

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

Foothill 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 1A/1AH and MATH 1B/1BH
- One natural science course with a lab: CHEM 1A/1AH
- Two Calculus-based Physics courses: PHYS 4A and PHYS 4C and/or 4B
 - Web Design Engineering majors are not required to complete CHEM 1A/1AH, PHYS 4A & 4C and/or 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 First-Year students may not 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: <i>Engineering Physics</i>	193	96.5	64.33
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 and Electrical & Computer Engineering</i>	190	95	63.33
<i>Mechanical Engineering</i>	192	96	64
<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.

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 Foothill College UC transferrable courses to transfer for credit: Athletics, some Child Development, some Counseling, English as a Second Language, most Environmental Horticulture and Design, some Kinesiology, most Physical Education, Physical Education Adaptive, and Special Education courses. To view all Foothill 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.

Foothill College Course
ENGL 1A: Composition & Reading
ENGL 1AH: Honors Composition & Reading
ENGL 1S+ENGL 1T: Integrated Composition & Reading (complete two-quarter course sequence)

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

Admission recommendation: Complete Critical Thinking and Writing 2 Core requirement

Foothill College Course
ENGL 1B: Composition, Critical Reading & Thinking Through Literature
ENGL 1BH: Honors Composition, Critical Reading, & Thinking Through Literature
ENGL 1C: ARGUMENTATIVE WRITING & CRITICAL THINKING
ENGL 1CH: HONORS ARGUMENTATIVE WRITING & CRITICAL THINKING
PHIL 1: Critical Thinking

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.

Foothill College Course
ANTH 22: The Aztec, Maya, Inca & Their Predecessors: Civilizations of the Americas
ART 2A/2AH: History of Art: History of Western Art from Pre-History to Early Christianity
ART 2B/2BH: History of Western Art from Middle Ages to Renaissance
ART 2C/2CH: History of Western Art from Baroque to Post-Impressionism
ART 2J: American Art
ART 3: Modern Art and Contemporary Thought
DANC 10: Topics in Dance History
HIST 4A: History of Western Civilization to 800AD
HIST 4B: History of Western Civilization: 700-1800
HIST 4C/4CH: History of Western Civilization: 1789 to Present/Honors
HIST 17A: History of the United States to 1816
HIST 17B: History of the United States from 1816 to 1914
HIST 17C/17CH: History of the United States from 1914 to the Present
HUMN 1/1H: Cultures, Civilizations & Ideas: The Ancient World (Formerly HUMN 1A: Humanities and the Modern Experience)
HUMN 5/5H: Cultures, Civilizations & Ideas: The Modern World
HUMN 6: The Shock of the New: From the Modern to the Contemporary
MDIA 2A: History of Film 1895-1945
MDIA 2B: History of Film 1945-Current
MDIA 5: American Cinema
MDIA 11H: Honors Introduction to Popular Culture
MUS 2A/2AH: Great Composers & Music Masterpieces of Western Civilization

MUS 2B/2BH: Great Composers & Music Masterpieces of Western Civilization
MUS 2C/2CH: Great Composers & Music Masterpieces of Western Civilization
MUS 2F: History of American Musical Theatre
PHIL 20A: History of Western Philosophy from Socrates to St. Thomas
PHIL 20B: History of Western Philosophy from Renaissance through Kant
PHIL 25: Comparative World Religions: West
POLI 1: Intro to American Government and Politics
SOC 23: Race and Ethnic Relations

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.

Foothill College Course
ANTH 2A/2AH: Cultural Anthropology/Honors Cultural Anthropology
ANTH 3: Prehistory- The Search for Lost Civilizations
ANTH 5: Magic, Science and Religion
ANTH 6: Peoples of Africa
ART 2F: Intro to Asian Art
ECON 25: The Global Economy
ENGL 14: Traveling the World Through Contemp Lit
ENGL 47A/47AH: World Lit 1
ENGL 47B/47BH: World Lit 2
GEOG 2: Human Geography
GEOG 5: Intro to Economic Geography
GEOG 10: World Regional Geography
GLST 1: Introduction to Global Studies
GLST 2: Global Issues
HIST 3A: World History From Prehistory to 750 CE
HIST 3B: World History from 750 CE to 1750 CE
HIST 3C: World History from 1750 CE to the Present
HIST 8: History of Latin America
HIST 18: Intro to Middle Eastern Civilization
HIST 19: History of Asia
HIST 20: History of Russia and the Soviet Union
HUMN 2: Cultures, Civilizations & Ideas: Of Empires & Conflict (Formerly HUMN 1B: Humanities and the Modern Experience)
HUMN 3/3H: World Myths in Lit, Art and Film/Honors
HUMN 7/7H: Global Religions: Contemporary Practices & Perspectives
MDIA 1/1H: Introduction to Film Studies

