
- **DEB701** Design and Research
- **DNB701** Industrial Design 7
- **DNB702** Human-centred Design Innovation  
  Second Major/Minor unit

#### Year 4 - Semester 2
- **DEB801** Professional Practice
- **DNB801** Research and Innovation 1
- **DNB802** Research and Innovation 2  
  Second Major/Minor unit

### Second Major and Minor Options
Please refer to Second Major and Minor information under Course Summary.

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CRICOS No. 00213J ABN 83 791 724 622
UNIT SYNOPSIS

BEB100 INTRODUCING PROFESSIONAL LEARNING
This unit will introduce students to a range of skills and knowledge sets required to support professional practice in design, engineering and urban development disciplines. It will include information literacy and communication skills and knowledge development. In addition, the unit will provide orientation to design, engineering and urban development professions through an introduction to their history, their place in society, the importance of ethical conduct to their practice and to the particular qualities of professional knowledge especially with regard to practice knowledge. The importance of integrated scholarship and collaborative links with other professions will be highlighted.

Equivalents: BNB007, CNB190, PSB414  
Credit points: 12  
Contact hours: 3 per week  
Campus: Gardens Point

BEB200 INTRODUCING SUSTAINABILITY
This unit will address issues of sustainability from a number of perspectives thus providing students with a variety of lenses on the ways in which the human-made environment impacts on the future of human settlement. The unit will include an introduction to sustainability from a variety of perspectives, including indigenous and other cultural perspectives, and from ecological, economic and technological perspectives. It will demonstrate to students the ways in which contrasting, and sometimes conflicting, ideas about sustainability are prioritised and how these priorities contribute to the impact that design, engineering and urban development professions have on a sustainable future.

Equivalents: PSB422  
Credit points: 12  
Contact hours: 3 per week  
Campus: Gardens Point

DEB102 INTRODUCING DESIGN HISTORY
This unit encompasses a broad survey of the history of design from the civilizations of antiquity to the opening of the 20th century – including architecture, industrial design, interior design and landscape architecture. It is a first year foundation unit and serves as preparation for more detailed and specialized studies in history and theory in subsequent years. Key designs, ideas and artefacts and the aesthetic, environmental, technological, socio-cultural and political factors that related to their production will be analysed.

Equivalents: ADB931  
Credit points: 12  
Contact hours: 3 per week  
Campus: Gardens Point

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DEB200 INTRODUCING SUSTAINABILITY
This unit will enable you as a graduating Built Environment and Engineering professional to take active and positive steps to transform professional practice in ways that promote the sustainability of our planet, our economy and our society. As future professionals in the fields of Design, Urban Development and Engineering Systems, you will need to understand and apply the concepts of sustainability in your professional practice if we are to achieve sustainable development in the 21st Century.

Equivalents: DEB200  Credit points: 12  Campus: Gardens Point  Teaching period: 2010 SEM-2

DEB201 DIGITAL COMMUNICATION
This unit introduces students to the foundational aspects of digital design communication, placing generic design in context and focusing on multidisciplinarity in the stages of the design process. This unit is an approach to the theory and practice of digital media, exploring the translation from manual to digital media in design communication and presentation.

Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

DEB601 COLLABORATIVE DESIGN
The experience of cross-disciplinary design collaboration is considered a significant aspect of the preparation of design students for future professional practice. This unit provides such an experience through a collaborative design studio. Collaboration will be addresses and fostered by students working on a design studio project that facilitates cross-disciplinary collaboration and introduces them to various forms of collaboration. Through the projects student will be exposed to the discourse of design disciplines other than their own while at the same time being able to build on discipline specific skills, knowledge and attitudes.

Assumed knowledge: First and second year DE40 design units is assumed knowledge  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

DEB701 DESIGN AND RESEARCH
This unit is a core unit common to architectural studies, landscape architecture, industrial design and interior design. The unit is project based and introduces students to research methods and methodologies that have relevance in design practice. It also provides a foundation for higher degree research. The content covered in this unit includes:

• philosophical context of research in, and through design
• qualitative research incorporating methodologies and methods of relevance to design
• research rigour and ethics
• developing a research plan
• literature searching and review
• data gathering and analysis

Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

DEB801 PROFESSIONAL PRACTICE
This unit introduces and consolidates key issues in discourses about the design professions: the differences between discipline and professional knowledge, the organisation and roles of the regulatory and professional bodies that govern the professions, the cultural context for contemporary design practice, and the values and attitudes which govern professional practice. Teaching and learning takes place through a variety of structured activities: lectures, tutorials, seminars, workshops and online.

