Santa Clara University

School of Engineering

For use by Transfer Applicants

TRANSFER CREDIT PLANNER CHECK-SHEET

****Admission recommendations***

University Core Requirement ***Course Completed or IP (In Progress)***

FOUNDATIONS

- ☐ **Critical Thinking & Writing 1*** _____
- ☐ **Critical Thinking & Writing 2*** _____
- ☐ **Cultures & Ideas 1** _____
- ☐ **Cultures & Ideas 2** _____
- ☐ **Mathematics*** ***Satisfied within major requirements at SCU***
- ☐ **Religion Theology & Culture 1** _____

(Students transferring with 30 or more semester units (or 44 or more quarter units) of transfer credit will be exempt from completing one RTC Core requirement)

EXPLORATIONS

- ☐ **Ethics** _____
- ▪ **Civic Engagement** **Must be completed at Santa Clara**
- ☐ **Diversity: U.S. Perspectives** _____
- ☐ **Arts** ***Satisfied within major requirements at SCU***
- ☐ **Natural Science w/Lab*** ***Satisfied within major requirements at SCU***
- ☐ **Social Science** _____
- ☐ **Religion, Theology & Culture 2** **Must be completed at Santa Clara**
- ☐ **Cultures & Ideas 3** _____
- ▪ **Science, Technology & Society** **Must be completed at Santa Clara**
- ▪ **Religion, Theology & Culture 3** **Must be completed at Santa Clara**

INTEGRATIONS

- ▪ ***ELSJ*** ***Must be completed at Santa Clara University***
- ▪ ***Advanced Writing*** ***Must be completed at Santa Clara University***
- ▪ ***Pathways*** ***Must be completed at Santa Clara University***

SCHOOL OF ENGINEERING REQUIREMENTS

(Refer to the School of Engineering website for individual major requirements at: https://www.scu.edu/engineering/undergraduate/degree-programs/

Engineering School Requirement ***Course completed or IP (In Progress)***

MATHEMATICS*

- ☐ **Calculus and Analytic Geometry I*** _____
- ☐ **Calculus and Analytic Geometry II*** _____
- ☐ **Calculus and Analytic Geom III/IV** _____
- ☐ **Differential Equations** _____
- ☐ _____ _____

NATURAL SCIENCE*

- ☐ **General Chemistry*** _____
- ☐ **Physics w/ Calculus *** _____
- ☐ **Physics w/ Calculus *** _____
- ☐ **Physics w/ Calculus *** _____
- ☐ _____ _____

ADDITIONAL ENGINEERING MAJOR Requirements

- ***Bioengineering***
- ***Civil Engineering***
- ***Computer Science and Engineering***
- ***Electrical & Computer Engineering***
- ***Electrical Engineering***
- ***General Engineering***
- ***Mechanical Engineering***
- ***Web Design and Engineering***

TOTAL SEMESTER UNITS _____ x 1.5 = _____ TOTAL QUARTER UNITS**

*****Note: Refer to the chart listing the maximum number of units allowed to transfer (including AP/IB test credit) per major located on the SCU Undergraduate Admission webpage at: http://www.scu.edu/ugrad/transfer/***

Santa Clara University

Undergraduate

School of Engineering

Cabrillo College Transfer Guide

For use by Transfer Applicants

Use the TRANSFER CREDIT PLANNER to map out your transfer credit.

Thank you for your interest in Santa Clara University! This guide has been designed to help make the course-planning process easier for students who wish to transfer to the School of Engineering at Santa Clara University.

Admission Recommendations for Transfer Students:

School of Engineering:

Bachelor of Science majors: Bioengineering, Civil Engineering, Computer Science & Engineering, Electrical and Computer Engineering, Electrical Engineering, General Engineering, Mechanical Engineering, and Web Design & Engineering

Courses strongly recommended for admission:

- Two English composition courses (*aka: Critical Thinking & Writing 1 & 2)*
- Mathematics: MATH 5A and MATH 5B
- One natural science course with a lab: CHEM 1A
- Two Calculus-based Physics courses: PHYS 4A and PHYS 4B and/or 4C
    - Web Design Engineering majors are not required to complete CHEM 1A, PHYS 4A & 4B. Complete one course in the Natural Science list.

