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

Laney 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 3A and MATH 3B
- One natural science course with a lab: CHEM 1A
- Two Calculus-based Physics courses: PHYS 4A and PHYS 4B
    - Web Design Engineering majors are not required to complete CHEM 1A, PHYS 4A & 4B. Complete one course in the Natural Science list.

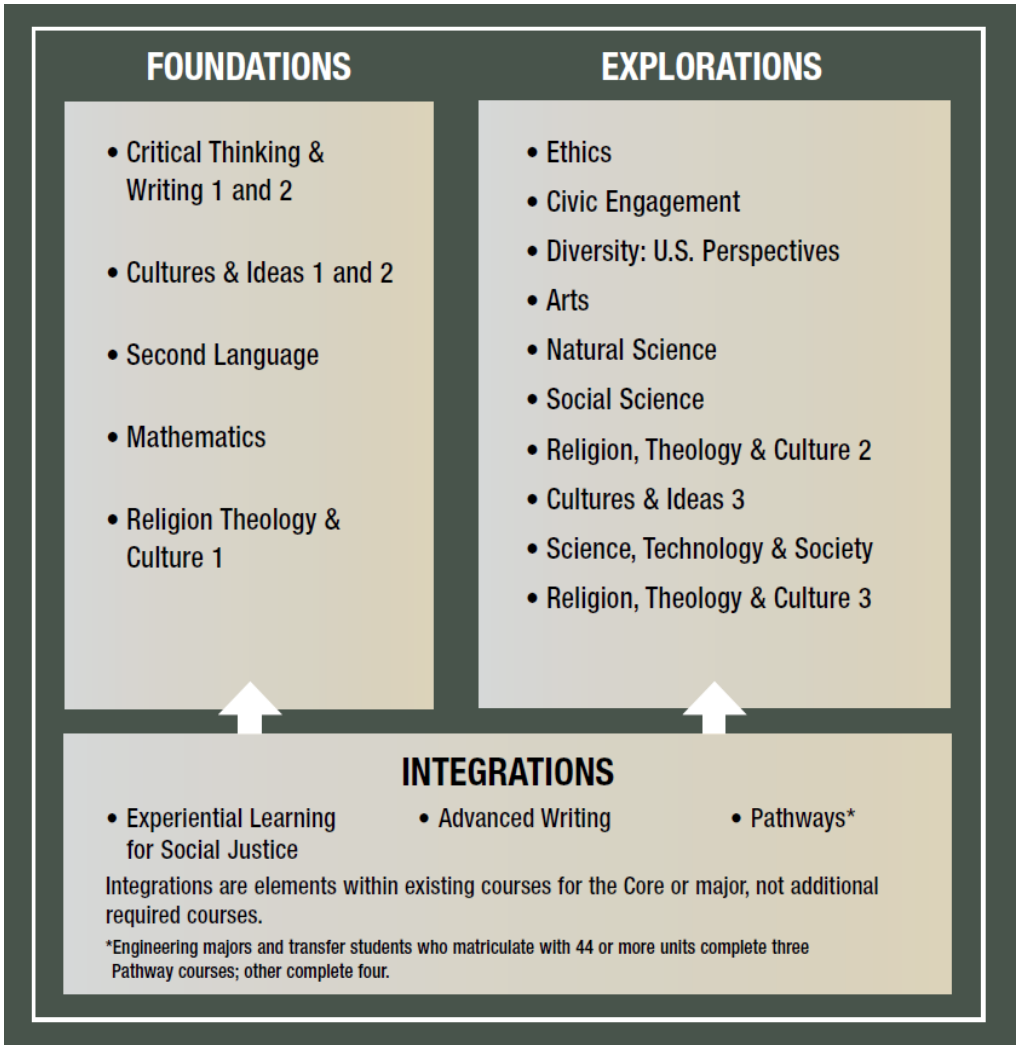
- GPA 3.5

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 Laney College UC transferrable courses to transfer for credit: Athletics, English as a Second Language, most Health Education, Kinesiology, and Sport Fitness courses. To view all Laney 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.

