Universidad de los Andes
Facultad de Ingeniería

CHEMICAL ENGINEERING UNDERGRADUATE PROGRAM

CONVENTIONS

- Pre-requisite
- Co-requisite
- Integral Formation Cycle
- Science and Mathematics Cycle
- General Engineering Fundamentals Cycle
- Specific Chemical Engineering Fundamentals Cycle
- Project Cycle
- Workshop Cycle
- Deepening Elective Cycle
- Requirements

I (8A – 8B)

- Introduction to Integrated Design of Products and Processes — IQYA 1031 — 3
- Introduction to Integrated Design of Products and Processes Lab — IQYA 1031L — 0
- Introduction to Integrated Design of Products and Processes Complementary — IQYA 1031T — 0
- Chemistry — QUIM 1103 — 3
- Chemistry Laboratory — QUIM 1104 — 0
- Qualifying Exam or Precalculus → Differential Calculus — MATE 1203 — 3
- Introduction to Programming — ISIS 1221 — 3
- Thinking, Communicating and Collaborating — CCOM 1100 — 3

II (8A – 8B)

- Mass and Energy Balances — IQYA 2010 — 3
- Mass and Energy Balances Complementary — IQYA 2010T — 0
- Chemistry → Chemistry Applications — QUIM 1105 — 3
- Chemistry Applications Laboratory — QUIM 1106 — 0
- Differential Calculus → Integral Calculus and Diff Eqs. — MATE 1214 — 3
- Cell Biology — MBIO 1100 — 3
- Cell Biology Laboratory — MBIO 1101 — 0
- CBU 1 — CBUH XXXX — 3
- CBU 2 — CBUC XXXX — 3

III (8A – 8B)

- Differential Calculus → Thermodynamics — IQYA 2020 — 3
- Thermodynamics Complementary — IQYA 2020T — 0
- Chemistry Applications → Fundamental of Chemical Analysis — QUIM 1618 — 3
- Fundamental of Chemical Analysis Lab. — QUIM 1619 — 0
- Differential Calculus → Linear Algebra — MATE 1105 — 3
- Differential Calculus → Physics 1 — FISI 1518 — 3
- Elective: Science & Math — XXXX XXXX — 3
- CBU 3 — CBUT XXXX — 3

IV (8A – 8B)

- Thermodynamics Mass and Energy Balances; Vector Calculus → Fundamentals of Transport Phenomena — IQYA 2120 — 3
- Fundamentals of Transport Phenomena Lab. — IQYA 2120L — 0
- Thermodynamic Thinking, Communicating and Collaborating → Phase and Chemical Equilibria — IQYA 2021 — 3
- Phase and Chemical Equilibria Lab. — IQYA 2021L — 0
- Integral Calculus Linear Algebra → Vector Calculus — MATE 1207 — 3
- Physics I → Physics 2 — FISI 1528 — 3
- Introduction to Integrated Design of Products and Processes; Probability and Statistics I → Investment Decision Analysis — IIND 2401 — 3
- CLE 1 — XXXX XXXX — 3
- English Reading

V (8A – 8B)

- Thermodynamics Energy Balances Integral Calculus and Diff Eqs → Macroscopic Applications of Transport Phenomena — IQYA 2121 — 3
- Macroscopic Applications of Transport Phenomena Lab. — IQYA 2121L — 0
- Phase and Chemical Equilibria Energy Balances → Chemical Reaction Engineering — IQYA 2300 — 3
- Chemical Reaction Engineering Comp. — IQYA 2300T — 0
- Phase and Chemical Equilibria Mass and Energy Balances Introduction to Programming; Vector Calculus → Data Science and Computational Modelling — IQYA 2400 — 3
- Integral Calculus Linear Algebra → Probability and Statitics 1 — IIND 2106 — 3
- Probability and Statitics 1 Complementary — IIND 2106T — 0
- CLE 2 — XXXX XXXX — 3

VI (8A – 8B)

- Probability and Statistic 1 → Design of Experiments Tools — IQYA 2042 — 2
- Design of Experiment Compl. — IQYA 2042L — 0
- Data Science and Computational Modelling; Molecular Trans. Pheno. → Computational Tools 1 — IQYA 3043 — 2
- Computational Tools 1 Lab. — IQYA 3043L — 0
- Fundamental Transport Phenomena Phase and Chemical Equilibria; Macroscopic Application Transport Phenomena → Unit Operations Project — IQYA 2031 — 3
- Unit Operations Project Complementary — IQYA 2031T — 0
- Thermodynamics Energy Balances Integral Calculus and Diff Eqs → Molecular Fundamentals of Transport Phenomena — IQYA 2122 — 3
- Molecular Fundamentals of Transport Phenomena Lab. — IQYA 2122L — 0
- Molecular Transport Phenomena → Elective ChE 1 — IQYA 3XXX — 2
- Molecular Transport Phenomena → Elective ChE 2 — IQYA 3XXX — 2
- Elective Engineering Fundamentals — XXXX XXXX — 3
- Saber Pro

VII (8A – 8B)

- Computational Tools 1 → Computational Tools 2 — IQYA 3046 — 3
- Computational Tools 2 Lab. — IQYA 3046L — 0
- Design of Experimentos Tools → Integrated Project — IQYA 3013 — 3
- Integrated Project Laboratory — IQYA 3013L — 0
- Chem Reaction Engineering; Investment Decision Analysis; Unit Operations Project; MolecularTrans. Pheno; Data Science and Computational Modelling → Process Plant Design — IQYA 3014 — 4
- Process Plant Design Laboratory — IQYA 3014L — 0
- Design of Experiments; Chem Reactions Eng.; Chem. Systems Modelling; Molecular Transport Phenomena → Project Seminar — IQYA 3050 — 1
- Constitution and Democracy — CCDE 1101 — 3
- CBU 4 — CBUX XXXX — 3
- Internationalization Requirement

VIII (8A – 8B)

- Computational Tools 1 → Optimization Methods — IQYA 3047 — 3
- Optimization Methods Lab. — IQYA 3047L — 0
- Unit Operations Project; Project Seminar; Integrated Project; Investment Decision Analysis; Chem Reaction Engineering → Professional Development Project — IQYA 3051 — 4
- Molecular Transport Phenomena → Elective ChE 3 — IQYA 3XXX — 2
- Molecular Transport Phenomena → Elective ChE 4 — IQYA 3XXX — 2
- Molecular Transport Phenomena → Elective ChE 5 — IQYA 3XXX — 2
- CBU 4 — CBUX XXXX — 3
- Second Language Proficiency