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

Contra Costa 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 190 and MATH 191
- One natural science course with a lab: CHEM 120
- Two Calculus-based Physics courses: PHYS 130 and PHYS 230
    - Web Design Engineering majors are not required to complete CHEM 120, PHYS 130 & 230. Complete one course in the Natural Science list.

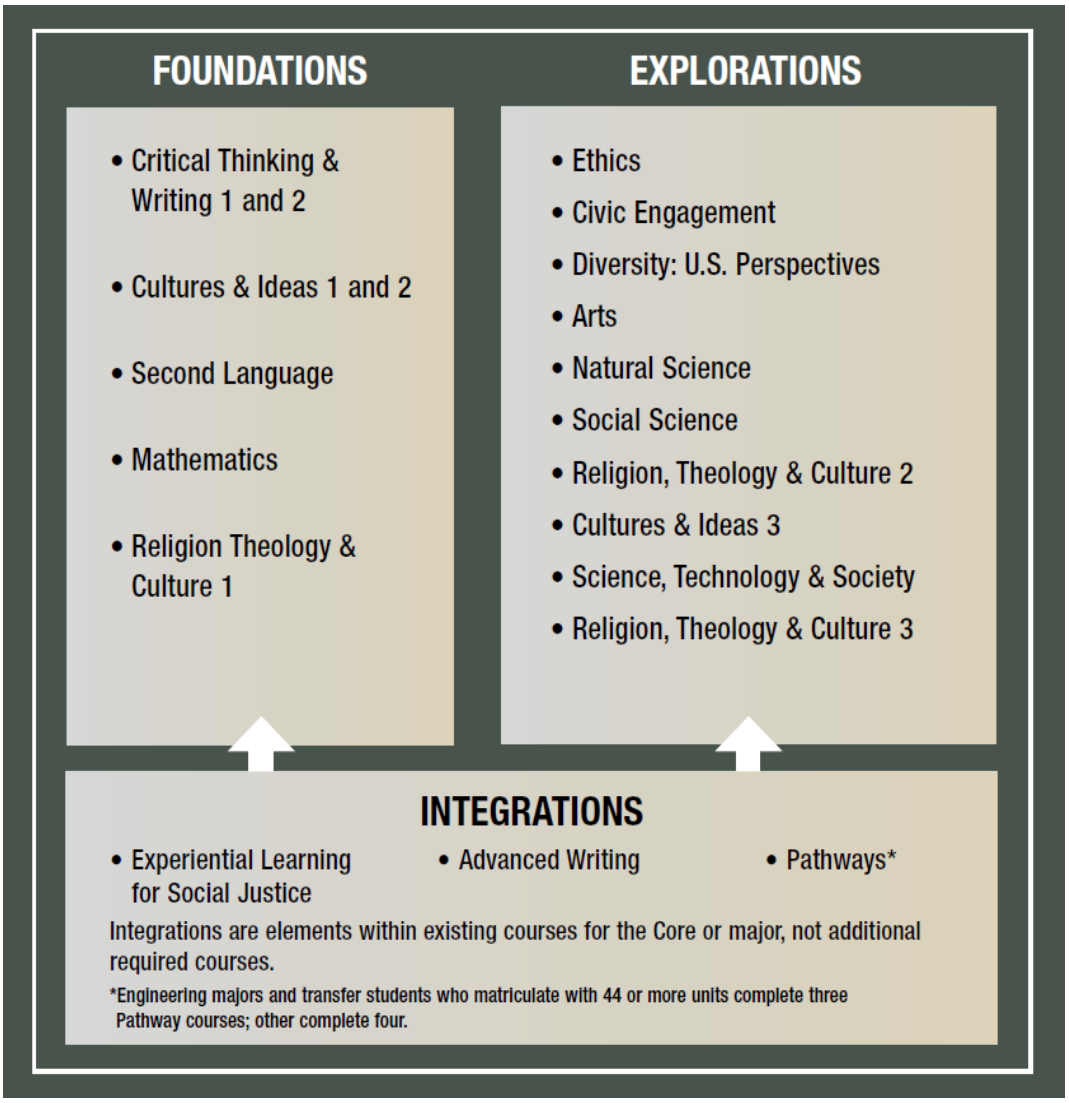
- GPA 3.5

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 Contra Costa College UC transferrable courses to transfer for credit: English as a Second Language, Kinesiology, Physical Education, and Physical Education Intercollegiate Athletics courses. To view all Contra Costa 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.