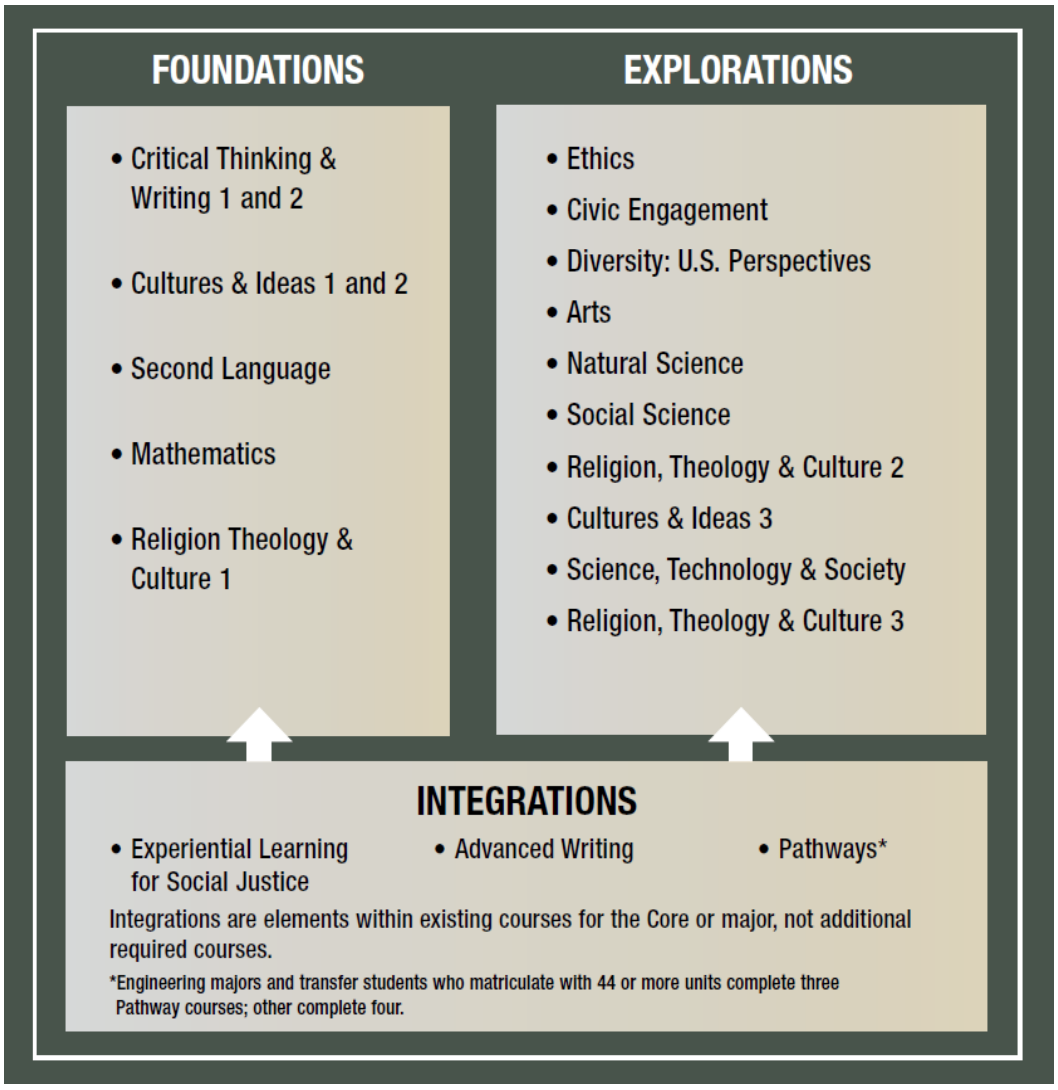
- GPA 3.5

For additional SCU Transfer Admissions information:
https://www.scu.edu/admission/undergraduate/transfer-students/

The following information is provided to help transfer students understand and complete additional Santa Clara University Core Curriculum (General Education) requirements.

STRUCTURE OF SANTA CLARA UNIVERSITY GENERAL CORE

Below is a visual representation of Santa Clara University Core Curriculum Requirements. Some Core requirements must be met at SCU: Civic Engagement, Religion, Theology & Culture 2, Science, Technology & Society, Religion, Theology & Culture 3, Experiential Learning for Social Justice, Advanced Writing, and Pathways. Moreover, no courses listed in this guide can fulfill more than one Core requirement.



To learn more about Santa Clara University's Core Curriculum learning goals and objectives, click here.

Note: Current high school students applying as <u>First-Year students may not</u> transfer courses to fulfill Core Critical Thinking & Writing 1 and 2 or Cultures & Ideas 1 and 2, Religion Theology and Culture 1 in addition to the Core requirements listed above that must be met at SCU.

MAXIMUM NUMBER OF TRANSFER UNITS ACCEPTED:

- Santa Clara University is on a quarter system
  - 1 semester unit is equivalent to 1.5 quarter units
- **It is recommended to transfer with 30 or more semester units (44 or more quarter units) of transfer credit (not including AP/IB test credit).**
- Students are allowed to transfer in a maximum of one-half of the total quarter units required to graduate in their specific program. The maximum number includes credit transferred from another institution and Advanced Placement and High-Level International Baccalaureate and University of Cambridge A-Level test credits.

Academic Division	Minimum number of units required for graduation	Maximum transferrable **Quarter** units	Maximum transferrable **Semester** unit equivalency
College of Arts and Sciences	175	87.5	58.33
College of Arts and Sciences: *Engineering Physics*	193	96.5	64.33
Leavey School of Business	175	87.5	58.33
School of Engineering:			
Bioengineering	191	95.5	63.66
Civil Engineering	195	97.5	65
Computer Science & Engineering and General Engineering	189	94.5	63
Electrical Engineering and Electrical & Computer Engineering	190	95	63.33
Mechanical Engineering	192	96	64
Web Design and Engineering	175	87.5	58.33

TRANSFER CREDIT ACCEPTED:

SCU does not give transfer credit for P/NP, CR, or courses with a grade of C- or lower. Grades are not transferable to SCU, only units.

