Overview

The Computational Design degree is the nexus of architecture and design with engineering and science all through a profound understanding of computing and computation. Computers have infiltrated all aspects of the built environment. Thus the program focuses on applying state of the art thinking in design, architecture and urbanism with theories from engineering and science together with frontier computer skills and digital fabrication technologies. The resulting creative, technical and aesthetic solutions are taught in individual interlinked modules. The degree offers unique skills on the application of digital technologies in the built environment to face the challenges of the 21st century.
**Faculty**  
Faculty of Built Environment

**Campus**  
Kensington

**Study Level**  
Undergraduate

**Typical duration**  
3 Years

**Delivery Mode**  
Face-to-face

**Intake Period**  
Term 1

**Academic Calendar**  
3+ Calendar

**Minimum Units of Credit**  
144

**Award type**  
Bachelors Pass

**Award(s)**  
Bachelor of Computational Design - **BCoDe**

**UAC Code**  
423100

**CRICOS Code**  
061905J
Learning Outcomes

1. Synthesise interdisciplinary knowledge of cultural, natural, and technological systems in local and global contexts.
   Global Citizens

2. Apply interdisciplinary knowledge using computational design thinking and methods to built environment challenges.
   Leaders Scholars

3. Critically analyse complex environmental conditions through digital technologies and computational methods.
   Scholars Leaders

4. Apply computational design knowledge and skills for professional work and, or further learning.
   Professionals Leaders

5. Practice the ethical application of digital and computational technologies in and for the design of the built environment.
   Professionals

Graduate Capabilities:

For more information on Graduate Capabilities, please click on this link.
Program Structure

Students must complete 144 UOC as a standalone program.

Level 1 Core Courses

Students must take 42 UOC of the following courses.

- **BENV1010** | 6 UOC
  Communication in the Built Environment

- **BENV1012** | 6 UOC
  Parametric Design and Digital Fabrication

- **CODE1110** | 6 UOC
  Computational Design Theory 1

- **CODE1161** | 6 UOC
  Design Computing

- **CODE1240** | 6 UOC
  Computational Design 2 (Intermediate)

- **CODE2121** | 6 UOC
  Computational Design 3 (Advanced)

- **CODE2170** | 6 UOC
  Building Information Modelling

Level 2 Core Courses

Students must take 42 UOC of the following courses.

- **CODE1210** | 6 UOC
  Computational Design Theory 2

- **CODE1231** | 6 UOC
Ubiquitous Cities

CODE1234 6 UOC
Urban Data

CODE2120 6 UOC
Building Data

CODE2132 6 UOC
Computational Design Studio IV (Proficiency)

CODE2230 6 UOC
Human Machine Interaction

CODE2250 6 UOC
Advanced Digital Fabrication

CODE2270 6 UOC
Design Information Management

Level 3 Core Courses

Students must take 18 UOC of the following courses.

CODE3100 6 UOC
Digital Collaboration Studio

CODE3201 6 UOC
Graduation Project: Theory

CODE3202 6 UOC
Graduation Project: Practice

BE Interdisciplinary Learning Courses

Students must take at least 12 UOC of the following courses.
<table>
<thead>
<tr>
<th>Code</th>
<th>UOC</th>
<th>Title</th>
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<tbody>
<tr>
<td>BEIL0001</td>
<td>6</td>
<td>Graphic Design for the Built Environment</td>
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<tr>
<td>BEIL0003</td>
<td>6</td>
<td>Built Environment Annual Design Competition</td>
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<td>BEIL0005</td>
<td>6</td>
<td>People, Place and Design</td>
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<tr>
<td>BEIL0006</td>
<td>6</td>
<td>BE OutThere Elective</td>
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<td>BEIL0007</td>
<td>6</td>
<td>Sustainable Design Thinking</td>
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<td>BEIL0008</td>
<td>6</td>
<td>Design Project Management - Vision to Reality</td>
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<td>BEIL0009</td>
<td>6</td>
<td>Exhibition Design: Transforming Temporary Space</td>
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<tr>
<td>BEIL0010</td>
<td>6</td>
<td>Creating Value for Built Environment Clients</td>
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<tr>
<td>BEIL0011</td>
<td>6</td>
<td>Healthy Planning</td>
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<tr>
<td>BEIL0013</td>
<td>6</td>
<td>Architectural Photography</td>
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<td>BEIL0014</td>
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<td>Digital Making</td>
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<td>BEIL0017</td>
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<td>Business Start Up</td>
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<td>BEIL0018</td>
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<td>Kirigami Architectural Principles &amp; Creative Paper Engineering</td>
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<td>BEIL6000</td>
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<td>Mapping Social Justice in the City</td>
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<td>BEIL6001</td>
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<td>International Planning</td>
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<td>BEIL6002</td>
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<td>BEIL6003</td>
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<td>BEIL6005</td>
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<td>BEIL6006</td>
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<td>BEIL6007</td>
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<td>International Study Tour</td>
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<tr>
<td>BEIL6008</td>
<td>6</td>
<td>International Design Studio</td>
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</tbody>
</table>

