

Santa Clara University

Undergraduate

School of Engineering

City College of San Francisco 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 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 110A and MATH 110B
- One natural science: CHEM 103A
- Two calculus-based physics courses: PHYS 4A/4AL and PHYS 4B/4BL
 - Web Design Engineering majors are not required to complete CHEM 103A, PHYS 4A/4AL & 4B/4BL. Complete one course in the Natural Science list.
- GPA 3.5

For additional SCU Transfer Admissions information:

<http://www.scu.edu/ugrad/transfer/>

The following information is provided to help transfer students understand and complete additional Santa Clara University Core Curriculum (General Education) and some major 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 freshmen may not transfer courses to fulfill Core Critical Thinking & Writing 1 and 2 or Cultures & Ideas 1 and 2 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 International Baccalaureate 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
Leavey School of Business	175	87.5	58.33
School of Engineering:			
<i>Bioengineering</i>	191	95.5	63.66
<i>Civil Engineering</i>	195	97.5	65
<i>Computer Science & Engineering and General Engineering</i>	189	94.5	63
<i>Electrical Engineering</i>	190	95	63.33
<i>Mechanical Engineering</i>	192	96	96
<i>Web Design and Engineering</i>	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. However, awarding of degrees with Latin honors is based on all graded undergraduate courses attempted at SCU and courses taken elsewhere that are used towards the fulfillment of a student's degree. Honors will not be awarded above those merited by the student's record at SCU.

The following courses are not transferrable: most first-year seminars, internships, professional development courses, independent study courses, workshops, most physical education courses, most criminal/administration of justice 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 City College of San Francisco UC transferable courses to transfer for credit: Academic Achievement, some Administration of Justice, Botany, Child Development and Family Studies, Architecture, Commercial Law, Culinary Arts and Hospitality, Design, EMT, CNIT, ESL, Fashion, Learning Assistance, Ornamental Horticulture, Paralegal/Legal Studies, Physical Education, Physical Education Athletics, and Supervision courses. To view all City College of San Francisco College's UC transferable courses, visit www.assist.org. UC transferable courses not listed in this guide and not listed above as excluded will be accepted as elective units. 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 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 (any course listed under CTW 2), 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 AP CollegeBoard Report at the time of acceptance to receive such credit.

City College of San Francisco Course
ENGL 1A: University- Parallel Reading and Composition

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

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

City College of San Francisco Course
ENGL 1B: Reading, Writing and Critical Thinking about Literature
ENGL 1C: Advanced Composition

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.

City College of San Francisco Course
ADMJ 57: Intro to the Admin of Justice
AM C 11A: American Civilization
AM C 11B: American Civilization
ART 101: Western Art History
ART 102: Western Art History
ART 103: History of Modern Art
ART 116: Art of the Western World
ART 118: American Art
CINE 18: American Cinema
ECON 10: Economic History of the United States
HIST 1: The United States Since 1900
HIST 4A: Western Civilization
HIST 4B: Western Civilization
HIST 5: Europe since 1900
HIST 17A: The United States
HIST 17B: The United States
HIST 31: Intro to History of England
HIST 38: The Antebellum South in American History
HIST 39: The United States Presence in The Western
HIST 40: California
HUM 41A: Western Cultural Values
HUM 41B: Western Cultural Values
MUS 22A: History of Music in Western Culture
MUS 22B: History of Music in Western Culture
MUS 22C: History of Music in Western Culture
MUS 26: Music in American Culture
POLS 1: American Government

POLS 6: Problems of Political Association

CULTURES & IDEAS 2: 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.