Laney College Course
ENGL 1A: Composition and Reading

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

Admission recommendation: Complete Critical Thinking and Writing 2 Core requirement

Laney College Course
ENGL 1B: Composition and Reading
ENGL 5: Critical Thinking in Reading and Writing

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.

Laney College Course
ART 2: History of Western Art: Prehistory through the Middle Ages
ART 3: History of Western Art: Renaissance to Contemporary Art
DANCE 1: History of Dance
HIST 2A: History of European Civilization
HIST 2B: History of European Civilization
HIST 7A: History of the United States to 1877
HIST 7B: History of the United States Since 1865
HIST 19: History of California
HUMAN 6: Introduction to the New Testament
HUMAN 31A: Arts and Ideas of Western Culture
HUMAN 31B: Arts and Ideas of Western Culture
LABST 10: American Labor Movement
M/LAT 12: United States Relations with Mexico and Latin America
M/LAT 19: History of the Mexican American
MUSIC 15A: Jazz, Blues and Popular Music in the American Culture
MUSIC 15B: Jazz, Blues and Popular Music in the American Culture
MUSIC 51A: Music History I: Antiquity to 1750
MUSIC 51B: Music History II: 1750 to Present
PHIL 2: Social and Political Philosophy
PHIL 20A: History of Ancient Greek Philosophy
PHIL 20B: History of Modern European Philosophy
PHIL 30: Contemporary Philosophy
POSCI 1: Government and Politics in the United States

POSCI 6: The U.S. Constitution and Criminal Due Process
POSCI 16: State and Local Government
POSCI 18: The American Presidency

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.

Laney College Course
ANTHR 3: Introduction to Social and Cultural Anthropology
ANTHR 7: Magic, Religion and Witchcraft
ART 5: History of Asian Art (Past to Present)
ART 7: History of African-American Art (Past to Present)
ASAME 26: Politics in Modern Asia
GEOG 2: Cultural Geography
GEOG 3: World Regional Geography
HIST 3B: Modern World History- 1500 to Present
HUMAN 7: Introduction to the Old Testament
HUMAN 16: Introduction to Islam
HUMAN 40: Religions of the World
M/LAT 30A: Survey of Latin American Films
M/LAT 30B: Survey of Latin American Films
MUSIC 8A: Music History: Antiquity Through the Renaissance
PHIL 37: Intro to Asian Philosophy
POSCI 2: Comparative Government
POSCI 3: International Relations
SOCSC 19: Introduction to Global Studies
SOCSC 20: Global Issues

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 3A and MATH 3B

To fulfill the admission mathematics requirement, complete both MATH 3A 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).***

Laney College Course	SCU course equivalency
MATH 3A: Calculus I	MATH 11
MATH 3B: Calculus II	MATH 12
MATH 3C: Calculus III	MATH 13&14
MATH 13: Introduction to Statistics	MATH 8

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.

Laney College Course
No approved Laney College 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.*

Laney College Course
HUMAN 30A: Human Values - 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.

Laney College Course
AFRAM 1: Introduction to African-American Studies
AFRAM 2: Black Economics
AFRAM 5: The African American Family in the United States
AFRAM 8: African-American Politics
AFRAM 11: Perceptions of the African-American Male in America
AFRAM 12: Psychology of African Americans
AFRAM 14A: Social Psychology of African American Male/Female Relationships
AFRAM 16: The Prison Industrial Complex: African American Incarceration
AFRAM 18: African Heritage of Latin America
AFRAM 23: Perceptions of African-American Women
AFRAM 26: African American Culture: Black Music, Art, and Literature
AFRAM 29: African-American Experience Through Films
AFRAM 30: African-American History: Africa to 1865
AFRAM 31: African-American History: 1865 to 1945
AFRAM 32: African-American History: 1945 to the Present
AFRAM 35: Women of Color
AFRAM 38: Environmental Racism and Justice
AFRAM 45: Religion and the African American Church in America
ART 7: History of African-American Art (Past to Present)
ANTHR 14: Introduction to the Anthropology of Race, Class, Ethnicity, and Society
ASAME 2: Introduction to Pacific Islander Experience from 1850 to the Present
ASAME 10: Asian and Asian American Popular Culture
ASAME 21: Asian-American Communities
ASAME 30: Asians and Asian-Americans through Films
ASAME 32: Asian-American Psychology