The following courses are not transferrable: most first-year seminars, internships, professional development courses, independent study courses, workshops, most physical education courses, remedial English and remedial mathematics courses.

Santa Clara University only accepts University of California transferable courses. In addition, SCU does not allow the following Cabrillo College UC transferrable courses to transfer for credit: Adaptive Physical Education, Athletics, Culinary Arts and Hospitality Management, Horticulture, and some Kinesiology courses. To view all Cabrillo College's UC transferable courses, visit www.assist.org. **UC transferrable courses not listed in this guide and not listed above as excluded will be accepted as elective units. After acceptance, students may petition a course that received elective credit to be evaluated, and if approved, fulfill a Core and/or major requirement.** Transfer credit evaluations for individual students are completed after admission to SCU. However, the following information will help students evaluate their own course work.

FOUNDATIONS Core requirements

Critical Thinking & Writing 1 and 2 Core Requirement:

To fulfill the Critical Thinking & Writing (CTW) 1 and 2 Santa Clara University Core requirements, a student must complete one course from the Critical Thinking & Writing 1 course list, and one course from the Critical Thinking & Writing 2 course list below. If both requirements are not satisfied prior to enrollment at SCU, students who have completed fewer than 30 semester units (or 44 quarter units) of transfer credit will be required to take the 2-quarter course sequence at SCU. Students who transfer with 30 or more semester units (or 44 or more quarter units) of transfer credit and have fulfilled the CTW 1 but not the CTW 2 requirement will be required to complete an additional course at SCU to satisfy the CTW 2 requirement.

CRITICAL THINKING & WRITING 1: *Complete **one course** from list below.*

Admission recommendation: Complete Critical Thinking and Writing 1 Core requirement.

Exceptions for taking a course listed below to satisfy CTW 1: Students placed into the 2nd college level English, or who scored a 4 or 5 on the AP English Language exam, may substitute the course placement or the test credit for CTW 1. Students are responsible for submitting the appropriate official AP CollegeBoard Report at the time of acceptance to receive such credit.

Cabrillo College Course
ENGL 1A: College Composition
ENGL 1AH: Honors College Composition
ENGL 1AMC: College Composition- Multicultural Emphasis
ENGL 1AMCH: Honors College Composition- Multicultural Emphasis

CRITICAL THINKING & WRITING 2: *Complete **one course** from list below.*

Admission recommendation: Complete Critical Thinking and Writing 2 Core requirement.

Cabrillo College Course
ENGL 1B: Composition and Literature
ENGL 1BMC: Composition and Literature- Multicultural Emphasis
ENGL 1C: Advanced Composition
ENGL 2: Composition and Critical Thinking
ENGL 2H: Honors Composition and Critical Thinking
ENGL 2MC: Composition and Critical Thinking- Multicultural Emphasis
ENGL 2MCH: Honors Composition and Critical Thinking- Multicultural Emphasis

CULTURES & IDEAS 1 and 2 Core Requirements:

To fulfill the Santa Clara University Cultures & Ideas 1 and 2 Core Curriculum requirements, a student must complete one course from the Cultures and Ideas 1 list, and one course from the Cultures and Ideas 2 course list. If both requirements are not satisfied prior to enrollment at SCU, students who have completed fewer than 30 semester units (or fewer than 44 quarter units) of transfer credit will be required to take the 2-quarter course sequence at SCU. Students who transfer with 30 or more semester units (or 44 or more quarter units) and fulfilled the Cultures & Ideas 1 but not the Cultures & Ideas 2 requirement, will be required to take one course instead of the 2-course sequence at SCU**.** ***Although it is not listed as an admission recommendation, it is advised to fulfill the Cultures and Ideas 1 and 2 course sequence prior to enrollment at SCU.***

CULTURES & IDEAS 1: *Complete **one course** from list below.*

Transfer courses cannot fulfill more than one Santa Clara University Core requirement. If you already took a course listed below to satisfy a different requirement, you will want to choose a different course to complete.

Cabrillo College Course
AH 11: Ancient Art
AH 11H: Honors Ancient Art
AH 12: Middle Ages- Art/ Mediterranean World and Europe (AD 300-1400)
AH 13: Renaissance to Mid-19th Century
AH 13H: Honors Renaissance to 19th Century
AH 14: Modern Art
AH 18: Art in America to 1900
AH 20A: Survey of Art from the Prehistoric through Medieval Periods
AH 20B: Survey of Art from the Renaissance to the Present
CJ 1: Introduction to Criminal Justice
ENGL 30A: American Literature
ENGL 30B: American Literature
HIST 2A: World History to 1500
HIST 2B: World History- 1500 to Present
HIST 4A: Survey of Western Civilization to 1648
HIST 4B: Survey of Western Civilization- 1648 to Late 20th Century
HIST 4AH: Honors Survey of Western Civilization to 1648
HIST 4BH: Honors Survey of Western Civilization- 1648 to Late 20th Century
HIST 9: History of England
HIST 11: The Era of the American Civil War
HIST 15: Recent American History
HIST 17A: United States History to 1865
HIST 17AH: Honors United States History to 1865
HIST 17B: United States History since 1865

HIST 17BH: Honors United States History since 1865
MUS 13A: Survey of American Popular Music
PHILO 6: History of Philosophy- Ancient and Medieval
PHILO 7: History of Philosophy- Modern
PS 1: Intro to Government
PS 1H: Honors Intro to Government
PS 5: American Political Thought
WS 1: Intro to Women's Studies

CULTURES & IDEAS 2: *Complete **one course** from list below.*

Transfer courses cannot fulfill more than one Santa Clara Core requirement. If you already took a course listed below to satisfy a different requirement, you will want to choose a different course to complete.