Contra Costa College Course
ENGL 001A: Composition and Reading
ENGL 001AX: Intensive Composition and Reading

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

Admission recommendation: Complete Critical Thinking and Writing 2 Core requirement

Contra Costa College Course
ENGL 001C: Critical Thinking and Advanced Composition
ENGL 002B: Critical Thinking through Literature
PHILO 130: Intro to Critical Thinking
SPCH 121I: Critical Thinking & Persuasion (IGETC)

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.

Contra Costa College Course
ADJUS 120: Introduction to Administration of Justice
ART 190: History of Art: Western Art from Prehistory
ART 191: History of Art: Renaissance to Contemporary
ENGL 210B: British Literature- Late 18th Century to Present
GEOG 150: California Geography
HIST 120: History of the United States (Colonial - 1865)
HIST 121: History of the United States (1865 – Present)
HIST 124: History of California
HIST 140: History of Western Civilization to the Renaissance
HIST 141: History of Western Civilization Since the Renaissance
LARAZ 113: Intro to Analysis of American Political Institutions
LARAZ 130: Contemporary Chicano/Latino Literature
MUSIC 108: History and Appreciation of Western Music
POLSC 125: Government of the United States

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.

Contra Costa College Course
ANTHR 130: Cultural Anthropology
ANTHR 150: Magic, Witchcraft and Religion
ART 117: Appreciation of Art and Architecture
ART 194: Survey of Asian Arts
DRAMA 103: History of the Theatre: Pre-Greek to 17th Century
DRAMA 104: History of the Theatre: 17th Century to Present
ENGL 230B: World Literature- 1650 to Present
GEOG 130: Cultural Geography
GEOG 160: World Regional Geography
POLSC 130: Intro to Comparative Government and Politics
POLSC 140: Intro to International Relations
SOCIO 245: Sociology of Race and Ethnicity
SPCH 122: Intercultural Communication

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 190 and MATH 191

To fulfill the admission mathematics requirement, complete both MATH 190 and MATH 191 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).***

Contra Costa College Course	SCU course equivalency
MATH 185: Discrete Mathematics	MATH 51 or COEN 19
MATH 190: AnalyGeometry and Calculus I	MATH 11
MATH 191: Analytic Geometry and Calculus II	MATH 12
MATH 200: Intro to Linear Algebra	MATH 53
MATH 290: Analy Geometry and Calculus III	MATH 13&14
MATH 292: Intro to Differential Equations	MATH 22 or AMTH 106

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.

Contra Costa College Course
No approved Contra Costa 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.*

Contra Costa College Course
PHILO 110: Intro to Philosophy- 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.

Contra Costa College Course
AFRAM 110: Introduction to African American Studies
AFRAM 112: African American Theatre

AFRAM 113: African American Humanities
AFRAM 120: Black Experience Through Film
AFRAM 122: History of African Americans in the United States (Colonial – 1865)
AFRAM 123: History of African Americans in the United States (1865 to the Present)
AFRAM 140: Psychology of African Americans
AFRAM 225: Dynamics of African American Politics in America
AFRAM 228: Sociology of African Americans
ART 118: Multicultural Survey of American Art
DRAMA 102: Multicultural Perspectives in American Theatre
DRAMA 110: African American Theater
DRAMA 165: Chicana/o and Latina/o Theatre
ENGL 220B: American Literature- 1850 to Present
ENGL 274: Women in Literature
HIST 122: History of African Americans in the United States (Pre-Colonial – 1865)
HIST 123: History of African Americans in the United States (1865 - Present)
HIST 124: History of California
HIST 127: History of Latinos in the United States (1846 – Present)
HUMAN 113: African-American Humanities
HUMAN 120: Introduction to Humanities: Imagination, Invention and Creativity
LARAZ 110: Introduction to LaRaza
LARAZ 125: Latin American History
LARAZ 127: History of Latinos in the United States (1846 – Present)
LARAZ 131: Introduction to LGBTQ Studies
LARAZ 141: Introduction to Psychology of La Raza
LARAZ 165: Chicana/o and Latina/o Theatre
LARAZ 190: Introduction to Chicano/a and Latino/a Film
MUSIC 102: Beginning Voice: Cultural Perspective
MUSIC 114: Pop, Rock and Jazz: Their Cultural Origins
POLSC 225: Dynamics of African-American Politics in America
PSYCH 140: Psychology of African-Americans
PSYCH 222: Multicultural Psychology
SOCIO 221: Social Problems
SOCIO 225: Sociology of African-Americans
SPCH 122: Intercultural Communication

