Master of Science in Civil and Architectural Engineering

Programme	Master of Science in Civil and Architectural Engineering 理學碩士(土木及建築工程)
Award Title	Master of Science in Civil and Architectural Engineering 理學碩士(土木及建築工程)
Offering Academic Unit	Department of Architecture and Civil Engineering
Mode of Study	Combined mode

Normal Period of Study

- 1 year (full-time)
- 2 years (part-time)

Maximum Period of Study

- 2.5 years (full-time)
- 5 years (part-time/combined mode)

Credit Units Required for Graduation

30

Programme Aims

The programme aims to:

1. upgrade existing construction related professionals with the knowledge of advanced civil engineering as well as building environment and sustainability;
2. nurturing experts in all aspects of civil engineering, building services engineering, and environmental engineering;
3. provide a route of continuing education to graduates of construction related disciplines;
4. develop civil engineering, building services engineering and construction professionals with a multi-disciplinary problem solving skill and mindset; and
5. conduct research in various construction related disciplines.

Programme Intended Learning Outcomes (PILOs)

For Civil Engineering Stream:

Upon successful completion of this Programme, students should be able to:

1. Build up a strong and solid knowledge base in civil engineering for application in the industry;
2. Practise knowledge in civil engineering in construction areas by filling all requirements in technology, management, environment and efficiency;
3. Create research approach to solve problems in the civil engineering;
4. Create innovative ideas to improve the efficiency of the civil related works;
5. Appraise the latest technologies in civil engineering.

For Building Environment and Sustainability Stream^:

Upon successful completion of this Programme, students should be able to:

1. Build up a strong and solid knowledge base in building environment and sustainability for application in the building industry;
2. Practise knowledge in indoor environment quality, building energy modeling and management and sustainable building development;
3. Create research approach to solve problems in building environment and sustainable building development;
4. Appraise the latest technologies in building environment and sustainability.
5. Communicate effectively with architects, civil and structural engineers, surveyors and constructors in topics related to building environment and sustainability.

Programme Requirements

1. Civil Engineering Stream

- **Core courses** (15 CUs for FT students, 6 CUs for PT students)

Course Code	Course Title	Credit Units	Remarks
CA5018	Modelling and Computational Techniques for Built Environment	3	
CA5244	Methods of Analysis in Civil Engineering and Engineering Mechanics	3	
CA6535	Dissertation – Civil Engineering	9	Core course for FT students only.

- **Elective courses** (15 CUs for FT students, 24 CUs for PT students)

Course Code	Course Title	Credit Units	Remarks
CA5106	Project Management	3	
CA5108	Virtual Design and Construction	3	
CA5217	Environmental Economics, Planning and Policy	3	
CA5236	Transportation and Land Planning	3	
CA5601	Building Engineering Systems and Maintenance	3	
CA5603	Professional Research Methods	3	
CA5693	Geotechnical and Foundation Engineering	3	
CA6110	Statistical Methods and Data Analytics	3	
CA6232	Contract Strategy and Administration	3	
CA6535	Dissertation – Civil Engineering	9	Elective for PT students only.
CA6608	Modern Structural Engineering	3	
CA6694	Geomechanics	3	

2. Building Environment and Sustainability Stream^

- **Core courses** (15 CUs for FT students, 6 CUs for PT students)

Course Code	Course Title	Credit Units	Remarks
CA5248	Indoor Environmental Quality	3	
CA5249	Energy Management for Building Sustainability	3	
CA6536	Dissertation – Building Environment and Sustainability	9	Core course for FT students only.

➢ **Elective courses** (15 CUs for FT students, 24 CUs for PT students)

Course Code	Course Title	Credit Units	Remarks
CA5018	Modelling and Computational Techniques for Built Environment	3	
CA5217	Environmental Economics, Planning, and Policy	3	
CA5250	Renewable Energy for a Sustainable Building Performance	3	
CA5251	Sustainable Building Development	3	
CA5252	Building Environment Modelling for Sustainability Analysis	3	
CA6536	Dissertation – Building Environment and Sustainability	9	Elective for PT students only.
SEE5114	Energy, Environment and Sustainable Development	3	To be offered by SEE
SEE6101	Energy Generation and Storage Systems	3	To be offered by SEE
SEE6102	Energy Efficiency and Conservation Technologies	3	To be offered by SEE
SEE6115	Carbon Audit and Management	3	To be offered by SEE
PIA5711	Environmental Governance in China	3	To be offered by PIA
PIA6502	Sustainable Development: Theory and Policy	3	To be offered by PIA

Additional Information

- For courses set with pre-cursor(s), ACE Department requires that all students must have **attempted** (including class attendance, coursework submission and examination) the precursor course(s) so identified.
- Where courses are assessed by a combination of coursework and examination, to pass a course, students must obtain minimum marks of 30% in both coursework and examination components, and an overall mark of at least 40%.
- The teaching schedules of some courses offered in Summer Term may start a few weeks earlier than the normal University schedule; students are advised to check the teaching schedules with the Course Leaders before registering for the courses.

Related Links

Department of Architecture and Civil Engineering

^Subject to University approval