MUS 2D: World Music
PHIL 24: Comparative World Religions- East
POLI 2/2H: Comparative Government and Politics
POLI 15/15H: International Relations/ World Politics
PSYC 21: Psychology of Women
WMN 11: Women in Global Perspective
WMN 21: Psychology of Women

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 1A/1AH and MATH 1B/1BH

To fulfill the admission mathematics requirement, complete both MATH 1A/1AH and 1B/1BH 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).

Foothill College Course	SCU Course equivalency
MATH 1A/1AH: Calculus	MATH 11
MATH 1B/1BH: Calculus	MATH 12
MATH 1C: Calculus	MATH 13
MATH 1D: Calculus	MATH 14
MATH 2A: Differential Equations	MATH 22 or AMTH 106
MATH 2B: Linear Algebra:	MATH 53
MATH 22: Discrete Mathematics OR C S 18: 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 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.

Foothill College Course
PHIL 24: Comparative World Religions- East
PHIL 25: Comparative World Religions- West

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.

Foothill College Course
PHIL 8: 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.

Foothill College Course
ANTH 20: Native Peoples of California
ART 2E: A History of Women in Art

COMM 10: Gender, Communication and Culture
COMM 12: Intercultural Communication
ENGL 5: LGBT Literature
ENGL 7: Native American Literature
ENGL 12: African American Literature
ENGL 31: Latino/a Lit
ENGL 40: Asian American Literature
ENGL 41: Literature of Multicultural America
HIST 10: History of California- The Multicultural State
MDIA 8A: Race and Gender in American Media
MDIA 8B: Women in Film
MDIA 11/11H: Introduction to Popular Culture
MDIA 12: Popular Culture and United States History
MUS 8/8H: Music of Multicultural America/Honors of Multicultural America
PHOT 8/8H: Photography of Multicultural America
SOC 23: Race and Ethnic Relations
SOC 28: Sociology of Gender
SOSC 20: Cross-Cultural Perspectives for a Multicultural Society
THTR 8: Multicultural Theatre Arts in Modern America
WMN 5: Introduction to Women's Studies

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/IAH; PHYS 4A & 4C and/or 4B*

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

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 Foothill 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.

Foothill College Course	SCU Course equivalency
ANTH 1/1L: Introduction to Physical Anthropology w/Lab	ANTH 1
ANTH 1H/1HL: Honors Introduction to Physical Anthropology w/Lab	TRCR 18
ANTH 8/16L: Introduction to Archaeology w/Lab OR ANTH 8/17L: Introduction to Archaeology w/Lab	TRCR 18
ANTH 13/13L: Introduction to Forensic Anthropology w/Lab	TRCR 18
ASTR 10A/10L: General Astronomy: Solar System w/Lab	TRCR 18
ASTR 10B or 10BH/10L: General Astronomy: Stars, Galaxies, Cosmology w/Lab	TRCR 18
BIOL 1A: Principles of Cell Biology w/Lab	TRCR 18
BIOL 1B: Form & Function in Plants & Animals w/Lab	TRCR 18
BIOL 1C: Evolution, Systematics & Ecology w/Lab	TRCR 18
BIOL 1D: Introduction to Molecular Genetics w/Lab	TRCR 18
BIOL 9/9L: Environmental Biology w/Lab	TRCR 18
BIOL 10: General Biology: Basic Principles w/Lab	TRCR 18
BIOL 13: Marine Biology w/Lab	TRCR 18
BIOL 14: Human Biology w/Lab	TRCR 18
BIOL 15: California Ecology/Natural History w/Lab	TRCR 18
BIOL 40A: Human Anatomy & Physiology I w/Lab	TRCR 18
BIOL 40B: Human Anatomy & Physiology II w/Lab	TRCR 18
BIOL 40C: Human Anatomy & Physiology III w/Lab	TRCR 18
BIOL 41: Microbiology w/Lab	TRCR 18
CHEM 1A/1AH: General Chemistry w/Lab	CHEM 11
CHEM 1B/1BH: General Chemistry w/Lab	CHEM 12
CHEM 1C: General Chemistry & Qualitative Analysis w/Lab	CHEM 50
CHEM 9: Chemistry of Cooking	TRCR 18
CHEM 12A/12AL: Organic Chemistry w/Lab	CHEM 31
CHEM 12B/12BL: Organic Chemistry w/Lab	CHEM 32
CHEM 12C/12CL: Organic Chemistry w/Lab	CHEM 33
CHEM 12A/13AH: Organic Chemistry w/Lab	CHEM 31
CHEM 12B/13BH: Organic Chemistry w/Lab	CHEM 32
CHEM 12C/13CH: Organic Chemistry w/Lab	CHEM 33