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 120; PHYS 130 & 230

(Note: Web Design & Engineering major completes one course to satisfy Natural Science core requirement. It is recommended to complete CHEM 120)

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 Contra Costa 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.

Contra Costa College Course	SCU course equivalency
ANTHR 140/140L: Intro to Physical Anthropology w/Lab	TRCR 18
BIOSC 110: Intro to Biological Sciences w/Lab	TRCR 18
BIOSC 119: Microbiology w/Lab	TRCR 18
BIOSC 132: Human Anatomy w/Lab	TRCR 18
BIOSC 134: Human Physiology w/Lab	TRCR 18
BIOSC 145: Organismal Biology w/Lab	TRCR 18
BIOSC 147: Cell and Molecular Biology w/Lab	TRCR 18
BIOSC 159: Foundations in Biotechnology Laboratory w/Lab	TRCR 18
BIOSC 172/172L: Intro to Biotechnology w/ Lab	TRCR 18
CHEM 119: Intro Chemistry w/Lab	TRCR 18
CHEM 120: General College Chemistry I w/Lab	CHEM 11
CHEM 121: General College Chemistry II w/Lab	CHEM 12&50
CHEM 226: Organic Chemistry I w/Lab	CHEM 31
CHEM 227: Organic Chemistry II w/Lab	CHEM 33 (If CHEM 226 & CHEM 227 completed, equates to SCU's CHEM 31, 32 & 33 sequence)
GEOG 120/120L: Physical Geography w/Lab	TRCR 18
GEOL 120/120L: Physical Geology w/Lab	TRCR 18
PHYS 110/110L: Descriptive Physics w/Lab	TRCR 18
PHYS 120/120H: General College Physics I w/Lab	PHYS 11
PHYS 121/121H: General College Physics II w/Lab	PHYS 13 (If PHYS 120/120H & 121/121H completed, equates to SCU's PHYS 11, 12 & 13 sequence)
PHYS 130: General Physics I w/Lab	PHYS 31
PHYS 230: General Physics II w/Lab	PHYS 33
PHYS 231: General Physics III w/Lab	PHYS 32

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.

Contra Costa College Course
ANTHR 125: Intro to Archaeology
ECON 220: Intro to Macroeconomics Principles
ECON 221: Intro to Microeconomics Principles
PSYCH 170: Social Psychology
PSYCH 205B: Intro to Research Methods in Psychology w/ Lab
PSYCH 220: General Psychology
SOCIO 220: Intro to Sociology
SOCIO 222: Intro to Research Methods
SOCIO 234: Introduction to Statistics in the Social Sciences

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.

Contra Costa College Course
ANTHR 130: Cultural Anthropology
ANTHR 150: Magic, Witchcraft and Religion
ART 117: Appreciation of Art and Architecture
ART 194: Survey of Asian Arts
DRAMA 103: History of the Theatre: Pre-Greek to 17th Century
DRAMA 104: History of the Theatre: 17th Century to Present
ENGL 230B: World Literature- 1650 to Present
GEOG 130: Cultural Geography
GEOG 160: World Regional Geography
POLSC 130: Intro to Comparative Government and Politics
POLSC 140: Intro to International Relations
SOCIO 245: Sociology of Race and Ethnicity
SPCH 122: Intercultural Communication