Cabrillo College Course
ANTHR 2: Intro to Anthropology- Cultural
ANTHR 2H: Honors Introduction to Anthropology: Cultural
ANTHR 8: Anthropology of Religion
ANTH 17: Global Perspectives of Food and Culture
AH 16: Art of India and Southeast Asia
AH 17: Art of China, Korea and Japan
AH 19: Art of the Americas
AH 52: Latin American Art
ENGL 40: Latin American Literature
ENGL 45: World Literature
GEOG 2: Cultural Geography
GEOG 4: World Regional Geography
HIST 2A: World History to 1500
HIST 2B: World History- 1500 to Present
HIST 6: History of the Middle East
HIST 16A: Latin American to 1825
HIST 16B: Latin American since 1825
HIST 16C: History of Mexico
HIST 19B: Intro to Chinese History
MUS 11LA: Latin American Music Appreciation
MUS 12: World Music
PHILO 14: Non-Western Philosophical Traditions
PHILO 15: Patterns in Comparative Religions
PS 2: Comparative Government
PS 3: International Relations
SOC 9: Global Society
SPAN 30B: Mexican Civilization and Cultures
TA 8: World Theatre History
WS 2: Intro to Women's Studies- Global Perspectives

SECOND LANGUAGE

Note: Students accepted in the School of Engineering are not required to fulfill the second language requirement. However, if a student is admitted in the School of Engineering and decides to change schools after enrollment, the student will be required to fulfill the second language requirement at SCU.

MATHEMATICS:

Admission recommendation: Complete MATH 5A and 5B

To fulfill the admission mathematics requirement, complete both MATH 5A and 5B listed below. A score of 4 or 5 on the Advanced Placement Calculus BC exams will satisfy the mathematics Admission recommendations. Engineering majors at SCU require the completion of more than one math course ***(see table at the end of this document for additional courses to complete per major).***

Cabrillo College Course	SCU course equivalency
MATH 5A: Analy Geom and Calc I	MATH 11
MATH 5B: Analy Geom and Calculus II	MATH 12
MATH 5C: Analytic Geom and Calculus III	MATH 13&14
MATH 6: Intro to Linear Algebra	MATH 53
MATH 7: Intro to Differential Equat	MATH 22
MATH 23: Discrete Mathematics	MATH 51

Note: SCU does not accept remedial mathematics courses. Although a pre-Calculus course is transferrable, it will not fulfill any general core, major or minor requirements.

RELIGION, THEOLOGY & CULTURE 1*: **Only needed if transferring with less than 30 semester units (44 quarter units) of transfer credit. Students transferring with more than 30 semester units (44 quarter units) of transfer credit will be exempt from this requirement.***

Students transferring with less than 30 semester units (44 quarter units) of transfer credit may complete **one course** from the list below to satisfy the RTC 1 Core requirement.

Transfer courses cannot fulfill more than one Santa Clara Core requirement. If you already took a course listed below to satisfy a different requirement, you will want to choose a different course to complete.

Cabrillo College Course
No approved Cabrillo course equivalencies at time of publication

Note: The transferring with more than 30 semester units (or more than 44 quarter units) of transfer credit for the RTC 1 exemption rule does not apply to freshmen applicants.

EXPLORATIONS Core requirements

ETHICS: *Complete **one course** from the list below.*

Cabrillo College Course
PHILO 10/10H: Ethics/Honors Ethics

CIVIC ENGAGEMENT: Must be completed at Santa Clara University.

DIVERSITY: US Perspectives: *Complete **one course** from list below.*

Transfer courses cannot fulfill more than one Santa Clara Core requirement. If you already took a course listed below to satisfy a different requirement, you will want to choose a different course to complete.

Cabrillo College Course
ANTHR 6: Peoples and Cultures of Non-Western Tradition: California
ANTHR 7: Peoples and Cultures of Non-Western Tradition: North America
ANTHR 30: Gender Across Cultures
BBS 32: Issues of Linguistic and Cultural Diversity in Education, History and Politics
COMM 12: Intercultural Communications
ENGL 24A: Native American Prose and Poetry
ENGL 24B: Native American Prose and Poetry
ENGL 27A: Native American History and Literature I
ENGL 27B: Native American History and Literature II
ENGL 39: Chicana/o-Latina/o Literature
ENGL 41A: African American Literature: Slave Narrative to 20th Century
HIST 14: Women in America
HIST 14H: Honors Women in America
HIST 19C: Introduction to Japanese History
HIST 21A: Chicano History to 1865

