Bachelor of Science in Engineering

General Engineering Department

Sample Four-Year Plan for students starting in MATH 11 or higher

1 First-Year

Fall
- MATH 11 (4)
- CHEM 11/L (5) — F(W)
- MECH 10L (1) — F
- ENGR 1L (1)
- ENGR 1 (1)
- CTW 1 (4)

Winter
- MATH 12 (4)
- PHYS 31/L (5) — W(S)
- CSEN 10/L (5) — Sub.: CSCI 10 or OMIS 30 — F/W
- CTW 2 (4)

Spring
- MATH 13 (4)
- PHYS 32/L (5) — S(F)
- MECH 15/L (5) — S/F
- RTC 1 (4) — Recommend: ENGR 16

2 Soph

Fall
- MATH 14 (4)
- PHYS 33/L (5) — F(W)
- MECH 11 (4) — F/W
- ENGR 2 (2) — F/W
- ENGR 35 (1) — Rec, Not Req. — F
- C&I 1 (4) — Recommend: ENGR 11a

Ok to swap

(could move to Jr year)

Winter
- AMTH 108* (4) — * Any upper division math elective ok
- MECH 121/R (5) — W
- CENG 41 (4) — F/W
- C&I 2 (4) — Recommend: ENGR 12a

Ok to swap

Spring
- AMTH 106 (4)
- ECEN 21/L (5)
- CENG 43/L (5) — W/S
- Core (4)

3 Junior

Fall
- Conc. Elec. (4)
- ECEN 50/L (5)
- Free Elective (4) — Rec: Lower Div Prereqs for Conc. Electives
- ENGR 110 (3)
- Ethics (4) — Rec: ENGR 19

Take as close together as possible

Winter
- Conc. Elec. (4/5) — Rec: ECEN 123/L
- ECEN 115/L (5) — W/S
- BIOE 111 (4) — W
- ENGL 181

Spring
- Conc. Elec. (4/5) — Rec: MECH 144/L
- Conc. Elec. (4/5)
- ENGR 193(1) — S
- Core (4)

4 Senior

Fall
- Conc. Elec. (4/5)
- Conc. Elec. (4/5)
- ENGR 194 (2) — F
- Core (4)

Winter
- Conc. Elec. (4/5)
- ENGR 163 (1) — W
- ENGR 195 (2) — W
- Core (4)

Spring
- Conc. Elec. (4/5)
- Free Elective (4/5)
- ENGR 196 (1) — S
- Core (4)

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Notes and FAQs

1 **Graduation requirements:** Students majoring in engineering must complete a minimum of 189 units, including the following:

- Senior Design - fulfilled through courses listed as Senior Design Project I, II & III [ENGR 194, 195, 196] + 1 unit seminar ENGR 163
- 36 upper division concentration units
  - Concentration electives must be approved by an advisor. Most but not all upper division engineering classes could be technical electives. Some recommendations for courses and when to take them are listed below.
  - ENGR 110 is recommended sophomore or junior year and prior to senior design
  - ELEN 115/L is a recommended sophomore or junior year course for experience in application of electronic circuits
  - ELEN 123/L is a recommended junior year course for experience in systems integration
  - MECH 144/L is a recommended junior year course for experience in product design
- *AMTH 108 is the recommended upper division math elective, but another upper division course may be substituted with approval from an advisor
- Advanced writing (ENGL 181) and Ethics (ENGR 19) should be taken junior year, prior to the start of Senior Design
- ENGR 35 is a recommended course aimed at developing skills to land internships and jobs. It is offered only in Fall and is recommended for Sophomore year but could be pushed to Junior year.

2 Santa Clara University's **Core Curriculum** provides a humanistic education that leads toward an informed, ethical engagement with the world. The Core Curriculum consists of three phases of academic work: Foundations, Explorations, and Integrations. For more information go to: www.scu.edu/provost/core

Core requirements needing to be fulfilled beyond the General Engineering degree include:

- Cultures and Ideas 3
- Social Science
- Diversity
- Religion, Theology, and Culture 2 & 3
- Experiential Learning for Social Justice
- **Listed courses for RTC1 (ENGR 16) and Ethics (ENGR 19) are part of plan, but may be substituted with any core course that fulfills the core requirement

Note that as an engineering student you may 'double dip' in core courses. The list of double dip courses is here (https://www.scu.edu/media/school-of-engineering/pdfs/current-student-resources/undergraduate/Useful-Double-Dips-9.20.21.pdf) or you can search via Workday with an advanced search.

3 **Pathways** provide students an additional opportunity to make intentional and reflective choices about their own education as they study a theme or topic from a number of disciplinary perspectives and identify connections and relationships among ideas. Students should make reflective and intentional choices to study a theme from multiple disciplinary or methodological perspectives and to perceive connections. Engineering students need to take 3 pathway courses (no more than 2 of them engineering). For more information go to: https://www.scu.edu/provost/core/pathways//

4 **Study abroad** can be accomplished by taking engineering classes abroad if you study at a school with an engineering program. If you study at a program without an engineering school, follow the "Study abroad" plan. All classes used for requirements must be approved by your advisor PRIOR to leaving for the study abroad term. More information can be found here: https://www.scu.edu/globalengagement/study-abroad/