CHEM 25: Fundamentals of Chemistry w/Lab	TRCR 18
CHEM 30A: Survey of Inorganic & Organic Chemistry w/Lab	TRCR 18
CHEM 30B: Survey of Organic & Biochemistry w/Lab	TRCR 18
GEOG 1: Physical Geography w/Lab	TRCR 18
HORT 10: Environmental Horticulture & the Urban Landscape w/Lab	TRCR 18
PHYS 2A: General Physics w/Lab	PHYS 11
PHYS 2B: General Physics w/Lab	PHYS 12
PHYS 2C: General Physics w/Lab	PHYS 13
PHYS 4A: General Physics (Calculus) w/Lab	PHYS 31
PHYS 4B: General Physics (Calculus) w/Lab	PHYS 33
PHYS 4C: General Physics (Calculus) w/Lab	PHYS 32
PHYS 4D: General Physics (Calculus) w/Lab	PHYS 34
PSE 20: Introduction to Physical Science	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.

Foothill College Course
ANTH 2A: Cultural Anthropology
ANTH 3: Prehistory- The Search for Lost Civilizations
ANTH 4: First Peoples of North America
ANTH 8: Intro to Archaeology
ECON 1A: Principles of Macroeconomics
ECON 1B: Principles of Microeconomics
ECON 9/9H: Political Economy/Honors Political Economy
POLI 2/2H: Comparative Government & Politics
POLI 9/9H: Political Economy
POLI 15/15H: International Relations/World Politics
PSYC 1/1H: General Psychology
PSYC 10: Research Methods and Designs
PSYC 30: Social Psychology
SOC 1/1H: Introduction to Sociology
SOC 10: Research Methods and Designs
SOC 20: Major Social Problems
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.

Foothill College Course
ANTH 2A/2AH: Cultural Anthropology/Honors Cultural Anthropology
ANTH 3: Prehistory- The Search for Lost Civilizations
ANTH 5: Magic, Science and Religion
ANTH 6: Peoples of Africa
ART 2F: Intro to Asian Art
ECON 25: The Global Economy
ENGL 14: Traveling the World Through Contemp Lit
ENGL 47A/47AH: World Lit 1
ENGL 47B/47BH: World Lit 2
GEOG 2: Human Geography
GEOG 5: Intro to Economic Geography
GEOG 10: World Regional Geography
GLST 1: Introduction to Global Studies
GLST 2: Global Issues
HIST 3A: World History From Prehistory to 750 CE
HIST 3B: World History from 750 CE to 1750 CE
HIST 3C: World History from 1750 CE to the Present
HIST 8: History of Latin America
HIST 18: Intro to Middle Eastern Civilization
HIST 19: History of Asia
HIST 20: History of Russia and the Soviet Union
HUMN 2: Cultures, Civilizations & Ideas: Of Empires & Conflict (Formerly HUMN 1B: Humanities and the Modern Experience)
HUMN 3/3H: World Myths in Lit, Art and Film/Honors
HUMN 7/7H: Global Religions: Contemporary Practices & Perspectives
MDIA 1/1H: Introduction to Film Studies
MUS 2D: World Music
PHIL 24: Comparative World Religions- East
POLI 2/2H: Comparative Government and Politics
POLI 15/15H: International Relations/ World Politics
PSYC 21: Psychology of Women
WMN 11: Women in Global Perspective
WMN 21: Psychology of Women