HIST 21AH: Honors Chicano History to 1865
HIST 21B: Chicano History since 1865
HIST 21BH: Honors Chicano History since 1865
HIST 23: History of Contemporary Chicano Movements
HIST 24: History of California
HIST 27A: Native American History and Literature I
HIST 27B: Native American History and Literature II
HIST 29A: African-American History to 1865
HIST 29B: African-American History since 1865
SOC 3: Intro to Race and Ethnicity
SOC 8: Intro to Latina/o Studies
WS 1: Intro to Women's Studies
WS 5: La Mujer: Latina Life and Experience
WS 11: Feminist Theories

ARTS

School of Engineering students will automatically fulfill the Arts by taking required courses within their major at SCU. *However, if a student is admitted in the School of Engineering and decides to change schools after enrollment, the student will be required to fulfill the ARTS requirement by taking a course(s) at SCU. Refer to the College of Arts & Sciences or Leavey School of Business transfer guides for a list of courses that could satisfy the Arts core requirement.*

NATURAL SCIENCE (WITH A LAB) Core Requirement: *Complete* ***one course*** *from list below.*

Admission recommendation: Complete CHEM 1A; PHYS 4A, 4C and/or 4B. It is recommended to complete the PHYS series prior to enrollment at SCU.

(Note: Web Design & Engineering major completes one course to satisfy Natural Science core requirement. It is recommended to complete CHEM 1A)

To satisfy the Core Natural Science requirement, the course must have a lab component.

Engineering majors at SCU require the completion of more than one science course ***(see table at the end of this document for additional courses to complete per major).***

When a Cabrillo College course does not have a direct SCU course equivalent, but fulfills the Natural Science Core requirement, a transfer credit (TRCR) code of TRCR 18 is assigned.

Cabrillo College Course	SCU Course Equivalency
ANTHR 1/1L: Intro to Anthr- Biol w/ Lab	ANTH 1
ANTHR 1H/1L: Honors Intro to Anthropology- Biological w/ Lab	ANTH 1
ASTRO 3/8A: Solar System Astronomy w/ Observational Astronomy	TRCR 18
ASTRO 4/8A: Stars, Galaxies and the Origin of the Universe w/ Observational Astronomy	TRCR 18
BIO 4: Human Anatomy	TRCR 18
BIO 5: Human Physiology	TRCR 18
BIO 6: Microbiology	TRCR 18
BIO 9A: Molecular, Cellular, and Animal Biology	TRCR 18 (If BIO 9A & 9B completed, equates to SCU's BIOL 1A, 1B, 1C sequence)
BIO 9B: Ecology, Evolution, and Plant Biology	TRCR 18 (If BIO 9A & 9B completed, equates to SCU's BIOL 1A, 1B, 1C sequence)
BIO 11A: General Biology	TRCR 18
BIO 11B: Marine Biology	TRCR 18
BIO 11C: Ecology	TRCR 18
BIO 13A/13AL: Biology of People-Anatomy and Physiology w/ Lab	TRCR 18
CHEM 1A: General Chemistry I	CHEM 11
CHEM 1B: General Chemistry II	CHEM 12&50
CHEM 3/3L: Introduction Inorganic Chemistry w/ Lab	TRCR 18
CHEM 5: Quantitative Analysis	TRCR 18
CHEM 10: Concepts of Chemistry	TRCR 18
CHEM 12A/L: Organic Chemistry I w/ Lab	CHEM 31
CHEM 12B/L: Organic Chemistry II w/ Lab	CHEM 33 (If CHEM 12A/L & 12B/L, equates to SCU's CHEM 11, 12 & 13)
ES 10/10L: Introduction to Environmental Science w/ Lab	TRCR 18
ES 15: Energy for a Sustainable Future w/ Lab	TRCR 18
GEOG 1/1L: Physical Geography w/ Lab	TRCR 18
GEOG 3/3L: Introduction to Weather and Climate w/ Lab	TRCR 18
GEOL 10: Intro to Earth Science	TRCR 18
GEOL 20: California Geology	TRCR 18
METEO 1/1L: Elementary Meteorology w/ Lab	TRCR 18
OCEAN 10: Intro to Oceanography	TRCR 18
PHYS 2A: General Physics I	PHYS 11
PHYS 2B: General Physics II	PHYS 13 (If PHYS 2A & 2B completed, equates to PHYS 11, 12 & 13)
PHYS 4A: Physics for Scientists and Engrs I	PHYS 31
PHYS 4B: Physics for Sci and Engrs II	PHYS 33
PHYS 4C: Physics for Sci and Engrs III	PHYS 32

PHYS 10/10L: Intro to Physics w/ Lab	TRCR 18
PHYS 11: Elementary Physics	TRCR 18

SOCIAL SCIENCE: *Complete **one course** from list below.*

Transfer courses cannot fulfill more than one Santa Clara Core requirement. If you already took a course listed below to satisfy a different requirement, you will want to choose a different course to complete.