Assumed knowledge: Assumed knowledge is completion of years 1 to 3 of DE40  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

DNB101 INDUSTRIAL DESIGN 1
Industrial design revolves around the creation of products that satisfy human needs within the constraints of industrial and commercial production. This involves the manipulation of form with an understanding of structure, function, and beauty. Through projects students will be exposed to: basic design elements and principles; introduction to product visualisation techniques including concept sketching and marker rendering; design process and concept development; basic model making techniques; design presentation.

Prerequisites: DEB103 or DAB110 or DLB130 or DTB101. DNB103 can be studied in the same teaching period as DEB103.

Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

DNB201 INDUSTRIAL DESIGN 2
This unit continues with the development of visual and creative thinking within the context of industrial design with special emphasis on the development of product form. Through projects students will be exposed to: aesthetic aspects of products; design process and concept development; product visualisation techniques including concept sketching and marker rendering; model making and basic photographic documentation skills; design presentation.

Prerequisites: DNB101  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

DNB202 PRODUCT USABILITY
The professional designer designs principally for others and not primarily by personal preference. Therefore an
understanding of the breadth of physical and cognitive needs and capabilities of people is vital to the development of useable products. This unit provides the basis for a user-centred design philosophy built upon an understanding of people and their capabilities and knowledge and experience to integrate advanced human factors and usability concepts into the industrial design process. The content covered in this unit includes: anthropometrics; principles of physical and cognitive ergonomic requirements of special needs groups; human error; usability principles; usability evaluation methods and user testing techniques.

Prerequisites: DNB101    Equivalents: ADB212    Credit points: 12    Contact hours: 3 per week    Campus: Gardens Point    Teaching period: 2010 SEM-2

DNB301 INDUSTRIAL DESIGN 3
This unit offers creative opportunities to design and develop new and innovative products in the field of industrial design. It uses design research and methodologies found in biomimicry (study of nature’s principles) to inspire new ideas for future (green) markets. It proposes innovative design thinking in keeping with sustainable practices both in the built and natural environments. Analysis of future global markets lead to design projects that engage with issues of context, biometrics, technology and design principle transfers from nature; all form part of the unit content. Learning and teaching activities are spread across lectures, tutorials, workshops and studio based practices.

Prerequisites: DNB101    Equivalents: ADB203    Credit points: 12    Contact hours: 4 per week    Campus: Gardens Point    Teaching period: 2010 SEM-1

DNB302 COMPUTER AIDED INDUSTRIAL DESIGN
Once an Industrial Designer has completed the conceptual design stage of a project the details required for manufacture need to be resolved and prototypes made. It is at this stage that Computer Aided Design (CAD) is used. 3D CAD allows the details of the design to be resolved. Rapid prototypes can be made directly from the CAD data for design testing and verification. Modifications to the CAD data can be made quickly. Once the design is satisfactory, the 3D CAD models can then be used to generate photorealistic images and engineering drawings so that the new product can be manufactured.

Equivalents: ADB245    Credit points: 12    Contact hours: 3 per week    Campus: Gardens Point    Teaching period: 2010 SEM-1

DNB303 MANUFACTURING TECHNOLOGY
Manufacturing technology is integral to industrial design and is a basic knowledge requirement to build upon throughout the course. Design for manufacturing allows both the analysis and application of manufacturing principles to product design and development. The knowledge gained in this unit allows the designer to develop a sound awareness of the relationship between design and manufacturing. The content covered in this unit includes: electronics; plastics; production techniques in relation to different materials; forming; finishing operations; production costs; technical documentation and communication.

Equivalents: ADB233    Credit points: 12    Contact hours: 3 per week    Campus: Gardens Point    Teaching period: 2010 SEM-1

DNB401 INDUSTRIAL DESIGN 4
Industrial design advances design knowledge gained in DNB201 Industrial design 2. The unit introduces how various design processes interact, in complex problems such as sustainable transportation systems. Through collaborative projects students will be exposed to: design research; design innovation; communication skills; integration of design processes, manufacturing technologies and application transfer of design principle mechanisms to solve real world problems.

Prerequisites: DNB201    Equivalents: ADB204    Credit points: 12    Contact hours: 4    Campus: Gardens Point    Teaching period: 2010 SEM-2

DNB402 SOCIO-CULTURAL STUDIES
An understanding of people and their cognitive and emotive relationship with the world is essential for designing responsive products and environments. This unit encourages a diversity of knowledge to gain a broader perspective of cultural economy and understand better the designer’s interaction with society and diverse cultures. The content covered in this unit includes: psychological implications of everyday human-artefact interactivity; environmental and cultural perception; psychological implications and attitudes imbedded in product semantics and symbols; personal space and territoriality; the role of designer in responding to the manifestations and dictates of society including market forces, political determinants and socio-cultural relationships within a modern/post modern context.