ASAME 35: Women of Color
ASAME 42: Southeast Asians in the United States
ASAME 45A: Asian-American History to 1945
ASAME 45B: Asian-American History 1945 to the Present
CULIN 88: Introduction to Food and Culture
DANCE 1: History of Dance
ENGL 31: Survey of African-American Literature
ETHST 1: Introduction to Ethnic Studies
ETHST 3: Race, Gender and Sports
ETHST 12: Economics and Social Change: Racial Conflict and Class in America
ETHST 13: Introduction to Community Based Research in Urban America
ETHST 14: Community Building and Transformation in Urban America
ETHST 30: Introduction to Race, Gender and Health
ETHST 50: Introduction to Race, Class and Schools
HUMAN 45: Religion and the African American Church in America
M/LAT 23: Psychology of Latinas and Latinos
M/LAT 31: Survey of Chicana/Latina Women
M/LAT 32: African Heritage of Latin America
M/LAT 33: Introduction to Chicana/o and Latina/o Studies
M/LAT 34: History of Latinos in the United States: 1800 to Present
M/LAT 35: Women of Color
M/LAT 36: Survey of Latina/o Literature
M/LAT 37: Latinx Culture: Music, Art, and Theater
M/LAT 38: Introduction to Curanderismo: Sacred Healing Traditions and Practices of Mexico and the Southwest United States
NATAM 1: History of Native American Indians
NATAM 2: Native American Indians in Contemporary Society
NATAM 35: Women of Color
SOC 2: Social Problems
SOC 5: Minority Groups
SPAN 36A: Introduction to Aztec-Mexica Culture and Nauatl Language I
SPAN 36B: Introduction to Aztec-Mexica Culture and Nauatl Language II
SPAN 40: Hispanic Civilization and Culture

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 & 4B

(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 Laney 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.

Laney College Course	SCU Course Equivalency
ANTHR 1/1L: Introduction to Physical Anthropology w/Lab	ANTH 1
BIOL 1A: General Biology w/Lab	TRCR 18
BIOL 1B: General Biology w/Lab	TRCR 18
BIOL 2: Human Anatomy w/Lab	TRCR 18
BIOL 3: Microbiology w/Lab	TRCR 18
BIOL 4: Human Physiology w/Lab	TRCR 18
BIOL 10: Introduction to Biology w/Lab	TRCR 18
BIOL 20A: Human Anatomy and Physiology w/Lab	TRCR 18
BIOL 20B: Human Anatomy and Physiology w/Lab	TRCR 18
BIOL 24: Basic Human Anatomy & Physiology w/Lab	TRCR 18
CHEM 1A: General Chemistry w/Lab	CHEM 11
CHEM 1B: General Chemistry w/Lab	CHEM 12&50
CHEM 12A: Organic Chemistry w/Lab	CHEM 31
CHEM 12B: Organic Chemistry w/Lab	CHEM 33
CHEM 30A: Introduction to General Chemistry w/Lab	TRCR 18
CHEM 30B: Introductory Organic and Biochemistry w/Lab	TRCR 18
GEOG 1/1L: Physical Geography w/Lab	TRCR 18
PHYSC 22: Intro to the Marine Environment with Lab	TRCR 18
PHYS 3A: General Physics w/Lab	PHYS 11
PHYS 3B: General Physics w/Lab	PHYS 13 (If PHYS 3A & 3B are taken, equates to SCU's PHYS 11, 12 & 13)
PHYS 4A: General Physics with Calculus w/Lab	PHYS 31
PHYS 4B: General Physics with Calculus w/Lab	PHYS 33 (If PHYS 4A & 4B are taken, equates to SCU's PHYS 31, 32 & 33)

PHYS 4C: General Physics with Calculus w/Lab	PHYS 34 (If PHYS 4A, 4B & 4C are taken, equates to SCU's PHYS 31, 32, 33 & 34)

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.