Cabrillo College Course
ANTHR 2: Intro to Anthropology- Cultural
ANTHR 2H: Honors Introduction to Anthropology: Cultural
ANTHR 3: Intro to Anthropology- Archaeology
ECON 1A: Intro to Macroeconomics
ECON 1B: Intro to Microeconomics
PS 1: Intro to Government
PS 1H: Honors Intro to Government
PS 2: Comparative Government
PS 3: International Relations
PSYCH 1: General Psychology
PSCYH 1H: Honors General Psychology
PSYCH 6: Intro to Social Psychology
SOC 1: Intro to Sociology- Understanding Society
SOC 1H: Honors Intro to Sociology- Understanding Society
SOC 2: Contemporary Social Problems
SOC 2H: Honors Contemporary Social Problems
SOC 3: Intro to Race and Ethnicity
SOC 5: Intro to Gender

RELIGION, THEOLOGY & CULTURE 2: Must be completed at Santa Clara University.

CULTURES & IDEAS 3: *Complete **one course** from the list below.*

Transfer courses cannot fulfill more than one Santa Clara Core requirement. If you already took a course listed below to satisfy a different requirement, you will want to choose a different course to complete.

Cabrillo College Course
ANTHR 2: Intro to Anthropology- Cultural
ANTHR 2H: Honors Introduction to Anthropology: Cultural
ANTHR 8: Anthropology of Religion
ANTH 17: Global Perspectives of Food and Culture
AH 16: Art of India and Southeast Asia
AH 17: Art of China, Korea and Japan
AH 19: Art of the Americas
AH 52: Latin American Art
ENGL 40: Latin American Literature
ENGL 45: World Literature
GEOG 2: Cultural Geography
GEOG 4: World Regional Geography
HIST 2A: World History to 1500
HIST 2B: World History- 1500 to Present
HIST 6: History of the Middle East
HIST 16A: Latin American to 1825
HIST 16B: Latin American since 1825
HIST 16C: History of Mexico
HIST 19B: Intro to Chinese History
MUS 11LA: Latin American Music Appreciation
MUS 12: World Music
PHILO 14: Non-Western Philosophical Traditions
PHILO 15: Patterns in Comparative Religions
PS 2: Comparative Government
PS 3: International Relations
SOC 9: Global Society
SPAN 30B: Mexican Civilization and Cultures
TA 8: World Theatre History
WS 2: Intro to Women's Studies- Global Perspectives

SCIENCE, TECHNOLOGY & SOCIETY: Must be completed at Santa Clara University.

RELIGION, THEOLOGY & CULTURE 3: Must be completed at Santa Clara University.

INTEGRATIONS Core requirements

EXPERIENTIAL LEARNING FOR SOCIAL JUSTICE: Must be completed at Santa Clara University.

ADVANCED WRITING: Must be completed at Santa Clara University.

PATHWAYS: Must be completed at Santa Clara University.

Transfer students who matriculate with fewer than 44 quarter units (or fewer than 30 semester units) must take 4 courses to fulfill the pathways requirement. However, students transferring in with more than 44 quarter units (or with 30 semester units or more) will complete 3 courses to fulfill the Core Pathways requirement.

ADDITIONAL SCHOOL OF ENGINEERING REQUIREMENTS PER MAJOR

The following courses allow students to complete additional School of Engineering requirements.

SCU COURSE	CC COURSE	BIOE	CENG	COEN	ECEN	ELEN	ENGR	MECH	WDE
MATH 11	MATH 5A	X	X	X	X	X	X	X	X
MATH 12	MATH 5B	X	X	X	X	X	X	X	X
MATH 13	MATH 5C	X	X	X	X	X	X	X	X
MATH 14	MATH 5C	X	X	X	X	X	X	X	X
MATH 22 or AMTH 106	MATH 7	X	X	X	X	X	X	X	
MATH 51 or COEN 19	MATH 23 or CS 23			X	X				
MATH 53	MATH 6			X	X				
PHYS 31	PHYS 4A	X	X	X	X	X	X	X	
PHYS 32	PHYS 4C	X	X	X	X	X	X	X	
PHYS 33	PHYS 4B	X	X	X	X	X	X	X	

PHYS 34	PHYS 4D					X			
CHEM 11	CHEM 1A	X	X	X	X	X	X	X	
ELEN/COEN 21/21L	-			X	X	X	X		
ELEN 50/50L	ENGR 15	X		X	X	X	X	X	
CENG 41	ENGR 35		X				X	X	
COEN 10/10L	CS 11			X	X	X	X		X
COEN 11/11L	CS 19			X	X	X			X
COEN 12/12L	CS 21			X	X	X			X
Abbreviations and Links:									
BIOE = Bioengineering									
CENG = Civil, Environmental, and Sustainable Engineering									
COEN = Computer Science and Engineering									
ECEN = Electrical and Computer Engineering									
ELEN = Electrical Engineering									
ENGR = General Engineering									
MECH = Mechanical Engineering									
WDE = Web Design and Engineering									
A "-" indicates that an equivalent course has not been approved at time of publication.									

