

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

Irvine Valley 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/3AH and MATH 3B/3BH
- One natural science course with a lab: CHEM 1A/1AH
- Two Calculus-based Physics courses: PHYS 4A and PHYS 4B
 - Web Design Engineering majors are not required to complete CHEM 1A/1AH, 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 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. To view all Irvine Valley 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.

Irvine Valley College Course
WR 1/1H: College Writing 1

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

Admission recommendation: Complete Critical Thinking and Writing 2 Core requirement

Irvine Valley College Course
WR 2/2H: College Writing 2- Critical Thinking 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.

Irvine Valley College Course
AJ 2: Introduction to Administration of Justice
ANTH 4: Native American Cultures
ANTH 7: Native Americans of Southern California
ARTH 25: Art History Survey I- Western
ARTH 26: Art History Survey II- Western
ARTH 28: Contemporary Art History
ARTH 29: 19 th and 20 th Century Art
ARTH 30: Renaissance and Baroque Art
ARTH 31: Medieval Art
ARTH 33: American Art
FILM 72/72H: Film and American Culture
GEOG 38: California Geography
HIST 10: The West and the World to 1500
HIST 11: The West and the World since the Renaissance
HIST 20: American History Through the Civil War
HIST 21: American History Since the Civil War
HIST 24: American After the Bomb- 1945 to the Present
HIST 25: History of California
HIST 30: History of Ethnicity and Culture in the United States
HUM 2: The Culture of Ancient Greece and Rome
HUM 3: The Culture of Medieval and Renaissance Europe
HUM 50: Mythology
HUM 72/72H: Film and American Culture
LIT 20: Survey of British Literature to 1776
LIT 21: British Literature- Blake to the Present
LIT 22: American Literature to Twain
LIT 23: American Literature- Twain to Present
MUS 27: History of Jazz
MUS 28: History of Rock Music
PHIL 10: Ancient Philosophy
PHIL 11: Modern Philosophy
PS 1/1H: American Government
PS 3: California Government and Politics

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.

Irvine Valley College Course
ANTH 2/2H: Cultural Anthropology
ANTH 3: Culture and Language
ANTH 13: Magic, Witchcraft and Religion
ARTH 22: Survey of Asian Art
ARTH 23: African and Oceanic Art
ARTH 24: Ancient Art
ARTH 27: Art History Survey III- Non-Western
ARTH 32: History of World Architecture
COMM 9: Intercultural Communication
ECON 13: Global Economics
GEOG 2: Cultural Geography
GEOG 3/3H: World Regional Geography
GEOG 20: Global Environmental Problems
GLBL 1: Introduction to Global Studies
GLBL 2: Introduction to Global Issues
HIST 1/1H: The History of World Civilizations to 1500
HIST 2: The History of World Civilizations since 1500
HIST 40: The History of East Asia Before 1800
HIST 41: The History of East Asia Since 1800
HUM 4: The Culture of the Modern World- 1700 to the Present
HUM 21: Intro to Asian Religions
HUM 22: Intro to Judaism, Christianity and Islam
HUM 27: World Religions
JA 21: Intro to Japanese Culture
MGT 68: Introduction to International Business
MUS 21: World Music
PS 6: Politics and Government of the Middle East
PS 12/12H: Comparative Politics
PS 14/14H: International Relations
PS 17: Latin American Politics and Government
PS 41: The History of East Asia Since 1800
SOC 2: Social Problems
SOC 3: Global Sociology- Forces of Change in the Modern World System
TA 25/25H: Great Plays- Primitive to Renaissance
TA 26/26H: Great Plays- Renaissance to Contemporary

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/3AH and MATH 3B/3BH

To fulfill the admission mathematics requirement, complete both MATH 3A/3AH and MATH 3B/3BH 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).

Irvine Valley College Course	SCU Course
MATH 3A/3AH: Analytic Geometry and Calculus I	MATH 11
MATH 3B/3BH: Analytic Geometry and Calculus II	MATH 12
MATH 4A: Analytic Geometry and Calculus III	MATH 13&14
MATH 24/24H: Elementary Differential Equations	MATH 22 or AMTH 106
MATH 26: Intro to Linear Algebra	MATH 53
MATH 30/CS 6A: Computer Discrete Mathematics I OR MATH 31/CS 6B: Computer Discrete Mathematics II	MATH 51 or COEN 19

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.

Irvine Valley College Course
No approved Irvine Valley 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.

Irvine Valley College Course
PHIL 2: Intro to 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.

