**Innovation & Design Programme**
**NUS College of Design and Engineering**

## Bachelor of Arts (Architecture)
## with Second Major in Innovation & Design

### Cohort AY2024/2025

| Course Requirements | Units |
|---|---|
| **Common Curriculum** | |
| GEA1000 Quantitative Reasoning with Data | 4 |
| GE: Critique and Expression [1] | 4 |
| GE: Cultures and Connections [1] | 4 |
| GE: Communities and Engagement [1] | 4 |
| AR2524 Spatial Computational Thinking | 4 |
| CDE2501 Liveable Cities [2] | 4 |
| CDE2212 Artificial Intelligence for Design | 4 |
| EG1311 Design and Make | 4 |
| IE2141 Systems Thinking and Dynamics | 4 |
| PF1101 Fundamentals of Project Management | 4 |
| AR3102 Design 6 | 8 |
| **Sub-total for Common Curriculum** | **48** |
| **Major Requirements** | |
| AR1101A Design 1 [3] | 8 |
| AR1102 Design 2 | 8 |
| AR2101 Design 3 | 8 |
| AR2102 Design 4 | 8 |
| AR3101 Design 5 | 8 |
| AR1328A Architectural Materials and Construction | 4 |
| AR1329 Climate, Ecology & Architecture [4] | 4 |
| AR2227 History and Theory of Architecture I | 4 |
| AR2228 History and Theory of Architecture II | 4 |
| AR2328A Architectural Tectonics & Structural | 4 |
| AR3223 Introduction to Urbanism | 4 |
| AR3328 Architectural Structures and Forces | 4 |
| AR3722 Sustainable Environmental System | 4 |
| **Sub-total for Major Requirements** | **72** |
| **Unrestricted Electives** | |
| Group A course for Second Major | 4 |
| Group B course for Second Major | 4 |
| Group C courses for Second Major (Innovation & Enterprise electives) | 8 |
| CDE3301 Ideas to Proof-of-Concept (over 2 consecutive semesters) | 12 |
| CDE4301 Innovation & Design Capstone or CDE4301A Ideas to Start-up (over 2 consecutive semesters) | 12 |
| **Sub-total for Unrestricted Electives** | **40** |
| **Total** | **160** |

Notes:

[1]   Students may read equivalent courses in NUS College (NUSC), University Town College Programme (UTCP), and Ridge View Residential Programme (RVRC).

[2]   AR2524 and CDE2501 fulfils Digital Literacy and Singapore Studies, respectively, for Architecture students.

[3]   AR1101A replaces DTK1234 Design Thinking and CDE2000 Creating Narratives in the Common Curriculum.

[4]   AR1329 fulfils the Sustainable Future pillar in the Common Curriculum.

*(updated 31 July 2024)*

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**Recommended semester schedule**

| Semester 1 | Units | Semester 2 | Units |
|---|---|---|---|
| AR1101A Design 1 | 8 | AR1102 Design 2 | 8 |
| GEA1000 Quantitative Reasoning with Data | 4 | AR1328A Architectural Materials and Construction | 4 |
| EG1311 Design & Make | 4 | AR2227 History and Theory of Architecture I | 4 |
| GE | 4 | AR2524 Spatial Computational Thinking | 4 |
| | | Group A/B course for Second Major | 4 |
| **Sub-total** | **20** | **Sub-total** | **24** |

| Semester 3 | Units | Semester 4 | Units |
|---|---|---|---|
| AR2101 Design 3 | 8 | AR2102 Design 4 | 8 |
| AR2228 History and Theory of Architecture II | 4 | AR1329 Climate, Ecology & Architecture | 4 |
| AR2328A Architectural Tectonics & Structural | 4 | IE2141 Systems Thinking & Dynamics | 4 |
| CDE2212 Artificial Intelligence for Design | 4 | CDE3301 Ideas to Proof-of-Concept | 6 |
| Group A/B course for Second Major | 4 | | |
| **Sub-total** | **24** | **Sub-total** | **22** |

| Semester 5 | Units | Semester 6 – can be used for SEP | Units |
|---|---|---|---|
| AR3101 Design 5 | 8 | AR3102 Design 6 | 8 |
| AR3223 Introduction to Urbanism | 4 | AR3722 Sustainable Environmental System | 4 |
| AR3328 Architectural Structures and Forces | 4 | CDE2501 Liveable Cities | 4 |
| CDE3301 Ideas to Proof-of-Concept | 6 | Innovation & Enterprise Elective 1 | 4 |
| **Sub-total** | **22** | **Sub-total** | **20** |

| Semester 7 | Units | Semester 8 | Units |
|---|---|---|---|
| CDE4301 Innovation & Design Capstone or CDE4301A Ideas to Start-up | 6 | CDE4301 Innovation & Design Capstone or CDE4301A Ideas to Start-up | 6 |
| Innovation & Enterprise Elective 2 | 4 | PF1101 Fundamentals of Project Management | 4 |
| GE * | 4 | GE * | 4 |
| **Sub-total** | **14** | **Sub-total** | **14** |

\* Students in UTCP and RVRC will need to overload in Semesters 2 to 4 in order to clear these courses earlier.