City College of San Francisco Course
ANTH 5: Archaeology of Ancient Civilizations
ANTH 11: Latin American Cultures and Societies
ANTH 15: Philippine Culture and Society
ANTH 20: LGBT Anthropology
ANTH 25: Culture, Gender and Sexuality
ART 104: Asian Art History
ART 105: Ancient Art and Architecture of Latin America
ART 106: Latin-American Art History
ASIA 1: Modern Pacific Asia- An Introduction
ASIA 11: East Asian Calligraphy: An Introduction
ASIA 12: East Asian Literature in Film- Early Modern and Modern Era
CHIN 39: Major Achievements of Chinese Thought and Culture
ENGL 44A: Survey of World Literature, Past and Present
ENGL 44B: Survey of World Literature, Past and Present
GEOG 4: Cultural Geography
GEOG 7: Economic Geography
HIST 18A: History of Latin America
HIST 18B: History of Latin America
HIST 20: History of Mexico
HIST 33: History of South Asia
HIST 34: History of Japan
HIST 35A: History of China
HIST 35B: History of China
HIST 36: History of Southeast Asia
HIST 37: History of the Philippines
HIST 44: Comparative History of Overseas Chinese
HIST 48: African History
HUM 7: Comparative Religions
HUM 8: Philosophies of Religion
IDST 4: Ways of Faith
IDST 27A: Asian Humanities
IDST 27B: Asian Humanities
IDST 28G: Current Issues in India and Pakistan
IDST 29: Intro to Islam
IDST 30: Demystifying the Middle East
IDST 42: Philippine Humanities
IDST 44: African Literature
JAPA 39: Japanese Culture and Civilization

MUS 21: Traditional African Music
MUS 24: Music of East Asia
MUS 25: Music of Latin America and the Caribbean
POLS 2: Comparative Government
POLS 4: The Politics of Globalization
POLS 5: International Relations
POLS 18: Government and Politics of Latin America
POLS 35: Government and Politics of East Asia
POLS 45: Government and Politics in the Middle East
POLS 47: Government and Politics of Southeast Asia
POLS 48: Government and Politics of Africa

SECOND LANGUAGE

Note: Students accepted in the School of Engineering are not required to fulfill the Core 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 110A and MATH 110B

To fulfill the admissions mathematics requirement, complete both MATH 3 and 3B 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).

City College of San Francisco Course		
MATH 110A: Calculus I		MATH 11
MATH 110B: Calculus II		MATH 13 (If MATH 110A & 100B completed, equates to SCU's MATH 11, 12, & 13)
MATH 110C: Calculus III		MATH 14
MATH 115: Discrete Mathematics		MATH 51 OR COEN 19
MATH 120: Linear Algebra		MATH 53
MATH 125: Differential Equations		MATH 22

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 of transfer credit. Students transferring with more than 30 semester units of transfer credit will be exempt from this requirement.

Students transferring with less than 30 semester 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.

City College of San Francisco Course
HUM 7: Comparative Religions

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.

Note: Students accepted in the Leavey School of Business fulfill the Ethics requirement at SCU. Refer to Leavey School of Business Transfer Guide for specific Core and School requirements.

City College of San Francisco Course
GNBS 120: Business 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.

City College of San Francisco Course
AFAM 30: African-American Consciousness
AFAM 35: African-American Religion
AFAM 40: The Black Experience in California
AFAM 60: African-American Women in the United States
ART 106: Latin American Art History
ART 107: African American Art History
ASAM 6: Asian American Issues through Literature

ASAM 8: Filipino American Community
ASAM 10: Asian American Popular Culture
ASAM 20: Asian American Experience: 1820 to Present
ASAM 27: Asian American Race Relations
ASAM 35: Asian American Women
ASAM 40: The Chinese American Community
ASAM 42: The Southeast Asian Community in the United States
DANC 32: Black Tradition in American Dance
ECON 25: Women in the Economy
ECON 30: Economics of the African-American Community
HIST 9: Immigrants in American History
HIST 12A: United States Women's History
HIST 12B: United States Women's History
HIST 21: History of the Mexican-American/Chicano
HIST 41A: The African-American in the United States
HIST 41B: The African-American in the United States
HIST 45: Lesbian and Gay American History
HUM 35: North American Indian
HUM 48: African American Music, Art, and Literature
IDST 40: Intro to Contemporary Issues in the Pilipino Community
IDST 45: Pacific Islanders in the United States
LALS 1: Latino/a Diaspora: The Impact of Latinos Living in the U.S.
LALS 10: Latinas in the U.S.
LALS 15: Latin American Workers in Americas
LGBT 50: Lesbian/Gay/Bisexual/Transgender Communities
SOC 3: Social Problems
SOC 25: Sex and Gender in American Society

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 103A and PHYC 4A/4AL & 4B/4BL*

(Note: Web Design & Engineering major completes one course to satisfy Natural Science core requirement. It is recommended to complete CHEM 103A)

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 CCSF 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.