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	FOOTHILL COURSE	BIOE	CENG	COEN	ECEN	ELEN	ENGR	MECH	WDE
MATH 11	MATH 1A/1AH	X	X	X	X	X	X	X	X
MATH 12	MATH 1B/1BH	X	X	X	X	X	X	X	X
MATH 13	MATH 1C	X	X	X	X	X	X	X	X
MATH 14	MATH 1D	X	X	X	X	X	X	X	X
MATH 22 or AMTH 106	MATH 2A	X	X	X	X	X	X	X	
MATH 51 or COEN 19	MATH 22 OR C S 18			X	X				
MATH 53	MATH 2B			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/1AH	X	X	X	X	X	X	X	
ELEN/COEN 21/21L	-			X	X	X	X		
ELEN 50/50L	ENGR 37	X		X	X	X	X	X	
CENG 41	ENGR 35		X				X	X	
COEN 10/10L	C S 1A/1AH OR C S 2A			X	X	X	X		X
COEN 11/11L	C S 1B OR C S 2B*			X	X	X			X
COEN 12/12L	C S 1C OR C S 2M			X	X	X			X

*Student must learn C programming on own

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

Foothill College Course	SCU course equivalency
Natural Science:	
BIOL 1A: Principles of Cell Biology	BIOL 1A (Pre-Med Track)
BIOL 1B: Form & Function in Plants & Animals	BIOL 1B (Pre-Med Track)
BIOL 1C: Evolution, Systematics & Ecology	BIOL 1C (Pre-Med Track)
CHEM 1A/1AH: General Chemistry w/Lab	CHEM 11
CHEM 1B/1BH: General Chemistry w/Lab	CHEM 12
CHEM 1C: General Chemistry & Qualitative Analysis w/Lab	CHEM 50
CHEM 12A/12AL: Organic Chemistry w/Lab	CHEM 31
CHEM 12B/12BL: Organic Chemistry w/Lab	CHEM 32
CHEM 12C/12CL: Organic Chemistry w/Lab	CHEM 33
CHEM 12A/13AH: Organic Chemistry w/Lab	CHEM 31
CHEM 12B/13BH: Organic Chemistry w/Lab	CHEM 32
CHEM 12C/13CH: Organic Chemistry w/Lab	CHEM 33
PHYS 4A: General Physics (Calculus) w/Lab	PHYS 31
PHYS 4B: General Physics (Calculus) w/Lab	PHYS 33
PHYS 4C: General Physics (Calculus) w/Lab	PHYS 32
Engineering:	
ENGR 37/37L: Introduction to Circuit Analysis w/Lab	ELEN 50/50L
ENGR 6: Engineering Graphics	MECH 10/10L (Medical Device Track)
Mathematics:	
MATH 1A/1AH: Calculus	MATH 11
MATH 1B/1BH: Calculus	MATH 12
MATH 1C: Calculus	MATH 13
MATH 1D: Calculus	MATH 14
MATH 2A: Differential Equations	MATH 22 or AMTH 106

CIVIL ENGINEERING MAJOR REQUIREMENTS

Foothill College Course	SCU course equivalency
Natural Science:	
CHEM 1A/1AH: General Chemistry w/Lab	CHEM 11
PHYS 4A: General Physics (Calculus) w/Lab	PHYS 31
PHYS 4B: General Physics (Calculus) w/Lab	PHYS 33
PHYS 4C: General Physics (Calculus) w/Lab	PHYS 32
<i>No approved course equivalency at time of publication</i>	CENG 20/20L
Engineering:	
ENGR 35: Statics	CENG 41
ENGR 6: Engineering Graphics	CENG 7
Mathematics:	