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	CCC COURSE	BIOE	CENG	COEN	ECEN	ELEN	ENGR	MECH	WDE
MATH 11	MATH 190	X	X	X	X	X	X	X	X
MATH 12	MATH 191	X	X	X	X	X	X	X	X
MATH 13	MATH 290	X	X	X	X	X	X	X	X
MATH 14	MATH 290	X	X	X	X	X	X	X	X
MATH 22 or AMTH 106	MATH 292	X	X	X	X	X	X	X	
MATH 51 or COEN 19	MATH 185			X	X				
MATH 53	MATH 200			X	X				
PHYS 31	PHYS 130	X	X	X	X	X	X	X	
PHYS 32	PHYS 230	X	X	X	X	X	X	X	
PHYS 33	PHYS 231	X	X	X	X	X	X	X	
PHYS 34	-					X			
CHEM 11	CHEM 120	X	X	X	X	X	X	X	
ELEN/COEN 21/21L	-			X	X	X	X		
ELEN 50/50L	ENGIN 230	X		X	X	X	X	X	
CENG 41	ENGIN 255		X				X	X	
COEN 10/10L	COMP 165 / COMP 200 / COMP 251 / COMP 257			X	X	X	X		X
COEN 11/11L	COMP 165 / COMP 200 / COMP 251			X	X	X			X
COEN 12/12L	COMP 210 / COMP 252			X	X	X			X

Abbreviations and Links:

BIOE = Bioengineering

CENG = Civil, Environmental, and Sustainable Engineering

COEN = Computer Science and Engineering

ECEN = Electrical and Computer Engineering

ELEN = Electrical Engineering
ENGR = General Engineering
MECH = Mechanical Engineering
WDE = Web Design and Engineering
A "-" indicates that an equivalent course has not been approved at time of publication.

BIOENGINEERING MAJOR REQUIREMENTS

Contra Costa College Course	SCU course equivalency
Natural Science:	
CHEM 120: General College Chemistry I	CHEM 11
CHEM 121: General College Chemistry II	CHEM 12&50
CHEM 226: Organic Chemistry I	CHEM 31
CHEM 227: Organic Chemistry II	CHEM 33 (If CHEM 226 & CHEM 227 completed, equates to SCU's CHEM 31, 32 & 33 sequence)
PHYS 130: General Physics I w/Lab	PHYS 31
PHYS 230: General Physics II w/Lab	PHYS 33
PHYS 231: General Physics III w/Lab	PHYS 32
Engineering:	
ENGIN 200: Engineering Design Graphics	MECH 10/10L
ENGIN 230: Intro to Circuit Analysis	ELEN 50/50L
Mathematics:	
MATH 190: Analytic Geometry and Calculus I	MATH 11
MATH 191: Analytic Geometry and Calculus II	MATH 12
MATH 290: Analytic Geometry and Calculus III	MATH 13&14
MATH 292: Intro to Differential Equations	MATH 22 or AMTH 106

CIVIL ENGINEERING MAJOR REQUIREMENTS

Contra Costa College Course	SCU course equivalency
Natural Science:	
CHEM 120: General College Chemistry I	CHEM 11
PHYS 130: General Physics I w/Lab	PHYS 31
PHYS 230: General Physics II w/Lab	PHYS 33
PHYS 231: General Physics III w/Lab	PHYS 32
GEOL 120/120L: Physical Geology w/Lab	CENG 20/20L
Engineering:	
ENGIN 230: Intro to Circuit Analysis	ELEN 50/50L
ENGIN 200: Engineering Design Graphics	CENG 7/7L
No approved course equivalencies at time of publication	CENG 10/10L
ENGIN 255: Statics	CENG 41
No approved course equivalencies at time of publication	CENG 44A/44AL
Mathematics:	
MATH 190: Analytic Geometry and Calculus I	MATH 11

MATH 191: Analytic Geometry and Calculus II	MATH 12
MATH 290: Analytic Geometry and Calculus III	MATH 13&14
MATH 292: Intro to Differential Equations	MATH 22 or AMTH 106