**Free Electives**

Students must take at least 12 UOC of the following courses.

*any course*

**General Education**

Students must take at least 12 UOC of the following courses.
any General Education course

**Level 3 Maturity Requirements**

Students must complete all courses in each of the first four semesters (Level 1 and Level 2) in sequence prior to enrolment in Level 3.

any level 3 Computational Design course

**Recommended Elective List**

- ARCH1121 Architectural History and Theory 1 (6 UOC)
- ARCH1161 Building Environment 1 (6 UOC)
- ARCH1162 Construction and Structures 1 (6 UOC)
- BENV2001 Emerging Digital Technologies 1 (6 UOC)
- BENV6800 Professional Placement (6 UOC)
- IDES2171 Communication 2: 3D Digital Modelling (6 UOC)
- INTA2002 Interior Architecture Technics 2 (6 UOC)
- LAND2122 History of Landscape Architecture (6UOC)

**Sample Programs**

To access sample program(s), please visit:

[Link to program structure]

**Enrolment Disclaimer**

Unless advised otherwise by your program authority, you should follow the rules for the handbook for the year you commenced your program. You are also responsible for ensuring you enrol in courses according to your program requirements. myUNSW enrolment checks that you have met enrolment requirements such as pre-requisites for individual courses but not that a course will count towards your program requirements.
Admission Requirements

Special Admission Requirements

Additional selection criteria for admission to this program:

- Portfolio
- Interview

UNSW Built Environment recognises that an applicant's academic results may not reflect your potential in creative thinking and making. We have therefore introduced an optional alternative admission scheme to give applicants for our design programs an opportunity to submit a portfolio to be considered in conjunction with their academic achievements. More information about this scheme is available at:

https://www.be.unsw.edu.au/future-students/alternative-admission-scheme

For more information about admission requirements for various UNSW programs, visit the following website(s):

Domestic Students
International Student
Program Requirements

Progression Requirements

Progression rules are in accordance with university policy.

For more information on university policy on progression requirements please visit Academic Progression.
Pathways

Honours Programs

Bachelor of Computational Design (Honours) - **BCoDe (Hons)**

**4523 Computational Design (Honours)**

Faculty: Faculty of Built Environment
Campus: Kensington
Units of Credit: 48
Typical Duration: 1 Years

[Read More]
Professional Outcomes

Career Opportunities

Recognition of Achievement

University Medal

The University Medal is awarded to recognise outstanding academic performance by a bachelor degree student in line with the University Medal Policy and University Medal Procedure.

Award of Pass with Distinction

The Award of Pass with Distinction is awarded when a weighted average mark (WAM) of at least 75% has been achieved and at least 50% of the requirements of the award completed at UNSW. All eligible programs will award Pass with Distinction except in special circumstances where approval of Academic Board has been given for a program to opt out.

For more information, please visit:

Current Students Pass With Distinction
Program Fees

At UNSW fees are generally charged at course level and therefore dependent upon individual enrolment and other factors such as student's residency status. For generic information on fees and additional expenses of UNSW programs, click on one of the following:

Domestic Students
Commonwealth Supported Students
International Students

Additional Expenses

The Faculty provides its students with secure, 24 hour access to computer labs with the hardware and software required to complete the program. Students specialising in Computational Design will find advantage in having a laptop computer capable of running the software used through the degree. For details regarding hardware and or software applications, please contact the Faculty.
Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)

Pre-2019 Handbook Editions