MATH 1A/1AH: Calculus	MATH 11
MATH 1B/1BH: Calculus	MATH 12
MATH 1C: Calculus	MATH 13
MATH 1D: Calculus	MATH 14
MATH 2A: Differential Equations	MATH 22 or AMTH 106

COMPUTER SCIENCE & ENGINEERING MAJOR REQUIREMENTS

Foothill College Course	SCU course equivalency
Natural Science:	
CHEM 1A/1AH: General Chemistry w/Lab	CHEM 11
PHYS 4A: General Physics (Calculus) w/Lab	PHYS 31
PHYS 4B: General Physics (Calculus) w/Lab	PHYS 33
PHYS 4C: General Physics (Calculus) w/Lab	PHYS 32
Engineering:	
ENGR 37/37L: Introduction to Circuit Analysis w/Lab	ELEN 50/50L
C S 1A/1AH: Object-Oriented Programming Methodologies in JAVA OR C S 2A: Object-Oriented Programming Methodologies in C++	COEN 10/10L
C S 1B: Intermediate Software Design in JAVA OR C S 2B: Intermediate Software Design in C++ (student must learn C programming on own)	COEN 11/11L
C S 1C: Advanced Data Structures & Algorithms in JAVA OR C S: 2M Intermediate Algorithm & Data Structure Methodologies in C++	COEN 12/12L
C S 10: Computer Architecture & Organization	COEN 20/20L
C S 2M: Intermediate Algorithm & Data Structure Methodologies in C++	COEN 79/79L
Mathematics:	
MATH 1A/1AH: Calculus	MATH 11
MATH 1B/1BH: Calculus	MATH 12
MATH 1C: Calculus	MATH 13
MATH 1D: Calculus	MATH 14
MATH 2A: Differential Equations	MATH 22 or AMTH 106
MATH 2B: Linear Algebra	MATH 53
MATH 22: Discrete Mathematics OR C S 18: Discrete Mathematics	COEN 19 or MATH 51

ELECTRICAL & COMPUTER ENGINEERING MAJOR REQUIREMENTS

Foothill College Course	SCU course equivalency
Natural Science:	
CHEM 1A/1AH: General Chemistry w/Lab	CHEM 11
PHYS 4A: General Physics (Calculus) w/Lab	PHYS 31
PHYS 4B: General Physics (Calculus) w/Lab	PHYS 33
PHYS 4C: General Physics (Calculus) w/Lab	PHYS 32
Engineering:	

ENGR 37/37L: Introduction to Circuit Analysis w/Lab	ELEN 50/50L
C S 1A/1AH: Object-Oriented Programming Methodologies in JAVA OR C S 2A: Object-Oriented Programming Methodologies in C++	COEN 10/10L
C S 1B: Intermediate Software Design in JAVA OR C S 2B: Intermediate Software Design in C++ (student must learn C programming on own)	COEN 11/11L
C S 1C: Advanced Data Structures & Algorithms in JAVA OR C S: 2M Intermediate Algorithm & Data Structure Methodologies in C++	COEN 12/12L
Mathematics:	
MATH 1A/1AH: Calculus	MATH 11
MATH 1B/1BH: Calculus	MATH 12
MATH 1C: Calculus	MATH 13
MATH 1D: Calculus	MATH 14
MATH 2A: Differential Equations	MATH 22 or AMTH 106
MATH 2B: Linear Algebra	MATH 53
MATH 22: Discrete Mathematics OR C S 18: Discrete Mathematics	COEN 19 or MATH 51

