Master of Engineering (Chemical)

Year and Campus:	2016
Coordinator:	Professor George Franks Email: gvfranks@unimelb.edu.au
Contact:	**Melbourne School of Engineering** Current students: # General information: **https://ask.unimelb.edu.au (https://ask.unimelb.edu.au/)** # **Contact Stop 1 (http://students.unimelb.edu.au/stop1)** Future students: # Further information: **Degree Structure** # Email: **Enquiry Form**
Overview:	Chemical engineers invent, design and implement processes through which raw materials are converted into valuable products such as petrochemicals, fertilisers, paints and detergents. Chemical engineers also work to process waste products to safer, more environmentally-friendly materials. Career opportunities are extensive and include the fields of environmental consulting, minerals processing, materials and food, pharmaceutical and chemical manufacture.
Learning Outcomes:	To produce graduates who are both skilled in chemical engineering principles and have the ability to apply these skills to complex, open-ended engineering tasks and problems.
Structure & Available Subjects:	The Master of Engineering (Chemical) consists of: 300 points of study - 275 points core plus 25 points elective subjects Advanced standing will be awarded for equivalent subjects taken in prior study to applicants on the following basis: # A maximum of 100 points for applicants with a 4 year Bachelor of Engineering or equivalent # A maximum of 100 points for applicants with a 3 year undergraduate degree. Students entering with a three year bachelor degree must complete at least 200 points of study within the Masters of Engineering. In cases where applicants have completed the equivalent of more than 100 points of core masters subjects, discipline specific electives must be taken to fulfil the 200 minimum masters study requirement Note: applicants from the University of Melbourne with: # An appropriate “Engineering System” major will receive 100 points of advanced standing. Applicants from the Bachelor of Science with a "Chemical Systems" major will receive 100 points of advanced standing and be exempt from 25 points of completed core subjects but will need to take an additional 25 points in of Chemical Engineering electives # Engineering breadth sequences (including those in the Bachelor of Commerce) will receive advanced standing to a maximum of 100 points
Subject Options:	Total 300 points - 275 points core (compulsory) plus 25 points elective subjects from the list below. Students must complete all 300 points of subjects, including all core subjects, or have advanced standing or exemption. The core and elective subjects are those listed below. The order of subjects below is one way of progressing through the course - students who meet subject requisites may tailor their individual study plan to take into account advanced standing and their study load. Students plan their study online and can seek further advice from their student centre on individual study plans. **Suggested first 100 points:** *Suggested study plan for first 100 points:* # 100 points core subjects from the list below:

Subject	Study Period Commencement:	Credit Points:

MAST20029 Engineering Mathematics	Summer Term, Semester 1, Semester 2	12.50
ENGR90021 Engineering Practice and Communication	Semester 1, Semester 2	12.50
CHEN20010 Material and Energy Balances	Semester 1, Semester 2	12.50
CHEM20018 Chemistry: Reactions and Synthesis	Semester 1	12.50
CHEN20011 Chemical Process Analysis	Semester 2	12.50
CHEN20009 Transport Processes	Semester 2	12.50
CHEN90032 Process Dynamics And Control	Semester 2	12.50
ENGR30002 Fluid Mechanics	Semester 1, Semester 2	12.50

Suggested second 100 points:

Suggested study plan for the second 100 points:

75 points core subjects from the list below:

Subject	Study Period Commencement:	Credit Points:
CHEN30001 Reactor Engineering	Semester 1	12.50
CHEN30005 Heat and Mass Transport Processes	Semester 1, Semester 2	12.50
CHEN90020 Chemical Engineering Management	Semester 1	12.50
CHEN90031 Bioprocess Engineering	Semester 1	12.50
CHEN90037 Safety, Environment and Design	Semester 2	12.5
CHEN90007 Advanced Thermo & Reactor Engineering	Semester 2	12.50

AND a 25 point project subject from the list below:

(Note: enrolment in CHEN90028 Industry Project is subject to approval from the Course Co-ordinator)

Subject	Study Period Commencement:	Credit Points:
CHEN90023 Chemical Engineering Research Project	Summer Term, Semester 1, Semester 2	25
CHEN90028 Industry Project	Summer Term, Semester 1, Semester 2	25

Suggested third 100 points:

Suggested study plan for third 100 points:

75 points core subjects from the list below:

Subject	Study Period Commencement:	Credit Points:
CHEN90012 Process Equipment Design	Semester 1	12.50
CHEN90013 Process Engineering	Semester 1	12.50
CHEN90018 Particle Mechanics and Processing	Semester 1	12.50
CHEN90019 Advanced Heat & Mass Transport Processes	Semester 1	12.50
CHEN90022 Chemical Engineering Design Project	Semester 2	25

AND 25 points elective subjects chosen from the list below:

Subject	Study Period Commencement:	Credit Points:
BIEN90004 Biochemical & Pharmaceutical Engineering	Semester 2	12.50
BMEN90011 Tissue Engineering & Stem Cells	Semester 2	12.50
BMEN90012 Soft Matter Engineering	Semester 1	12.50
CHEN90010 Minerals, Materials and Recycling	Semester 2	12.50
CHEN90011 Bioenvironmental Engineering	Semester 2	12.50
CHEN90027 Carbon Capture and Storage	Semester 1	12.50
CHEN90028 Industry Project	Summer Term, Semester 1, Semester 2	25
CHEN90030 Chemical Engineering Minor Thesis	Summer Term, Semester 1, Semester 2	25
ENGR90024 Computational Fluid Dynamics	Semester 1	12.50
ENGR90026 Engineering Entrepreneurship	Semester 2	12.50
FOOD90029 Food Engineering	Semester 1	12.50
CHEN90035 Advanced Topics in Chemical Engineering	January	12.50
CHEN90036 Recent Advances in Separation Processes	Semester 1	12.5
ENGR90033 Internship	January, Semester 1, Semester 2	25

Links to further information:	http://www.eng.unimelb.edu.au/study/degrees
Related Course(s):	Master of Engineering