COMPUTER SCIENCE & ENGINEERING MAJOR REQUIREMENTS

Contra Costa College Course	**SCU course equivalency**
Natural Science:	
CHEM 120: General College Chemistry I	CHEM 11
PHYS 130: General Physics I w/Lab	PHYS 31
PHYS 230: General Physics II w/Lab	PHYS 33
PHYS 231: General Physics III w/Lab	PHYS 32
Engineering:	
ENGIN 230: Intro to Circuit Analysis	ELEN 50/50L
COMP 165: Advanced Programming with C and C++ OR COMP 200: Object Oriented Programming C++ OR COMP 251: Fundamentals of Computer Science C++ OR COMP 257: JAVA with Object-Oriented Programming	COEN 10/10L
COMP 165: Advanced Programming with C and C++ OR COMP 200: Object Oriented Programming C++ OR COMP 251: Fundamentals of Computer Science C++	COEN 11/11L
COMP 210: Program Design and Data Structures OR COMP 252: Data Structures and Algorithms	COEN 12/12L
COMP 265: Assembly Language Programming/Computer Organization	COEN 20/20L
Mathematics:	
MATH 190: Analytic Geometry and Calculus I	MATH 11
MATH 191: Analytic Geometry and Calculus II	MATH 12
MATH 290: Analytic Geometry and Calculus III	MATH 13&14
MATH 292: Intro to Differential Equations	MATH 22 or AMTH 106
MATH 200: Intro to Linear Algebra	MATH 53
MATH 185: Discrete Mathematics	MATH 51 or COEN 19

ELECTRICAL & COMPUTER ENGINEERING MAJOR REQUIREMENTS

Contra Costa College Course	**SCU course equivalency**
Natural Science:	
CHEM 120: General College Chemistry I	CHEM 11
PHYS 130: General Physics I w/Lab	PHYS 31
PHYS 230: General Physics II w/Lab	PHYS 33
PHYS 231: General Physics III w/Lab	PHYS 32
Engineering:	
ENGIN 230: Intro to Circuit Analysis	ELEN 50/50L
COMP 165: Advanced Programming with C and C++ OR COMP 200: Object Oriented Programming C++ OR COMP 251: Fundamentals of Computer	COEN 10/10L

Science C++ OR COMP 257: JAVA with Object-Oriented Programming	
COMP 165: Advanced Programming with C and C++ OR COMP 200: Object Oriented Programming C++ OR COMP 251: Fundamentals of Computer Science C++	COEN 11/11L
COMP 210: Program Design and Data Structures OR COMP 252: Data Structures and Algorithms	COEN 12/12L
Mathematics:	
MATH 190: Analytic Geometry and Calculus I	MATH 11
MATH 191: Analytic Geometry and Calculus II	MATH 12
MATH 290: Analytic Geometry and Calculus III	MATH 13&14
MATH 292: Intro to Differential Equations	MATH 22 or AMTH 106
MATH 200: Intro to Linear Algebra	MATH 53
MATH 185: Discrete Mathematics	MATH 51 or COEN 19

ELECTRICAL ENGINEERING MAJOR REQUIREMENTS

Contra Costa College Course	**SCU course equivalency**
Natural Science:	
CHEM 120: General College Chemistry I	CHEM 11
PHYS 130: General Physics I w/Lab	PHYS 31
PHYS 230: General Physics II w/Lab	PHYS 33
PHYS 231: General Physics III w/Lab	PHYS 32
No approved course equivalencies at time of publication	PHYS 34
Engineering:	
ENGIN 255: Statics	CENG 41
ENGIN 230: Intro to Circuit Analysis	ELEN 50/50L
COMP 165: Advanced Programming with C and C++ OR COMP 200: Object Oriented Programming C++ OR COMP 251: Fundamentals of Computer Science C++ OR COMP 257: JAVA with Object-Oriented Programming	COEN 10/10L
COMP 165: Advanced Programming with C and C++ OR COMP 200: Object Oriented Programming C++ OR COMP 251: Fundamentals of Computer Science C++	COEN 11/11L
COMP 210: Program Design and Data Structures OR COMP 252: Data Structures and Algorithms	COEN 12/12L
Mathematics:	
MATH 190: Analytic Geometry and Calculus I	MATH 11
MATH 191: Analytic Geometry and Calculus II	MATH 12
MATH 290: Analytic Geometry and Calculus III	MATH 13&14
MATH 292: Intro to Differential Equations	MATH 22 or AMTH 106