Irvine Valley College Course
ETHN 10: Introduction to Ethnic Studies
ETHN 20: Introduction to Asian American Studies
GS 10: Introduction to Women, Gender, and Sexuality Studies
GS 20: Gender and Contemporary Society
HIST 30: History of Ethnicity and Culture in the United States
HIST 33: The History of the Mexican American People
HIST 51/51H: Women in American History
HUM 10: Introduction to Cultural Studies
JA 23: Japanese Anime and Manga
LIT 45: Women in Literature
LIT 46: Ethnicity in Literature of The United States
SIGN 15: American Deaf Culture
SOC 20/20H: Race and Ethnic Group Relations

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/1AH; PHYS 4A & PHYS 4B*

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

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 an Irvine Valley 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.

Irvine Valley College Course	SCU Course Equivalency
ANTH 1/1L or 1H/1L: Introduction to Physical Anthropology w/Lab	TRCR 18
ASTR 25: Observational Astronomy w/Lab	TRCR 18
BIO 1/1L or 1H/1L: The Life Sciences w/Lab	TRCR 18
BIO 2: Plant Biology w/Lab	TRCR 18
BIO 5: Animal Biology w/Lab	TRCR 18
BIO 10: Biochemistry for Health Sciences	TRCR 18
BIO 11: Human Anatomy w/Lab	TRCR 18
BIO 12: Human Physiology w/Lab	TRCR 18
BIO 15: General Microbiology w/Lab	TRCR 18
BIO 16: Cellular Biology w/Lab	TRCR 18
BIO 19/19H: Marine Biology w/Lab	TRCR 18
BIO 21: Human Anatomy and Physiology w/Lab	TRCR 18
BIO 32: Microorganisms and You: Allies or Enemies	TRCR 18
BIO 55: Introduction to Ecology: Theory and Application w/Lab	TRCR 18
BIO 80/80H: Integrated Biology: Organisms to	TRCR 18

Ecosystems	
BIO 81/81H: Integrated Biology: From DNA to Organisms	TRCR 18
BIO 82: Genetics	TRCR 18
BIO 83: Biochemistry and Molecular Biology	TRCR 18
BIOT 70L: Introduction to Biotechnology Laboratory w/Lab	TRCR 18
CHEM 1A/1AH: General Chemistry I w/Lab	CHEM 11
CHEM 1B: General Chemistry II w/Lab	CHEM 12&50
CHEM 3: Fundamental Chemistry w/Lab	TRCR 18
CHEM 4: Introduction to General & Organic Chemistry & Biochemistry w/Lab	TRCR 18
CHEM 12A: Organic Chemistry w/Lab	CHEM 31
CHEM 12B: Organic Chemistry w/Lab	CHEM 33 (If CHEM 12A & CHEM 12B completed, equates to SCU's CHEM 31, 32 & 33 sequence)
ERTH 20: Introduction to Earth Science w/Lab	TRCR 18
GEOG 1/1L: Physical Geography w/ Lab	TRCR 18
GEOL 1: Physical Geology w/Lab	TRCR 18
GEOL 2: Historical Geology w/Lab	TRCR 18
GEOL 22: Earth History w/Lab	TRCR 18
GEOL 23: Natural Disasters w/Lab	TRCR 18
MS 20: Introduction to Oceanography w/Lab	TRCR 18
PHYS 2A: Introduction to Physics w/Lab	PHYS 11
PHYS 2B: Introduction to Physics w/Lab	PHYS 13 (If PHYS 2A & 2B completed, equates to SCU's PHYS 11, 12 & 13 sequence)
PHYS 4A: General Physics w/Lab	PHYS 31
PHYS 4B: General Physics w/Lab	PHYS 33
PHYS 4C: General Physics w/Lab	PHYS 32 (If PHYS 4A, 4B & 4C completed, equates to SCU's PHYS 31, 32, 33 & 34)
PHYS 20: The Ideas and Events of Physics w/Lab	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.

Irvine Valley College Course
ANTH 9: Intro to Archaeology
ECON 1/1H: Principles of Economics- Micro
ECON 2/2H: Principles of Economics- Macro

ECON 6: Environmental and Resource Economics
ECON 20/20H: Introductory Economics
ENV 6: Environmental and Resource Economics
PS 1/1H: American Government
PS 3: California Government and Politics
PS 4: Intro to Political Science
PSYC 1/1H: Intro to Psychology
PSYC 2: Research Methods in Psychology
PSYC 3/3H: Physiological Psychology
SOC 1/1H: Introduction to Sociology

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.

