

Course Code	Course Description	Units	Remark	Can exercise S/U option
CN5010	Mathematical & Computing Methods for Chemical Engineers	4	Core	Yes
CN5020/CN6020	Advanced Reaction Engineering	4	Core	Yes
CN5030	Advanced Chemical Engineering Thermodynamics	4	Core	Yes
CN5040	Advanced Transport Phenomena	4	Core	Yes
CN5050	Advanced Separation Processes	4	Core	Yes
CN5172	Biochemical Engineering	4	Core	Yes
CN5111	Optimization of Chemical Processes	4	Elective	Yes
CN5111B	Process Optimization with Industrial Applications	4	Elective	Yes
CN5112	Introduction to Electrochemical Systems	4	Elective	Yes
CN5124	Fluid-Particle Systems <i>(new course in Sem 2, AY2024/2025)</i>	4	Elective	Yes
CN5131	Colloids and Surfaces	4	Elective	Yes
CN5150	Principles of Polymer Science and Engineering	4	Elective	Yes
CN5160	Advanced Topics in Catalysis	4	Elective	Yes
CN5161	Polymer Processing Engineering	4	Elective	Yes
CN5162/CN6162	Advanced Polymeric Materials	4	Elective	Yes
CN5173	Downstream Processing of Biochemical and Pharmaceutical Products	4	Elective	Yes
CN5181	Computer Aided Chemical Engineering	4	Elective	Yes
CN5190	Hydrogen Energy and Technology	4	Elective	Yes
CN5191	Project Engineering	4	Elective	Yes
CN5192	Future Fuel Options: Prospects and Technologies	4	Elective	Yes
CN5193	Instrumental Methods of Analysis	4	Elective	Yes
CN5194	Carbon Capture Sequestration and Utilization	4	Elective	Yes
CN5195	Biomass and Energy	4	Elective	Yes
CN5203	Circular Economy in the Chemical Industry	4	Elective	Yes
CN5204	Green Chemical Process and Technology	4	Elective	Yes
CN5205	Machine Learning in Chemical Engineering <i>(new course in Sem 2, AY2024/2025)</i>	4	Elective	Yes
CN5215	Atomistic Modelling of Molecules and Materials (crosslist with MLE5215)	4	Elective	Yes
CN5216	Electronic Materials and Energy Technologies	4	Elective	Yes
CN5219	Engineering Nanobiotechnology <i>(new course in Sem 1, AY2025/2026)</i>	4	Elective	Yes
CN5220	Colloids and Soft Matter Engineering	4	Elective	Yes
CN5222	Pharmaceuticals and Fine Chemicals	4	Elective	Yes
CN5246	Catalysis Science and Engineering	4	Elective	Yes
CN5251/CN6251	Membrane Science and Technology	4	Elective	Yes
CN5252	Molecular and Computational Tools for Biotechnology	4	Elective	Yes
CN5277	Molecular Engineering of Advanced Drug Delivery Systems	4	Elective	Yes
CN5371	Special Topics in Biochemical Engineering and Bioseparations	4	Elective	Yes
CN5391	Selected Topics in Advanced Chemical Engineering I	4	Elective	Yes
CN5392	Selected Topics in Advanced Chemical Engineering II	4	Elective	Yes
CN5432	Fundamentals and Applications of Porous Materials	4	Elective	Yes
CN6163	Inorganic Nanomaterials for Sustainability	4	Elective	Yes
CN6222	Pharmaceuticals and Fine Chemicals	4	Elective	Yes

Notes:

PhD students will take the following course at Level 6000

- 1) Advanced Reaction Engineering
- 2) Advanced Polymeric Materials
- 3) Membrane Science and Technology

Degree Requirement is 2 letter graded courses

**Student who exercise S/U option to core courses must take additional core course to replace in order to meet degree requirement**