City College of San Francisco Course	SCU Course equivalency
ANAT 14: Intro to Human Anatomy and Physiology	TRCR 18: Core Natural Science
ANAT 25: General Human Anatomy	TRCR 18: Core Natural Science
ASTR 1/16: Cosmic Evolution w/ Observational Astronomy	TRCR 18: Core Natural Science
ASTR 17/16: Solar System w/ Observational Astronomy	TRCR 18: Core Natural Science
ASTR 18/16: Stars w/ Observational Astronomy	TRCR 18: Core Natural Science
ASTR 19/16: Galaxies and the Universe w/ Observational Astronomy	TRCR 18: Core Natural Science
BIO 9: Human Biology	TRCR 18: Core Natural Science
BIO 11: Intro to the Science of Living Organisms	TRCR 18: Core Natural Science
BIO 20/41L: Intro to Ecology w/ Lab	BIOL 23
BIO 32/32L: Marine Biology w/ Lab	TRCR 18: Core Natural Science
BIO 40/41L: Plants and Animals of California w/ Lab	TRCR 18: Core Natural Science
BIO 100A: General Biology	BIOL 21
BIO 100B: General Biology	BIOL 22
BOT 10: Plant Biology	TRCR 18: Core Natural Science
CHEM 40: Intro to Chemical Principles	TRCR 18: Core Natural Science
CHEM 101A: General College Chemistry	CHEM 11
CHEM 101B: General College Chemistry	CHEM 13 (If CHEM 101A & 101B completed, equates to SCU's CHEM 11, 12 & 13)
CHEM 103A: General Chemistry for Engineering	CHEM 11
CHEM 110/110L: Chemistry for Non- Scientists w/ Lab	TRCR 18: Core Natural Science
CHEM 208A: Organic Chemistry	CHEM 31
CHEM 208B: Organic Chemistry	CHEM 33 (IF CHEM 208A & 208B completed, equates to SCU's CHEM 31, 32 & 33)
CHEM 212A: Organic Chemistry	CHEM 31
CHEM 212B: Organic Chemistry	CHEM 33 (If CHEM 212A & 212B

		completed, equates to SCU's CHEM 31, 32 & 33)
ECOL 20: Intro to Ecology		TRCR 18: Core Natural Science
GEOG 1/1L: Physical Geography w/ Lab		TRCR 18: Core Natural Science
GEOL 10/10L: Physical Geology w/ Lab		CENG 20/20L
MB 12: Intro to Microbiology		TRCR 18: Core Natural Science
OCAN 1/1L: Oceanography w/ Lab		TRCR 18: Core Natural Science
PALE 1: Intro to Paleontology		TRCR 18: Core Natural Science
PHYC1/11L: Conceptual Physical Science w/ Lab		TRCR 18: Core Natural Science
PHYC 2A/2AL: Intro Physics w/ Lab		PHYS 11
PHYC 2B/2BL: Intro Physics w/ Lab		PHYS 13 (If PHYC 2A/2AL & 2B/2BL completed, equates to SCU's PHYS 11, 12, & 13)
PHYC 4A/4AL: Physics for Scientists and Engineers w/ Lab		PHYS 31
PHYC 4B/4BL: Physics for Scientists and Engineers w/ Lab		PHYS 33
PHYC 4C/4CL: Physics for Scientists and Engineers w/ Lab		PHYS 32
PHYC 4D/4DL: Physics for Scientists and Engineers		PHYS 34
PHYC 10/10L: Conceptual Physics w/ Lab		TRCR 18: Core Natural Science
PHYS 1: Intro Human Physiology		BIOL 21
PHYS 12: Intro to Human Physiology		BIOL 21

SOCIAL SCIENCE: Complete one course from list below.

Note: Students accepted in the Leavey School of Business take ECON 1A (or 1AH) & ECON 1B (or 1BH) to satisfy the Social Science requirement. Refer to Leavey School of Business Transfer Guide for specific core and school requirements.

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.

City College of San Francisco Course
ANTH 2: Archaeology and Prehistory
ANTH 3: Intro to Social and Cultural Anthropology
ECON 1: Principles of Macroeconomics
ECON 3: Principles of Microeconomics
GEOG 4: Cultural Geography
GEOG 7: Economic Geography
POLS 1: American Government
POLS 2: Comparative Government
POLS 5: International Relations
PSYC 1: General Psychology
PSYC 23: Psychology of Race and Ethnic Relations
SOC 1: Intro to Sociology

SOC 2: Social Deviance and Social Issues
SOC 30: Social Psychology

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.