Irvine Valley College Course
ANTH 2/2H: Cultural Anthropology
ANTH 3: Culture and Language
ANTH 13: Magic, Witchcraft and Religion
ARTH 22: Survey of Asian Art
ARTH 23: African and Oceanic Art
ARTH 24: Ancient Art
ARTH 27: Art History Survey III- Non-Western
ARTH 32: History of World Architecture
COMM 9: Intercultural Communication
ECON 13: Global Economics
GEOG 2: Cultural Geography
GEOG 3/3H: World Regional Geography
GEOG 20: Global Environmental Problems
GLBL 1: Introduction to Global Studies
GLBL 2: Introduction to Global Issues
HIST 1/1H: The History of World Civilizations to 1500
HIST 2: The History of World Civilizations since 1500
HIST 40: The History of East Asia Before 1800
HIST 41: The History of East Asia Since 1800
HUM 4: The Culture of the Modern World- 1700 to the Present
HUM 21: Intro to Asian Religions
HUM 22: Intro to Judaism, Christianity and Islam
HUM 27: World Religions
JA 21: Intro to Japanese Culture

MGT 68: Introduction to International Business
MUS 21: World Music
PS 6: Politics and Government of the Middle East
PS 12/12H: Comparative Politics
PS 14/14H: International Relations
PS 17: Latin American Politics and Government
PS 41: The History of East Asia Since 1800
SOC 2: Social Problems
SOC 3/3H: Global Sociology: Change in the Modern World System
TA 25/25H: Great Plays- Primitive to Renaissance
TA 26/26H: Great Plays- Renaissance to Contemporary

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	IVC COURSE	BIOE	CENG	COEN	ECEN	ELEN	ENGR	MECH	WDE
MATH 11	MATH 3A/3AH	X	X	X	X	X	X	X	X
MATH 12	MATH 3B/3BH	X	X	X	X	X	X	X	X
MATH 13	MATH 4A	X	X	X	X	X	X	X	X
MATH 14	MATH 4A	X	X	X	X	X	X	X	X
MATH 22 or AMTH 106	MATH 24/24H	X	X	X	X	X	X	X	
MATH 51 or COEN 19	MATH 30 OR MATH 31			X	X				
MATH 53	MATH 26			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 4C					X			
CHEM 11	CHEM 1A/1AH	X	X	X	X	X	X	X	
ELEN/COEN 21/21L	ET 99			X	X	X	X		
ELEN 50/50L	ET 92 OR ENGR 70**	X		X	X	X	X	X	
CENG 41	ENGR 30		X				X	X	
COEN 10/10L	CS 36 OR CS 38			X	X	X	X		X
COEN 11/11L	CS 37 *			X	X	X			X
COEN 12/12L	CS 41			X	X	X			X

* Student must learn C programming on own

** Student must take ELEN 50L since ENGR 50 has no lab component

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

Irvine Valley College Course	SCU course equivalency
Natural Science:	
CHEM 1A/1AH: General Chemistry I w/Lab	CHEM 11
CHEM 1B: General Chemistry II w/Lab	CHEM 12&50
CHEM 12A: Organic Chemistry w/Lab	CHEM 31
CHEM 12B: Organic Chemistry w/Lab	CHEM 33 (If CHEM 12A & CHEM 12B completed, equates to SCU's CHEM 31, 32 & 33 sequence)
PHYS 4A: General Physics w/Lab	PHYS 31
PHYS 4B: General Physics w/Lab	PHYS 33
PHYS 4C: General Physics w/Lab	PHYS 32 (If PHYS 4A, 4B & 4C completed, equates to SCU's PHYS 31, 32, 33 & 34)
Engineering:	
ENGR 70: Introduction to Network Analysis	ELEN 50 (Must take ELEN 50L)
ET 92: Basic Electric Circuits I	ELEN 50/50L
ENGR 83: Computer-Aided Design Techniques	MECH 10/10L (*Medical Device track)
Mathematics:	
MATH 3A/3AH: Analytic Geometry and Calculus I	MATH 11
MATH 3B/3BH: Analytic Geometry and Calculus II	MATH 12
MATH 4A: Analytic Geometry and Calculus III	MATH 13&14
MATH 24/24H: Elementary Differential Equations	MATH 22 or AMTH 106