Laney College Course
ANTHR 2: Introduction to Archaeology and Prehistory
ANTHR 3: Introduction to Social and Cultural Anthropology
ECON 1: Principles of Economics: Macro-Economics
ECON 2: Principles of Economics: Micro-Economics
POSCI 1: Government and Politics in the United States
POSCI 2: Comparative Government
POSCI 3: International Relations
PSYCH 1A: Introduction to General Psychology
PSYCH 6: Social Psychology
SOC 1: Introduction to Sociology
SOC 2: Social Problems
SOC 13: Sociology of the Family

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.

Laney College Course
ANTHR 3: Introduction to Social and Cultural Anthropology
ANTHR 7: Magic, Religion and Witchcraft
ART 5: History of Asian Art (Past to Present)
ART 7: History of African-American Art (Past to Present)

ASAME 26: Politics in Modern Asia
GEOG 2: Cultural Geography
GEOG 3: World Regional Geography
HIST 3B: Modern World History- 1500 to Present
HUMAN 7: Introduction to the Old Testament
HUMAN 16: Introduction to Islam
HUMAN 40: Religions of the World
M/LAT 30A: Survey of Latin American Films
M/LAT 30B: Survey of Latin American Films
MUSIC 8A: Music History: Antiquity Through the Renaissance
PHIL 37: Intro to Asian Philosophy
POSCI 2: Comparative Government
POSCI 3: International Relations
SOCSC 19: Introduction to Global Studies
SOCSC 20: Global Issues

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	LC COURSE	BIOE	CENG	COEN	ECEN	ELEN	ENGR	MECH	WDE
MATH 11	MATH 3A	X	X	X	X	X	X	X	X
MATH 12	MATH 3B	X	X	X	X	X	X	X	X
MATH 13	MATH 3C	X	X	X	X	X	X	X	X
MATH 14	MATH 3C	X	X	X	X	X	X	X	X
MATH 22 or AMTH 106	MATH 3F	X	X	X	X	X	X	X	
MATH 51 or COEN 19	MATH 11			X	X				
MATH 53	MATH 3E			X	X				
PHYS 31	PHYS 4A	X	X	X	X	X	X	X	
PHYS 32	PHYS 4A & 4B	X	X	X	X	X	X	X	
PHYS 33	PHYS 4B	X	X	X	X	X	X	X	
PHYS 34	PHYS 4A, 4B & 4C					X			
CHEM 11	CHEM 1A	X	X	X	X	X	X	X	
ELEN/COEN 21/21L	-			X	X	X	X		
ELEN 50/50L	ENGIN 18	X		X	X	X	X	X	
CENG 41	ENGIN 35		X				X	X	
COEN 10/10L	CIS 6 or 36A or 36B or 61			X	X	X	X		X
COEN 11/11L	CIS 25* or 25B*			X	X	X			X
COEN 12/12L	CIS 27			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

Laney College Course	SCU course equivalency
Natural Science:	
CHEM 1A: General Chemistry w/Lab	CHEM 11
CHEM 1B: General Chemistry w/Lab	CHEM 12&50
CHEM 12A: Organic Chemistry w/Lab	CHEM 31
CHEM 12B: Organic Chemistry w/Lab	CHEM 33 (If CHEM 12A & 12B completed, equates to SCU CHEM 31, 32, 33 sequence)
PHYS 4A: General Physics with Calculus w/Lab	PHYS 31
PHYS 4B: General Physics with Calculus w/Lab	PHYS 33 (If PHYS 4A & 4B completed, equates to SCU PHYS 31, 32, 33 sequence)
Engineering:	
ENGIN 18: Introduction to Electrical Engineering	ELEN 50/50L
ENGIN 22: Engineering Graphics	MECH 10/10L (*Medical Device track)
Mathematics:	
MATH 3A: Calculus I	MATH 11
MATH 3B: Calculus II	MATH 12
MATH 3C: Calculus III	MATH 13&14
MATH 3F: Differential Equations	MATH 22 or AMTH 106