Note: Students accepted in the Leavey School of Business fulfill the Cultures and Ideas 3 requirement at SCU. Refer to Leavey School of Business Transfer Guide for specific core and school requirements.

City College of San Francisco Course
ANTH 5: Archaeology of Ancient Civilizations
ANTH 11: Latin American Cultures and Societies
ANTH 15: Philippine Culture and Society
ANTH 20: LGBT Anthropology
ANTH 25: Culture, Gender and Sexuality
ART 104: Asian Art History
ART 105: Ancient Art and Architecture of Latin America
ART 106: Latin-American Art History
ASIA 1: Modern Pacific Asia- An Introduction
ASIA 12: East Asian Literature in Film- Early Modern and Modern Era
CHIN 39: Major Achievements of Chinese Thought and Culture
GEOG 4: Cultural Geography
GEOG 7: Economic Geography
ENGL 44A: Survey of World Literature, Past and Present
ENGL 44B: Survey of World Literature, Past and Present
HIST 18A: History of Latin America
HIST 18B: History of Latin America
HIST 20: History of Mexico
HIST 33: History of South Asia
HIST 34: History of Japan
HIST 35A: History of China
HIST 35B: History of China
HIST 36: History of Southeast Asia
HIST 37: History of the Philippines
HIST 48: African History
HUM 7: Comparative Religions
HUM 8: Philosophies of Religion
IDST 4: Ways of Faith

IDST 27A: Asian Humanities
IDST 27B: Asian Humanities
IDST 29: Intro to Islam
IDST 30: Demystifying the Middle East
IDST 42: Philippine Humanities
IDST 44: African Literature
JAPA 39: Japanese Culture and Civilization
MUS 21: Traditional African Music
MUS 24: Music of East Asia
MUS 25: Music of Latin America and the Caribbean
POLS 2: Comparative Government
POLS 4: The Politics of Globalization
POLS 5: International Relations
POLS 18: Government and Politics of Latin America
POLS 35: Government and Politics of East Asia
POLS 47: Government and Politics of Southeast Asia
POLS 48: Government and Politics of Africa

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 30 semester units (or 44 quarter units) must take 4 courses to fulfill the pathways requirement. However, students transferring in with more than 30 semester units (or more than 44 quarter units) 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.

BIOENGINEERING MAJOR REQUIREMENTS

City College of San Francisco Course	SCU course equivalency
Natural Science:	
BIO 100A: General Biology	BIOL 21
BIO 100B: General Botany	BIOL 22
BIO 20/41L: Intro to Ecology w/Lab	BIOL 23
<i>No CCSF course equivalency</i>	BIOL 24
<i>No CCSF course equivalency</i>	BIOL 25
CHEM 103A or 101A: General Chemistry	CHEM 11
CHEM 101B: General Chemistry	CHEM 13 (If CHEM 101A or 103A & 101B completed, equates to SCU's CHEM 11,12, 13 sequence)
CHEM 208A or 212A: Organic Chemistry	CHEM 31
CHEM 208B or 212B: Organic Chemistry	CHEM 33 (If CHEM 208A or 212A & 208B or 212B completed, equates to SCU's CHEM 31, 32, & 33)
PHYC 4A/4AL: Physics for Scientists	PHYS 31
PHYC 4B/4BL: Physics for Scientists	PHYS 33
PHYC 4C/4CL: Physics for Scientists	PHYS 32
Engineering:	
ENGN 10A: Introduction to Engineering	ENGR 1
ENGN 20/20L: Intro to Circuit Analysis + Lab	ELEN 50/50L
ENGN 24: Design Graphics	MECH 10/10L
	COEN 44/44L or 45/45L
Mathematics:	
MATH 110A: Calculus I	MATH 11
MATH 110B: Calculus II	MATH 13 (If Math 110A & 110B completed, equates to SCU's MATH 11, 12, 13)
MATH 110C: Calculus III	Math 14
MATH 125: Differential Equations	Math 22

CIVIL ENGINEERING MAJOR REQUIREMENTS

City College of San Francisco Course	SCU course equivalency
Natural Science:	
CHEM 103A or 101A: General Chemistry	CHEM 11
PHYC 4A/4AL: Physics for Scientists	PHYS 31
PHYC 4B/4BL: Physics for Scientists	PHYS 33