CIVIL ENGINEERING MAJOR REQUIREMENTS

Irvine Valley College Course	SCU course equivalency
Natural Science:	
CHEM 1A/1AH: General Chemistry I w/Lab	CHEM 11
PHYS 4A: General Physics w/Lab	PHYS 31
PHYS 4B: General Physics w/Lab	PHYS 33
PHYS 4C: General Physics w/Lab	PHYS 32 (If PHYS 4A, 4B & 4C completed, equates to SCU's PHYS 31, 32, 33 & 34)
GEOL 1: Physical Geology w/Lab	CENG 20/20L
Engineering:	
ENGR 23: Engineering Graphics and Descriptive Geometry	CENG 7/7L
<i>No approved course equivalency at time of</i>	CENG 10/10L

<i>publication</i>	
ENGR 30: Statics of Rigid Bodies and Structures	CENG 41
Mathematics:	
MATH 3A/3AH: Analytic Geometry and Calculus I	MATH 11
MATH 3B/3BH: Analytic Geometry and Calculus II	MATH 12
MATH 4A: Analytic Geometry and Calculus III	MATH 13&14
MATH 24/24H: Elementary Differential Equations	MATH 22 or AMTH 106

COMPUTER SCIENCE & ENGINEERING MAJOR REQUIREMENTS

Irvine Valley College Course	SCU course equivalency
Natural Science:	
CHEM 1A/1AH: General Chemistry I w/Lab	CHEM 11
PHYS 4A: General Physics w/Lab	PHYS 31
PHYS 4B: General Physics w/Lab	PHYS 33
PHYS 4C: General Physics w/Lab	PHYS 32 (If PHYS 4A, 4B & 4C completed, equates to SCU's PHYS 31, 32, 33 & 34)
Engineering:	
ENGR 70: Introduction to Network Analysis	ELEN 50 (Must take ELEN 50L)
ET 92: Basic Electric Circuits I	ELEN 50/50L
CS 36: C Programming OR CS 38: Java Programming	COEN 10/10L
CS 37: C++ Programming	COEN 11/11L *Student must learn C programming on own
CS 41: Data Structures	COEN 12/12L
CS 6A/MATH 30: Computer Discrete Mathematics I OR CS 6B/MATH 31: Computer Discrete Mathematics II	COEN 19 or MATH 51
CS 40A: Computer Organization and Assembly Language I OR CS 40B: Computer Organization and Assembly Language II	COEN 20/20L
ET 99: Digital Electronic Circuits	COEN 21/21L
Mathematics:	
MATH 3A/3AH: Analytic Geometry and Calculus I	MATH 11
MATH 3B/3BH: Analytic Geometry and Calculus II	MATH 12
MATH 4A: Analytic Geometry and Calculus III	MATH 13&14
MATH 24/24H: Elementary Differential Equations	MATH 22 or AMTH 106
MATH 26: Introduction to Linear Algebra	MATH 53

ELECTRICAL & COMPUTER ENGINEERING MAJOR REQUIREMENTS

Irvine Valley College Course	SCU course equivalency
Natural Science:	
CHEM 1A/1AH: General Chemistry I w/Lab	CHEM 11
PHYS 4A: General Physics w/Lab	PHYS 31
PHYS 4B: General Physics w/Lab	PHYS 33
PHYS 4C: General Physics w/Lab	PHYS 32 (If PHYS 4A, 4B & 4C completed, equates to SCU's PHYS 31, 32, 33 & 34)
Engineering:	
ENGR 70: Introduction to Network Analysis	ELEN 50 (Must take ELEN 50L)
ET 92: Basic Electric Circuits I	ELEN 50/50L
CS 36: C Programming OR CS 38: Java Programming	COEN 10/10L
CS 37: C++ Programming	COEN 11/11L *Student must learn C programming on own
CS 41: Data Structures	COEN 12/12L
CS 6A/MATH 30: Computer Discrete Mathematics I OR CS 6B/MATH 31: Computer Discrete Mathematics II	COEN 19 or MATH 51
ET 99: Digital Electronic Circuits	ELEN 21/21L
Mathematics:	
MATH 3A/3AH: Analytic Geometry and Calculus I	MATH 11
MATH 3B/3BH: Analytic Geometry and Calculus II	MATH 12
MATH 4A: Analytic Geometry and Calculus III	MATH 13&14
MATH 24/24H: Elementary Differential Equations	MATH 22 or AMTH 106
MATH 26: Introduction to Linear Algebra	MATH 53