CIVIL ENGINEERING MAJOR REQUIREMENTS

Laney College Course	SCU course equivalency
Natural Science:	
CHEM 1A: General Chemistry w/Lab	CHEM 11
PHYS 4A: General Physics with Calculus w/Lab	PHYS 31
PHYS 4B: General Physics with Calculus w/Lab	PHYS 33 (If PHYS 4A & 4B completed, equates to SCU PHYS 31, 32, 33 sequence)
GEOL 10: Introduction to Geology	CENG 20 (must take lab at SCU)
Engineering:	
ENGIN 22: Engineering Graphics	CENG 7/7L
ENGIN 35: Engineering Mechanics - Statics	CENG 41
ENGIN 36: Engineering Mechanics of Materials	CENG 43
Mathematics:	

MATH 3A: Calculus I	MATH 11
MATH 3B: Calculus II	MATH 12
MATH 3C: Calculus III	MATH 13&14
MATH 3F: Differential Equations	MATH 22 or AMTH 106

COMPUTER SCIENCE & ENGINEERING MAJOR REQUIREMENTS

Laney College Course	SCU course equivalency
Natural Science:	
CHEM 1A: General Chemistry w/Lab	CHEM 11
PHYS 4A: General Physics with Calculus w/Lab	PHYS 31
PHYS 4B: General Physics with Calculus w/Lab	PHYS 33 (If PHYS 4A & 4B completed, equates to SCU PHYS 31, 32, 33 sequence)
Engineering:	
ENGIN 18: Introduction to Electrical Engineering	ELEN 50/50L
CIS 6: Introduction to Computer Programming OR CIS 36A: JAVA Programming Language I OR CIS 36B: Java Programming Language II OR CIS 61: Structure and Interpretation of Computer Programs	COEN 10/10L
CIS 25: Object Oriented Programming Using C++ OR CIS 25B: C++ Programming Language II	COEN 11/11L (Student must learn C programming on own)
CIS 27: Data Structures and Algorithms	COEN 12/12L
MATH 11: Discrete Mathematics	COEN 19 or MATH 51
CIS 20: Microcomputer Assembly Language	COEN 20/20L
Mathematics:	
MATH 3A: Calculus I	MATH 11
MATH 3B: Calculus II	MATH 12
MATH 3C: Calculus III	MATH 13&14
MATH 3F: Differential Equations	MATH 22 or AMTH 106
MATH 3E: Linear Algebra	MATH 53

ELECTRICAL & COMPUTER ENGINEERING MAJOR REQUIREMENTS

American River College Course	SCU course equivalency
Natural Science:	
CHEM 1A: General Chemistry w/Lab	CHEM 11
PHYS 4A: General Physics with Calculus w/Lab	PHYS 31
PHYS 4B: General Physics with Calculus w/Lab	PHYS 33 (If PHYS 4A & 4B completed, equates to SCU PHYS 31, 32, 33 sequence)
Engineering:	
ENGIN 18: Introduction to Electrical Engineering	ELEN 50/50L
CIS 6: Introduction to Computer	COEN 10/10L

Programming OR CIS 36A: JAVA Programming Language I OR CIS 36B: Java Programming Language II OR CIS 61: Structure and Interpretation of Computer Programs	
CIS 25: Object Oriented Programming Using C++ OR CIS 25B: C++ Programming Language II	COEN 11/11L (Student must learn C programming on own)
CIS 27: Data Structures and Algorithms	COEN 12/12L
MATH 11: Discrete Mathematics	COEN 19 or MATH 51
Mathematics:	
MATH 3A: Calculus I	MATH 11
MATH 3B: Calculus II	MATH 12
MATH 3C: Calculus III	MATH 13&14
MATH 3F: Differential Equations	MATH 22 or AMTH 106
MATH 3E: Linear Algebra	MATH 53