Credit points: 12    Contact hours: 3    Campus: Gardens Point    Teaching period: 2010 SEM-2

DNB501 INDUSTRIAL DESIGN 5
Experience design (or design for experience) is a design approach that aims to create appropriate experiences before, during and after product interaction. This unit introduces methods for enhancing the user experience. Through projects students will be exposed to:

- design process and creative thinking
- user-product interaction
- user research and context study
- design narratives
- design ethics and culture

Prerequisites: DNB301    Equivalents: ADB205    Credit
DNB502 INDUSTRIAL DESIGN HISTORY, THEORY AND CRITICISM

This unit provides students with the opportunity to become aware of theoretical and historical discourse in industrial design and to debate innovative and advanced ideas and critical thinking in the field internationally. It provides a framework in which students can locate their individual design activities. The content covered in this unit includes:

• contemporary history of industrial design
• relationship between social and technological change and industrial design
• contemporary design theory and discourse
• criticism methodology
• writing about design
• learning to critique design

Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

DNB601 INDUSTRIAL DESIGN 6

Design for experience focuses design intent not on products as an end in themselves but in the experiences of the people who use them. Going beyond this involves focusing on the emotional aspects of experience. Through projects students will be exposed to:

• design process and creative thinking
• interaction design
• socio-cultural trend analysis
• design narratives
• creativity and product innovation
• interdisciplinary teamwork
• design ethics and culture

Prerequisites: DNB401  Equivalents: ADB206  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

DNB602 NEW PRODUCT DEVELOPMENT

The unit will focus on the introduction of new products into the market. It will provide the students with an overview of the relationship between product design and commercialisation. It will provide an overview of strategy development where the aim is to meet consumer expectations, whilst achieving corporate objectives. The major topics covered in this unit include:

• new product development process
• idea generation
• strategic planning
• introduction to marketing
• product screening and evaluation
• commercialisation and post launch review

Equivalents: ADB235  Credit points: 12  Contact hours: 3 per week  Campus: Gardens Point  Teaching period: 2010 SEM-2

DNB701 INDUSTRIAL DESIGN 7

This unit introduces an advanced product and system design as relevant to industrial design. It provides students knowledge about the various contexts that impact on products – from usability to business to manufacturing. Thought the projects the students will be exposed to:

• advanced design process and creative thinking
• knowledge integration within various contexts
• understanding industrial designer’s role within collaborative projects.

Prerequisites: DNB501  Equivalents: ADB207, ADP207  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

DNB702 HUMAN-CENTRED DESIGN INNOVATION

Human-centred innovation incorporates studies of the dynamic relationships between people, products/artifacts and systems, and their contextual environment. The unit will introduce the ways research about people can contribute to product innovation, an essential aspect of industrial design. It will introduce how to integrate the applied research skills and knowledge that support the development of an innovative product or system. It also provides you with the foundation for higher research degrees. The major topics covered in this unit include:

• human-centred innovation framework
• application of qualitative research methods to industrial design
• situating product/systems within the social framework
• communication of research outcome.

Prerequisites: DNB601  Equivalents: ADP267  Credit points: 12  Contact hours: 4 per week  Campus: Gardens Point  Teaching period: 2010 SEM-1

DNB801 RESEARCH AND INNOVATION 1

Applied research is key component of industrial design: this unit will show you how to apply research outcomes to the design of products and systems and how to lead large projects. It also serves as the foundation for higher research degrees. Your research will be centred on a project you select and you will be responsible for its leadership, in close collaboration with industrial design academic advisers who will guide your progress. The unit is built upon the units Human-centred Design Innovation and Design Research and is corequisite to Research and Innovation 2.

Prerequisites: DNB701 and DNB702  Corequisites: DNB802  Equivalents: ADP268  Credit points: 12  Contact hours: 4  Campus: Gardens Point  Teaching period: 2010 SEM-2

DNB802 RESEARCH AND INNOVATION 2

The aim of this unit is to assist students to integrate the knowledge gained in previous semesters and to learn how to generate relevant, new knowledge to be applied during
the developmental phases of a design project. Through the individual project the students will be exposed to how to:
• apply in depth research outcome to product design
• apply usability testing in the relevant stages of design process
• develop design in collaboration with other relevant professions
• manage large projects
• communicate at a professional level visually, orally and in writing

This unit is corequisite to Research and Innovation 1 and serves as the foundation for higher research degrees. 

Prerequisites: DNB701 and DNB702   Corequisites: DNB801   Equivalents: ADP269   Credit points: 12   Contact hours: 4   Campus: Gardens Point   Teaching period: 2010 SEM-2