BIOENGINEERING MAJOR REQUIREMENTS

Cabrillo College Course	**SCU course equivalency**
Natural Science:	
CHEM 1A: General Chemistry I	CHEM 11
CHEM 1B: General Chemistry II	CHEM 12&50
CHEM 12A/L: Organic Chemistry I w/ Lab	CHEM 31
CHEM 12B/L: Organic Chemistry II w/ Lab	CHEM 33 (If CHEM 12A & 12B completed, equates to SCU's CHEM 31, 32, 33 sequence)
PHYS 4A: Physics for Scientists and Engineers I	PHYS 31
PHYS 4B: Physics for Scientists and Engineers II	PHYS 33
PHYS 4C: Physics for Scientists and Engineers III	PHYS 32
Engineering:	
ENGR 15: Circuits	ELEN 50/50L
ENGR 25: Graphics and Design	MECH 10/10L
Mathematics:	
MATH 5A: Analytic Geometry and Calculus I	MATH 11
MATH 5B: Analytic Geometry and Calculus II	MATH 12
MATH 5C: Analytic Geom and Calculus III	MATH 13&14
MATH 7: Intro to Differential Equations	MATH 22 or AMTH 106

CIVIL ENGINEERING MAJOR REQUIREMENTS

Cabrillo College Course	SCU course equivalency
Natural Science:	
CHEM 1A: General Chemistry I	CHEM 11
PHYS 4A: Physics for Scientists and Engineers I	PHYS 31
PHYS 4B: Physics for Scientists and Engineers II	PHYS 33
PHYS 4C: Physics for Scientists and Engineers III	PHYS 32
GEOL 10: Physical Geology w/Lab	CENG 20/20L
Engineering:	
ENGR 15: Circuits	ELEN 50/50L
ETECH 24: Intro to AutoCAD or ENGR 25: Graphics and Design	CENG 7/7L
ENGR 1A: Surveying	CENG 10
ENGR 30: Computer Applications in Engineering	CENG 15
ENGR 35: Statics	CENG 41
ENGR 40: Strength of Materials	CENG 43/43L or CENG 44A/44AL
ENGR 45: Engineering Materials	CENG 115
Mathematics:	
MATH 5A: Analytic Geometry and Calculus I	MATH 11
MATH 5B: Analytic Geometry and Calculus II	MATH 12
MATH 5C: Analytic Geom and Calculus III	MATH 13&14
MATH 7: Intro to Differential Equations	MATH 22 or AMTH 106

COMPUTER SCIENCE & ENGINEERING MAJOR REQUIREMENTS

Cabrillo College Course	SCU course equivalency
Natural Science:	
CHEM 1A: General Chemistry I	CHEM 11
PHYS 4A: Physics for Scientists and Engineers I	PHYS 31
PHYS 4B: Physics for Scientists and Engineers II	PHYS 33
PHYS 4C: Physics for Scientists and Engineers III	PHYS 32
Engineering:	
ENGR 15: Circuits	ELEN 50/50L
CS 11: Intro to Programming Concepts & Meth C	COEN 10/10L
CS 19: C++ Programming	COEN 11/11L
CS 21: Introduction to Data Structures and Algorithms	COEN 12/12L
Mathematics:	
MATH 5A: Analytic Geometry and Calculus I	MATH 11
MATH 5B: Analytic Geometry and Calculus II	MATH 12
MATH 5C: Analytic Geom and Calculus III	MATH 13&14
MATH 7: Intro to Differential Equations	MATH 22 or AMTH 106
MATH 6: Intro to Linear Algebra	MATH 53
MATH 23: Discrete Math OR CS 23: Discrete Math	COEN 19 or MATH 51

ELECTRICAL & COMPUTER ENGINEERING MAJOR REQUIREMENTS

Cabrillo College Course	SCU course equivalency
Natural Science:	
CHEM 1A: General Chemistry I	CHEM 11
PHYS 4A: Physics for Scientists and Engineers I	PHYS 31
PHYS 4B: Physics for Scientists and Engineers II	PHYS 33
PHYS 4C: Physics for Scientists and Engineers III	PHYS 32
Engineering:	
ENGR 15: Circuits	ELEN 50/50L
CS 11: Intro to Programming Concepts & Meth C	COEN 10/10L
CS 19: C++ Programming	COEN 11/11L
CS 21: Introduction to Data Structures and Algorithms	COEN 12/12L
Mathematics:	
MATH 5A: Analytic Geometry and Calculus I	MATH 11
MATH 5B: Analytic Geometry and Calculus II	MATH 12
MATH 5C: Analytic Geom and Calculus III	MATH 13&14
MATH 7: Intro to Differential Equations	MATH 22 or AMTH 106
MATH 6: Intro to Linear Algebra	MATH 53
MATH 23: Discrete Math OR CS 23: Discrete Math	COEN 19 or MATH 51