ELECTRICAL ENGINEERING MAJOR REQUIREMENTS

Irvine Valley College Course	SCU course equivalency
Natural Science:	
CHEM 1A/1AH: General Chemistry I w/Lab	CHEM 11
PHYS 4A: General Physics w/Lab	PHYS 31
PHYS 4B: General Physics w/Lab	PHYS 33
PHYS 4C: General Physics w/Lab	PHYS 32 (If PHYS 4A, 4B & 4C completed, equates to SCU's PHYS 31, 32, 33 & 34)
Engineering:	
ENGR 70: Introduction to Network Analysis	ELEN 50 (Must take ELEN 50L)
ET 92: Basic Electric Circuits I	ELEN 50/50L
ENGR 30: Statics of Rigid Bodies and Structures	CENG 41
CS 36: C Programming OR CS 38: Java Programming	COEN 10/10L

CS 37: C++ Programming	COEN 11/11L *Student must learn C programming on own
CS 41: Data Structures	COEN 12/12L
ET 99: Digital Electronic Circuits	ELEN 21/21L
Mathematics:	
MATH 3A/3AH: Analytic Geometry and Calculus I	MATH 11
MATH 3B/3BH: Analytic Geometry and Calculus II	MATH 12
MATH 4A: Analytic Geometry and Calculus III	MATH 13&14
MATH 24/24H: Elementary Differential Equations	MATH 22 or AMTH 106

GENERAL ENGINEERING MAJOR REQUIREMENTS

Irvine Valley College Course	SCU course equivalency
Natural Science:	
CHEM 1A/1AH: General Chemistry I w/Lab	CHEM 11
PHYS 4A: General Physics w/Lab	PHYS 31
PHYS 4B: General Physics w/Lab	PHYS 33
PHYS 4C: General Physics w/Lab	PHYS 32 (If PHYS 4A, 4B & 4C completed, equates to SCU's PHYS 31, 32, 33 & 34)
Engineering:	
ENGR 70: Introduction to Network Analysis	ELEN 50 (Must take ELEN 50L)
ET 92: Basic Electric Circuits I	ELEN 50/50L
ENGR 83: Computer-Aided Design Techniques	MECH 10/10L
ENGR 54: Principles of Materials Science and Engineering	MECH 15 *Student must take MECH 15L at SCU
ENGR 30: Statics of Rigid Bodies and Structures	CENG 41
CS 36: C Programming OR CS 38: Java Programming	COEN 10/10L
ET 99: Digital Electronic Circuits	ELEN 21/21L
Mathematics:	
MATH 3A/3AH: Analytic Geometry and Calculus I	MATH 11
MATH 3B/3BH: Analytic Geometry and Calculus II	MATH 12
MATH 4A: Analytic Geometry and Calculus III	MATH 13&14
MATH 24/24H: Elementary Differential Equations	MATH 22 or AMTH 106

MECHANICAL ENGINEERING MAJOR REQUIREMENTS

Irvine Valley College Course	SCU course equivalency
Natural Science:	
CHEM 1A/1AH: General Chemistry I w/Lab	CHEM 11
PHYS 4A: General Physics w/Lab	PHYS 31

PHYS 4B: General Physics w/Lab	PHYS 33
PHYS 4C: General Physics w/Lab	PHYS 32 (If PHYS 4A, 4B & 4C completed, equates to SCU's PHYS 31, 32, 33 & 34)
Engineering:	
ENGR 70: Introduction to Network Analysis	ELEN 50 (Must take ELEN 50L)
ET 92: Basic Electric Circuits I	ELEN 50/50L
ENGR 83: Computer-Aided Design Techniques	MECH 10/10L
ENGR 54: Principles of Materials Science and Engineering	MECH 15 *Student must take MECH 15L at SCU
ENGR 30: Statics of Rigid Bodies and Structures	CENG 41
Mathematics:	
MATH 3A/3AH: Analytic Geometry and Calculus I	MATH 11
MATH 3B/3BH: Analytic Geometry and Calculus II	MATH 12
MATH 4A: Analytic Geometry and Calculus III	MATH 13&14
MATH 24/24H: Elementary Differential Equations	MATH 22 or AMTH 106

WEB DESIGN AND ENGINEERING MAJOR REQUIREMENTS

Irvine Valley College Course	SCU course equivalency
Natural Science:	
CHEM 1A/1AH: General Chemistry I w/Lab (Recommended)	CHEM 11
Engineering:	
CS 36: C Programming OR CS 38: Java Programming	COEN 10/10L
CS 37: C++ Programming	COEN 11/11L *Student must learn C programming on own
CS 41: Data Structures	COEN 12/12L
Mathematics:	
MATH 3A/3AH: Analytic Geometry and Calculus I	MATH 11
MATH 3B/3BH: Analytic Geometry and Calculus II	MATH 12
MATH 4A: 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.