GENERAL ENGINEERING MAJOR REQUIREMENTS

Contra Costa College Course	SCU course equivalency
Natural Science:	
CHEM 120: General College Chemistry I	CHEM 11
PHYS 130: General Physics I w/Lab	PHYS 31
PHYS 230: General Physics II w/Lab	PHYS 33
PHYS 231: General Physics III w/Lab	PHYS 32
Engineering:	
ENGIN 255: Statics	CENG 41
ENGIN 230: Intro to Circuit Analysis	ELEN 50/50L
ENGIN 200: Engineering Design Graphics	MECH 10/10L
No approved course equivalencies at time of publication	MECH 11/11L
COMP 165: Advanced Programming with C and C++ OR COMP 200: Object Oriented Programming C++ OR COMP 251: Fundamentals of Computer Science C++ OR COMP 257: JAVA with Object-Oriented Programming	COEN 10/10L
Mathematics:	
MATH 190: Analytic Geometry and Calculus I	MATH 11
MATH 191: Analytic Geometry and Calculus II	MATH 12
MATH 290: Analytic Geometry and Calculus III	MATH 13&14
MATH 292: Intro to Differential Equations	MATH 22 or AMTH 106

MECHANICAL ENGINEERING MAJOR REQUIREMENTS

Contra Costa College Course	SCU course equivalency
Natural Science:	
CHEM 120: General College Chemistry I	CHEM 11
PHYS 130: General Physics I w/Lab	PHYS 31
PHYS 230: General Physics II w/Lab	PHYS 33
PHYS 231: General Physics III w/Lab	PHYS 32
Engineering:	
ENGIN 255: Statics	CENG 41
ENGIN 230: Intro to Circuit Analysis	ELEN 50/50L
ENGIN 200: Engineering Design Graphics	MECH 10/10L
No approved course equivalencies at time of publication	MECH 11/11L
ENGIN 240: Properties of Engineering Materials	MECH 15/15L
Mathematics:	
MATH 190: Analytic Geometry and Calculus I	MATH 11
MATH 191: Analytic Geometry and Calculus II	MATH 12
MATH 290: Analytic Geometry and Calculus III	MATH 13&14
MATH 292: Intro to Differential Equations	MATH 22 or AMTH 106

WEB DESIGN AND ENGINEERING MAJOR REQUIREMENTS

Contra Costa College Course	SCU course equivalency
Natural Science:	
CHEM 120: General College Chemistry I *(Recommended)*	CHEM 11
Engineering:	
COMP 165: Advanced Programming with C and C++ OR COMP 200: Object Oriented Programming C++ OR COMP 251: Fundamentals of Computer Science C++ OR COMP 257: JAVA with Object-Oriented Programming	COEN 10/10L
COMP 165: Advanced Programming with C and C++ OR COMP 200: Object Oriented Programming C++ OR COMP 251: Fundamentals of Computer Science C++	COEN 11/11L
COMP 210: Program Design and Data Structures OR COMP 252: Data Structures and Algorithms	COEN 12/12L
Mathematics:	
MATH 190: Analytic Geometry and Calculus I	MATH 11
MATH 191: Analytic Geometry and Calculus II	MATH 12
MATH 290: Analytic Geometry and Calculus III	MATH 13&14

Additional notes:

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

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

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

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

- This guide is to be used by transfer applicants, not First-Year (aka: freshmen) applicants. Admitted First-Year students must complete the following Core requirements at SCU: Critical Thinking & Writing 1 and 2; Cultures & Ideas 1 and 2; Religion Theology & Culture 1, 2 and 3 (taken in sequence order at SCU); Civic

Engagement; Science, Technology & Society; Experiential Learning for Social Justice; Advanced Writing; and four Pathway courses.

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

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