ELECTRICAL ENGINEERING MAJOR REQUIREMENTS

Cabrillo College Course	SCU course equivalency
Natural Science:	
CHEM 1A: General Chemistry I	CHEM 11
PHYS 4A: Physics for Scientists and Engineers I	PHYS 31
PHYS 4B: Physics for Scientists and Engineers II	PHYS 33
PHYS 4C: Physics for Scientists and Engineers III	PHYS 32
PHYS 4D: Modern Physics	PHYS 34
Engineering:	
ENGR 35: Statics	CENG 41
ENGR 15: Circuits	ELEN 50/50L
CS 11: Intro to Programming Concepts & Meth C	COEN 10/10L
CS 19: C++ Programming	COEN 11/11L
CS 21: Introduction to Data Structures and Algorithms	COEN 12/12L
Mathematics:	
MATH 5A: Analytic Geometry and Calculus I	MATH 11
MATH 5B: Analytic Geometry and Calculus II	MATH 12
MATH 5C: Analytic Geom and Calculus III	MATH 13&14
MATH 7: Intro to Differential Equations	MATH 22 or AMTH 106

GENERAL ENGINEERING MAJOR REQUIREMENTS

Cabrillo College Course	SCU course equivalency
Natural Science:	
CHEM 1A: General Chemistry I	CHEM 11
PHYS 4A: Physics for Scientists and Engineers I	PHYS 31
PHYS 4B: Physics for Scientists and Engineers II	PHYS 33
PHYS 4C: Physics for Scientists and Engineers III	PHYS 32
Engineering:	
ENGR 15: Circuits	ELEN 50/50L
ENGR 25: Graphics and Design	MECH 10/10L
No approved course equivalency at time of publication	MECH 11
ENGR 45: Engineering Materials	MECH 15/15L
ENGR 35: Statics	CENG 41
CS 11: Intro to Programming Concepts & Meth C	COEN 10/10L
Mathematics:	
MATH 5A: Analytic Geometry and Calculus I	MATH 11
MATH 5B: Analytic Geometry and Calculus II	MATH 12
MATH 5C: Analytic Geom and Calculus III	MATH 13&14
MATH 7: Intro to Differential Equations	MATH 22 or AMTH 106

MECHANICAL ENGINEERING MAJOR REQUIREMENTS

Cabrillo College Course	SCU course equivalency
Natural Science:	
CHEM 1A: General Chemistry I	CHEM 11
PHYS 4A: Physics for Scientists and Engineers I	PHYS 31
PHYS 4B: Physics for Scientists and Engineers II	PHYS 33
PHYS 4C: Physics for Scientists and Engineers III	PHYS 32
Engineering:	
ENGR 15: Circuits	ELEN 50/50L
ENGR 25: Graphics and Design	MECH 10/10L
No approved course equivalency at time of publication	MECH 11
ENGR 45: Engineering Materials	MECH 15/15L
ENGR 35: Statics	CENG 41
Mathematics:	
MATH 5A: Analytic Geometry and Calculus I	MATH 11
MATH 5B: Analytic Geometry and Calculus II	MATH 12
MATH 5C: Analytic Geom and Calculus III	MATH 13&14
MATH 7: Intro to Differential Equations	MATH 22 or AMTH 106

WEB DESIGN AND ENGINEERING MAJOR REQUIREMENTS

Cabrillo College Course	SCU course equivalency
Natural Science:	
CHEM 1A: General Chemistry I	CHEM 11
Engineering:	
CS 11: Intro to Programming Concepts & Meth C	COEN 10/10L
CS 19: C++ Programming	COEN 11/11L
CS 21: Introduction to Data Structures and Algorithms	COEN 12/12L
Mathematics:	
MATH 5A: Analytic Geometry and Calculus I	MATH 11
MATH 5B: Analytic Geometry and Calculus II	MATH 12
MATH 5C: Analytic Geom and Calculus III	MATH 13&14

Additional notes:

- Consult the current Undergraduate Bulletin for Advanced Placement and High-Level International Baccalaureate test credit equivalencies at: https://www.scu.edu/bulletin/undergraduate/chapter-8/AcademicCreditEvaluation.html

- Consult the Santa Clara University Undergraduate Bulletin for additional requirements in a major. The Bulletin can be found at: https://www.scu.edu/academics/course-catalogs/undergraduate-bulletin/

- Once students are admitted to Santa Clara University, they must abide by the policies, regulations and other requirements outlined in the Undergraduate Bulletin for their cohort year.

- **Per SCU policy, transfer credit earned after enrollment cannot satisfy University Core, major or minor requirements.** Refer to the SCU Undergraduate Bulletin for additional transfer credit restrictions.

- This guide is to be used by transfer applicants, not First-Year (aka: freshmen) applicants. Admitted First-Year students must complete the following Core requirements at SCU: Critical Thinking & Writing 1 and 2; Cultures & Ideas 1 and 2; Religion Theology & Culture 1, 2 and 3 (taken in sequence order at SCU); Civic Engagement; Science, Technology & Society; Experiential Learning for Social Justice; Advanced Writing; and four Pathway courses.

For questions regarding transfer credit or test credit, contact the Transfer Record Analyst at: Registrar@scu.edu.

Disclosure: The information contained in this document is to be used as a guide for the purpose of admissions into Santa Clara University. This information is reviewed periodically and the date of the most recent update is noted in the bottom right-hand corner of this guide. Students are responsible to make sure that any courses taken are listed on this guide at the time of actual enrollment. Transferability is not guaranteed and is up to our discretion, largely based upon the Santa Clara University core curriculum in effect at the time of admission.