

BACHELOR OF CIVIL ENGINEERING (HONOURS)

INDUSTRY RECOMMENDED ELECTIVE PATHWAYS



These pathways have been created to provide guidance for Bachelor of Civil Engineering students wishing to specialise in a second discipline area with their elective courses.

Each pathway has been selected to complement the content of the Bachelor of Civil Engineering program with consideration of pre-requisites. Please note that these pathways are suggestions only and will not be noted formally on the final degree certificate.

Students are welcome to enrol in any elective provided that they satisfy the pre-requisites, and they adhere to the rules regarding maximum number of 1000 level courses in their program. For a full list of UON courses, visit the [course handbook](#).



Industry Recommended Electives for Civil Engineering (Honours) Program

Geotechnical Engineering	
Complete the following:	
CIVL4230	Rock Mechanics and Rock Engineering - S2
CIVL4240	Geotechnical Risk Analysis* – S2
CIVL4250	Geotechnical Site Characterisation – S1

Environmental Engineering	
Complete the following:	
CIVL3431	Land Surface Process and Management – S2 [#]
CIVL3470	Contaminant hydrogeology – S2
CIVL3410	Hydrobiological Modelling – S2

Structural Engineering	
Complete the following:	
CIVL4110	Advanced Structural Analysis – S1
CIVL4120	Residential Footings/Masonry/Timber Design – S2 (every second year)

Construction Management	
Complete the following:	
ARBE1306	Construction Management Fundamentals – S1
ARBE2309	Construction Procurement and tendering – S2
ARBE3301	Construction Project Planning – S2
ARBE3307	Contract Administration – S2

Construction Technology	
Complete the following:	
ARBE1305	Construction technology, sequencing and representation – S2
ARBE2306	Maintenance Services and Rehabilitation – S2
ARBE4102	Construction Technical and services – S1

Spatial Data and GIS	
Complete the following:	
GEOS3250	Geographic Information Systems (GIS) – S1
SURV3650	Spatial Data Systems and Remote Sensing – S2

*: Risk Analysis is applicable also to Structural Engineering and Water Engineering

[#]: CIVL3431 has SURV3650 as assumed knowledge

Industry Recommended Electives for Civil Engineering (Honours) Program

Quantity Surveying	
Complete the following:	
ARBE2301	Measurement of building works 1 – S1
ARBE2308	Cost planning and estimating – S1
ARBE2307	Economics of the construction industry – S2
ARBE3309	Measurement of building works 2 – S1

Civil Engineering Designs**	
Complete the following:	
CIVL4521	Structural Engineering Project – S2
CIVL4541	Water Engineering Project – S2
CIVL4571	Geotechnical Engineering Project – S2

Sustainability	
Complete the following:	
ENVS2008	The Sustainable Society
ARBE3101	Performance and Sustainability of the Built Environment
ARBE6609	Sustainable Development and the 2030 Development Agenda

** : Students only have to take two Civil Engineering Design courses, the third one can be taken as an elective