ELECTRICAL ENGINEERING MAJOR REQUIREMENTS

Foothill College Course	SCU course equivalency
Natural Science:	
CHEM 1A/1AH: General Chemistry w/Lab	CHEM 11
PHYS 4A: General Physics (Calculus) w/Lab	PHYS 31
PHYS 4B: General Physics (Calculus) w/Lab	PHYS 33
PHYS 4C: General Physics (Calculus) w/Lab	PHYS 32
PHYS 4D: General Physics (Calculus) w/Lab	PHYS 34
Engineering:	
ENGR 35: Statics	CENG 41
ENGR 37/37L: Introduction to Circuit Analysis w/Lab	ELEN 50/50L
C S 1A/1AH: Object-Oriented Programming Methodologies in JAVA OR C S 2A: Object-Oriented Programming Methodologies in C++	COEN 10/10L
C S 1B: Intermediate Software Design in JAVA OR C S 2B: Intermediate Software Design in C++ (student must learn C programming on own)	COEN 11/11L
C S 1C: Advanced Data Structures & Algorithms in JAVA OR C S: 2M Intermediate Algorithm & Data Structure Methodologies in C++	COEN 12/12L
Mathematics:	
MATH 1A/1AH: Calculus	MATH 11
MATH 1B/1BH: Calculus	MATH 12
MATH 1C: Calculus	MATH 13
MATH 1D: Calculus	MATH 14
MATH 2A: Differential Equations	MATH 22 or AMTH 106

GENERAL ENGINEERING MAJOR REQUIREMENTS

Foothill College Course	SCU course equivalency
Natural Science:	
CHEM 1A/1AH: General Chemistry w/Lab	CHEM 11
PHYS 4A: General Physics (Calculus) w/Lab	PHYS 31
PHYS 4B: General Physics (Calculus) w/Lab	PHYS 33
PHYS 4C: General Physics (Calculus) w/Lab	PHYS 32
Engineering:	
ENGR 35: Statics	CENG 41
ENGR 37/37L: Introduction to Circuit Analysis w/Lab	ELEN 50/50L
C S 1A/1AH: Object-Oriented Programming Methodologies in JAVA OR C S 2A: Object-Oriented Programming Methodologies in C++	COEN 10/10L
ENGR 6: Engineering Graphics	MECH 10/10L
<i>No approved course equivalency at time of publication</i>	MECH 11
ENGR 45: Properties of Materials	MECH 15/15L
Mathematics:	
MATH 1A/1AH: Calculus	MATH 11
MATH 1B/1BH: Calculus	MATH 12
MATH 1C: Calculus	MATH 13
MATH 1D: Calculus	MATH 14
MATH 2A: Differential Equations	MATH 22 or AMTH 106

MECHANICAL ENGINEERING MAJOR REQUIREMENTS

Foothill College Course	SCU course equivalency
Natural Science:	
CHEM 1A/1AH: General Chemistry w/Lab	CHEM 11
PHYS 4A: General Physics (Calculus) w/Lab	PHYS 31
PHYS 4B: General Physics (Calculus) w/Lab	PHYS 33
PHYS 4C: General Physics (Calculus) w/Lab	PHYS 32
Engineering:	
ENGR 35: Statics	CENG 41
ENGR 37/37L: Introduction to Circuit Analysis w/Lab	ELEN 50/50L
ENGR 6: Engineering Graphics	MECH 10/10L
<i>No approved course equivalency at time of publication</i>	MECH 11
ENGR 45: Properties of Materials	MECH 15/15L
Mathematics:	
MATH 1A/1AH: Calculus	MATH 11
MATH 1B/1BH: Calculus	MATH 12
MATH 1C: Calculus	MATH 13
MATH 1D: Calculus	MATH 14
MATH 2A: Differential Equations	MATH 22 or AMTH 106

WEB DESIGN AND ENGINEERING MAJOR REQUIREMENTS

Foothill College Course	SCU course equivalency
Natural Science:	
CHEM 1A/1AH: General Chemistry w/Lab (<i>Recommended</i>)	CHEM 11
Engineering:	
C S 1A/1AH: Object-Oriented Programming Methodologies in JAVA OR C S 2A: Object-Oriented Programming Methodologies in C++	COEN 10/10L
C S 1B: Intermediate Software Design in JAVA OR C S 2B: Intermediate Software Design in C++ (student must learn C programming on own)	COEN 11/11L
C S 1C: Advanced Data Structures & Algorithms in JAVA OR C S: 2M Intermediate Algorithm & Data Structure Methodologies in C++	COEN 12/12L
Mathematics:	
MATH 1A/1AH: Calculus	MATH 11
MATH 1B/1BH: Calculus	MATH 12
MATH 1C: Calculus	MATH 13
MATH 1D: Calculus	MATH 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.