*(updated 31 July 2024)*

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**Recommended semester schedule**
(for students in year-long NOC programmes)

| Semester 1 | Units | Semester 2 | Units |
|---|---|---|---|
| AR1101A Design 1 | 8 | AR1102 Design 2 | 8 |
| GEA1000 Quantitative Reasoning with Data | 4 | AR1328A Architectural Materials and Construction | 4 |
| EG1311 Design & Make | 4 | AR2227 History and Theory of Architecture I | 4 |
| GE | 4 | AR2524 Spatial Computational Thinking | 4 |
| | | Group A/B course for Second Major | 4 |
| Sub-total | 20 | Sub-total | 24 |

| Semester 3 | Units | Semester 4 | Units |
|---|---|---|---|
| AR2101 Design 3 | 8 | AR2102 Design 4 | 8 |
| AR2228 History and Theory of Architecture II | 4 | AR1329 Climate, Ecology & Architecture | 4 |
| AR2328A Architectural Tectonics & Structural | 4 | IE2141 Systems Thinking & Dynamics | 4 |
| CDE2212 Artificial Intelligence for Design | 4 | CDE3301 Ideas to Proof-of-Concept | 6 |
| Group A/B course for Second Major | 4 | GE | 4 |
| Sub-total | 24 | Sub-total | 26 |

| Semester 5 | Units | Semester 6 – NOC | Units |
|---|---|---|---|
| AR3101 Design 5 | 8 | | |
| AR3223 Introduction to Urbanism | 4 | | |
| AR3328 Architectural Structures and Forces | 4 | NOC | |
| CDE2501 Liveable Cities | 4 | | |
| CDE3301 Ideas to Proof-of-Concept | 6 | | |
| Sub-total | 26 | Sub-total | 22 |

| Semester 7 – NOC | Units | Semester 8 | Units |
|---|---|---|---|
| | | AR3102 Design 6 | 8 |
| | | AR3722 Sustainable Environmental System | 4 |
| NOC | | PF1101 Fundamentals of Project Management | 4 |
| | | GE | 4 |
| Sub-total | 20 | Sub-total | 20 |

A year-long NOC programme comprises the following courses:
- ETP3206L Innovation & Enterprise Internship (16 units) – counted as UE (16 units)
- ETP3202L Innovation & Enterprise Case Study & Analysis (8 units) – replaces CDE4301A (8 units out of 12 units)
- ETP3203L Innovation & Enterprise Internship Practicum (8 units) – replaces CDE4301A (4 units out of 12 units) and UE (4 units)
- ETP2271 Discovering Resilience and Purpose (2 units) – counted as UE (2 units)
- Entrepreneurship courses (4 or 8 units) – replaces Innovation & Enterprise electives (up to 8 units – students will need to complete additional Innovation & Enterprise Electives in NUS if they are unable to complete 8 units of entrepreneurship courses during NOC)

*(updated 31 July 2024)*

**Innovation & Design Programme**
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**Recommended semester schedule**
(for students in one-semester NOC programmes)

| Semester 1 | Units | Semester 2 | Units |
|---|---|---|---|
| AR1101A Design 1 | 8 | AR1102 Design 2 | 8 |
| GEA1000 Quantitative Reasoning with Data | 4 | AR1328A Architectural Materials and Construction | 4 |
| EG1311 Design & Make | 4 | AR2227 History and Theory of Architecture I | 4 |
| GE | 4 | AR2524 Spatial Computational Thinking | 4 |
| | | Group A/B course for Second Major | 4 |
| **Sub-total** | **20** | **Sub-total** | **24** |

| Semester 3 | Units | Semester 4 | Units |
|---|---|---|---|
| AR2101 Design 3 | 8 | AR2102 Design 4 | 8 |
| AR2228 History and Theory of Architecture II | 4 | AR1329 Climate, Ecology & Architecture | 4 |
| AR2328A Architectural Tectonics & Structural | 4 | IE2141 Systems Thinking & Dynamics | 4 |
| CDE2212 Artificial Intelligence for Design | 4 | CDE3301 Ideas to Proof-of-Concept | 6 |
| Group A/B course for Second Major | 4 | | |
| **Sub-total** | **24** | **Sub-total** | **22** |

| Semester 5 | Units | Semester 6 – NOC | Units |
|---|---|---|---|
| AR3101 Design 5 | 8 | | |
| AR3223 Introduction to Urbanism | 4 | | |
| AR3328 Architectural Structures and Forces | 4 | NOC | |
| CDE3301 Ideas to Proof-of-Concept | 6 | | |
| **Sub-total** | **22** | **Sub-total** | **22** |

| Semester 7 | Units | Semester 8 | Units |
|---|---|---|---|
| CDE4301 Innovation & Design Capstone or CDE4301A Ideas to Start-up | 6 | CDE4301 Innovation & Design Capstone or CDE4301A Ideas to Start-up | 6 |
| CDE2501 Liveable Cities | 4 | AR3102 Design 6 | 8 |
| GE | 4 | AR3722 Sustainable Environmental System | 4 |
| GE | 4 | PF1101 Fundamentals of Project Management | 4 |
| **Sub-total** | **18** | **Sub-total** | **22** |

A one-semester NOC programme comprises the following courses:
- ETP3201L Innovation & Enterprise Internship (12 units) – counted as UE (12 units)
- ETP3204S Innovation & Enterprise Internship Practicum (4 units) – replaces Innovation & Enterprise Elective 1 (4 units)
- Entrepreneurship course (4 units) – replaces Innovation & Enterprise Elective 2 (4 units)
- ETP2271 Discovering Resilience and Purpose (2 units) – counted as UE (2 units)

*(updated 31 July 2024)*