PHYC 4C/4CL: Physics for Scientists	PHYS 32
GEOL 10/10L: Physical Geology w/Lab	GEOL 20/20L
Engineering:	
ENGN 1A: Engineering Survey	CENG 10/10L
ENGN 10A: Introduction to Engineering	ENGR 1
ENGN 20/20L: Intro to Circuit Analysis + Lab	ELEN 50/50L
ENGN 24: Design Graphics	CENG 7/7L
ENGN 36: Engineering Mech - Statics	CENG 41
Mathematics:	
MATH 110A: Calculus I	MATH 11
MATH 110B: Calculus II	MATH 13 (If Math 110A & 110B completed, equates to SCU's MATH 11, 12, 13)
MATH 110C: Calculus III	MATH 14
MATH 125: Differential Equations	MATH 22

COMPUTER SCIENCE & ENGINEERING

City College of San Francisco College Course	SCU course equivalency
Natural Science:	
CHEM 103A or 101A: General Chemistry	CHEM 11
PHYC 4A/4AL: Physics for Scientists	PHYS 31
PHYC 4B/4BL: Physics for Scientists	PHYS 33
PHYC 4C/4CL: Physics for Scientists	PHYS 32
Engineering:	
ENGN 10A: Introduction to Engineering	ENGR 1
ENGN 20/20L: Intro to Circuit Analysis + Lab	ELEN 50/50L
CS 110A: Intro to Programming	COEN 10/10L
CS 110B: Programming Fundamentals	COEN 11/11L
CS 110C: Data Structures and Algorithms	COEN 12/12L
Mathematics:	
MATH 110A: Calculus I	MATH 11
MATH 110B: Calculus II	MATH 13 (If Math 110A & 110B completed, equates to SCU's MATH 11, 12, 13)
MATH 110C: Calculus III	MATH 14
MATH 115: Discrete Structures	COEN 19
MATH 125: Differential Equations	MATH 22
MATH 120: Linear Algebra	MATH 53

ELECTRICAL ENGINEERING

City College of San Francisco Course	SCU course equivalency
Natural Science:	
BIO 100A: General Biology	BIOL 21
CHEM 103A or 101A: General Chemistry	CHEM 11
CHEM 101B: General Chemistry	CHEM 13 (If CHEM 101A or 103A & 101B completed, equates to SCU's CHEM 11, 12, 13 sequence)
PHYC 4A/4AL: Physics for Scientists	PHYS 31

PHYC 4B/4BL: Physics for Scientists	PHYS 33
PHYC 4C/4CL: Physics for Scientists	PHYS 32
PHYC 4D/4DL: Physics for Scientists	PHYS 34
Engineering:	
ENGN 10A: Introduction to Engineering	ENGR 1
ENGN 20/20L: Intro to Circuit Analysis + Lab	ELEN 50/50L
ENGN 36: Engineering Mech - Statics	CENG 41
CS 110B: Programming Fundamentals	COEN 11/11L
CS 110C: Data Structures and Algorithms	COEN 12/12L
Mathematics:	
MATH 110A: Calculus I	MATH 11
MATH 110B: Calculus II	MATH 13 (If Math 110A & 110B completed, equates to SCU's MATH 11, 12, 13)
MATH 110C: Calculus III	MATH 14
MATH 125: Differential Equations	MATH 22

GENERAL ENGINEERING

City College of San Francisco Course	SCU course equivalency
Natural Science:	
CHEM 103A or 101A: General Chemistry	CHEM 11
PHYC 4A/4AL: Physics for Scientists	PHYS 31
PHYC 4B/4BL: Physics for Scientists	PHYS 33
PHYC 4C/4CL: Physics for Scientists	PHYS 32
Engineering:	
ENGN 10A: Introduction to Engineering	ENGR 1
ENGN 20/20L: Intro to Circuit Analysis + Lab	ELEN 50/50L
ENGN 24: Design Graphics	MECH 10/10L
ENGN 45: Materials Science	MECH 15/15L
ENGN 36: Engineering Mech - Statics	CENG 41
CS 110A: Intro to Programming	COEN 10/10L
Mathematics:	
MATH 110A: Calculus I	MATH 11
MATH 110B: Calculus II	MATH 13 (If Math 110A & 110B completed, equates to SCU's MATH 11, 12, 13)
MATH 110C: Calculus III	MATH 14
MATH 125: Differential Equations	MATH 22