ELECTRICAL ENGINEERING MAJOR REQUIREMENTS

Laney College Course	SCU course equivalency
Natural Science:	
CHEM 1A: General Chemistry w/Lab	CHEM 11
PHYS 4A: General Physics with Calculus w/Lab	PHYS 31
PHYS 4B: General Physics with Calculus w/Lab	PHYS 33 (If PHYS 4A & 4B completed, equates to SCU PHYS 31, 32, 33 sequence)
PHYS 4C: General Physics with Calculus w/Lab	PHYS 34 (If PHYS 4A, 4B & 4C are taken, equates to SCU's PHYS 31, 32, 33 & 34)
Engineering:	
ENGIN 18: Introduction to Electrical Engineering	ELEN 50/50L
ENGIN 35: Engineering Mechanics - Statics	CENG 41
CIS 25: Object Oriented Programming Using C++ OR CIS 25B: C++ Programming Language II	COEN 11/11L (Student must learn C programming on own)
CIS 27: Data Structures and Algorithms	COEN 12/12L
Mathematics:	
MATH 3A: Calculus I	MATH 11
MATH 3B: Calculus II	MATH 12
MATH 3C: Calculus III	MATH 13&14
MATH 3F: Differential Equations	MATH 22 or AMTH 106

GENERAL ENGINEERING MAJOR REQUIREMENTS

Laney College Course	SCU course equivalency
Natural Science:	
CHEM 1A: General Chemistry w/Lab	CHEM 11
PHYS 4A: General Physics with Calculus w/Lab	PHYS 31
PHYS 4B: General Physics with Calculus w/Lab	PHYS 33 (If PHYS 4A & 4B completed, equates to SCU PHYS 31, 32, 33 sequence)
Engineering:	

ENGIN 18: Introduction to Electrical Engineering	ELEN 50/50L
ENGIN 22: Engineering Graphics	MECH 10/10L
ENGIN 45: Properties of Materials	MECH 15/15L
ENGIN 35: Engineering Mechanics - Statics	CENG 41
CIS 6: Introduction to Computer Programming OR CIS 36A: JAVA Programming Language I OR CIS 36B: Java Programming Language II OR CIS 61: Structure and Interpretation of Computer Programs	COEN 10/10L
Mathematics:	
MATH 3A: Calculus I	MATH 11
MATH 3B: Calculus II	MATH 12
MATH 3C: Calculus III	MATH 13&14
MATH 3F: Differential Equations	MATH 22 or AMTH 106

MECHANICAL ENGINEERING MAJOR REQUIREMENTS

Laney College Course	**SCU course equivalency**
Natural Science:	
CHEM 1A: General Chemistry w/Lab	CHEM 11
PHYS 4A: General Physics with Calculus w/Lab	PHYS 31
PHYS 4B: General Physics with Calculus w/Lab	PHYS 33 (If PHYS 4A & 4B completed, equates to SCU PHYS 31, 32, 33 sequence)
Engineering:	
ENGIN 18: Introduction to Electrical Engineering	ELEN 50/50L
ENGIN 22: Engineering Graphics	MECH 10/10L
ENGIN 45: Properties of Materials	MECH 15/15L
ENGIN 77: Computer Programming for Engineers Using MATLAB	MECH 45/45L
ENGIN 35: Engineering Mechanics - Statics	CENG 41
Mathematics:	
MATH 3A: Calculus I	MATH 11
MATH 3B: Calculus II	MATH 12
MATH 3C: Calculus III	MATH 13&14
MATH 3F: Differential Equations	MATH 22 or AMTH 106

WEB DESIGN AND ENGINEERING MAJOR REQUIREMENTS

Laney College Course	**SCU course equivalency**
Natural Science:	
CHEM 1A: General Chemistry w/Lab *(Recommended)*	CHEM 11
Engineering:	
CIS 6: Introduction to Computer Programming OR CIS 36A: JAVA Programming Language I OR CIS 36B: Java Programming Language II OR CIS 61: Structure and Interpretation of Computer Programs	COEN 10/10L

CIS 25: Object Oriented Programming Using C++ OR CIS 25B: C++ Programming Language II	COEN 11/11L (Student must learn C programming on own)
CIS 27: Data Structures and Algorithms	COEN 12/12L
Mathematics:	
MATH 3A: Calculus I	MATH 11
MATH 3B: Calculus II	MATH 12
MATH 3C: 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.