MECHANICAL ENGINEERING

City College of San Francisco Course	SCU course equivalency
Natural Science:	
CHEM 103A or 101A: General Chemistry	CHEM 11
PHYC 4A/4AL: Physics for Scientists	PHYS 31
PHYC 4B/4BL: Physics for Scientists	PHYS 33
PHYC 4C/4CL: Physics for Scientists	PHYS 32
Engineering:	
ENGN 10A: Introduction to Engineering	ENGR 1
ENGN 20/20L: Intro to Circuit Analysis + Lab	ELEN 50/50L

ENGN 24: Design Graphics	MECH 10/10L
	MECH 11
ENGN 45: Materials Science	MECH 15/15L
ENGN 36: Engineering Mech - Statics	CENG 41
ENGN 38: Introduction to Computing for Engrs	COEN 44/44L OR COEN 45/45L
Mathematics:	
MATH 110A: Calculus I	MATH 11
MATH 110B: Calculus II	MATH 13 (If Math 110A & 110B completed, equates to SCU's MATH 11, 12, 13)
MATH 110C: Calculus III	MATH 14
MATH 125: Differential Equations	MATH 22

WEB DESIGN AND ENGINEERING

City College Course	SCU course equivalency
Natural Science:	
CHEM 103A or CHEM 101A: General Chemistry (Recommended)	CHEM 11
Engineering:	
ENGN 10A: Introduction to Engineering	ENGR 1
CS 110B: Programming Fundamentals	COEN 11/11L
CS 110C: Data Structures and Algorithms	COEN 12/12L
Mathematics:	
MATH 110A: Calculus I	MATH 11
MATH 110B: Calculus II	MATH 13 (If Math 110A & 110B completed, equates to SCU's MATH 11, 12, 13)
MATH 110C: Calculus III	MATH 14

Additional notes:

- Consult the current Undergraduate Bulletin for Advanced Placement and International Baccalaureate test credit equivalencies at:
<http://www.scu.edu/academics/bulletins/undergraduate/>
- Consult the Santa Clara University Undergraduate Bulletin for additional requirements in a major. The Bulletin can be found at: <http://www.scu.edu/academics/bulletins/undergraduate/>
- 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.
- **Transfer credit earned after enrollment cannot satisfy University Core, major or minor requirements.** Refer to the SCU Undergraduate Bulletin for additional transfer credit restrictions at: <http://www.scu.edu/academics/bulletins/undergraduate/>
- This guide is to be used by transfer applicants, not freshmen applicants. Admitted freshmen must complete the following Core requirements at SCU: Critical Thinking & Writing 1 and 2; Cultures & Ideas 1 and 2; Religion Theology & Culture 1 (unless

transfer credit for a course was preapproved to fulfill the Core RTC 1 requirement); Civic Engagement; Religion, Theology & Culture 2 and 3 (taken in sequence order after RTC 1 is completed); Science, Technology & Society; Experiential Learning for Social Justice; Advanced Writing; and 4 Pathway courses.

For questions regarding transfer credit or AP/IB test Credit, contact Sheli Whiting, Transfer Record Analyst at: swhiting@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.

Santa Clara University

School of Engineering

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
Religion Theology & Culture 1

EXPLORATIONS

- Ethics
Civic Engagement Must be completed at Santa Clara
Diversity: U.S. Perspectives
Arts Satisfied within major requirements
Natural Science W/Lab* Satisfied within major requirements
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 individual major charts on page 12 of transfer guide)

Engineering School Requirement Course completed or IP (In Progress)

MATHEMATICS*

- Calculus and Analytic Geometry I*
Calculus and Analytic Geometry II*
Intermediate Calculus
Differential Equations

NATURAL SCIENCE*

- General Chemistry*
General Chemistry (2nd sem)
Engineering Phys - Mech *
Engineering Phys- Electr & Mag*
Modern Physics

ADDITIONAL ENGINEERING MAJOR Requirements

- Intro to Engineering
Intro to Circuit Analysis
Engineering Graphics
Computer Programming I
Computer Programming II

Total Semester UNITS

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.