

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**

### **College of San Mateo 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 251 and MATH 252
- One natural science course with a lab: CHEM 210
- Two Calculus-based Physics courses: PHYS 250 and PHYS 260
  - Web Design Engineering majors are not required to complete CHEM 210, PHYS 250 & 260. 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
<b>College of Arts and Sciences</b>	175	87.5	58.33
<b>College of Arts and Sciences: <i>Engineering Physics</i></b>	193	96.5	64.33
<b>Leavey School of Business</b>	175	87.5	58.33
<b>School of Engineering:</b>			
<i>Bioengineering</i>	191	95.5	63.66
<i>Civil Engineering</i>	195	97.5	65
<i>Computer Science &amp; Engineering and General Engineering</i>	189	94.5	63
<i>Electrical Engineering and Electrical &amp; Computer Engineering</i>	190	95	63.33
<i>Mechanical Engineering</i>	192	96	64
<i>Web Design and Engineering</i>	175	87.5	58.33

## TRANSFER CREDIT ACCEPTED:

SCU does not give transfer credit for P/NP, CR, or courses with a grade of C- or lower. Grades are not transferable to SCU, only units.

The following courses are not transferrable: most first-year seminars, internships, professional development courses, independent study courses, workshops, most physical education courses, remedial English and remedial mathematics courses.

Santa Clara University only accepts University of California transferable courses. In addition, SCU does not allow the following UC transferrable courses to transfer for credit: Athletics, English as a Second Language, most Health Education, Kinesiology, and Sport Fitness courses. To view all UC transferable courses, visit [www.assist.org](http://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 2<sup>nd</sup> 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.

College of San Mateo Course
ENGL 100: Composition and Reading

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

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

College of San Mateo Course
ENGL 105: Intensive Comp
ENGL 110: Composition, Literature and Critical Thinking
ENGL 165: Advanced Composition
PHIL 103: Critical Thinking

## CULTURES & IDEAS 1 and 2 Core Requirements:

To fulfill the Santa Clara University Cultures & Ideas 1 and 2 Core Curriculum requirements, a student must complete one course from the Cultures and Ideas 1 list, and one course from the Cultures and Ideas 2 course list. If both requirements are not satisfied prior to enrollment at SCU, students who have completed fewer than 30 semester units (or fewer than 44 quarter units) of transfer credit will be required to take the 2-quarter course sequence at SCU. Students who transfer with 30 or more semester units (or 44 or more quarter units) and fulfilled the Cultures & Ideas 1 but not the Cultures & Ideas 2 requirement, will be required to take one course instead of the 2-course sequence at SCU. **Although it is not listed as an admission recommendation, it is advised to fulfill the Cultures and Ideas 1 and 2 course sequence prior to enrollment at SCU.**

### CULTURES & IDEAS 1: Complete one course from list below.

Transfer courses cannot fulfill more than one Santa Clara University Core requirement. If you already took a course listed below to satisfy a different requirement, you will want to choose a different course to complete.

College of San Mateo Course
ADMJ 100: Intro to Criminal Justice System
ART 101: Art and Architecture from the Ancient World to Medieval Times
ART 102: Art and Architecture of Renaissance and Baroque (c. 1300-1700)
ART 103: Art of Europe and America: Neoclassical (c. 1750 to the Present)
ART 104: Modern Art
HIST 100: History of Western Civilization I
HIST 101: History of Western Civilization II
HIST 201: United States History I
HIST 202: United States History II
HIST 310: California History
PLSC 100: Intro to Political Science
PLSC 200: National, State and Local Governments
PLSC 210: American 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.

College of San Mateo Course
ANTH 110: Cultural Anthropology
ANTH 180: Magic, Science & Religion

ANTH 350: Intro to Archaeology and World Prehistory
ART 105: Art of Asia and the Near East
BUS 125: Internation Business
COMM 150: Intercultural Communication
ETHN 265: Evolution of Hip Hop Culture: Political
FILM 140: Contemporary World Cinema
GBST 101: Introduction to Global Studies
GBST 102: Global Studies and Applications
GEOG 110: Cultural Geography
GEOG 150: World Regional Geography
LIT 220: Intro to World Literature
LIT 221: World Literature from 1600
MUS 250: World Music
PHIL 300: Intro to World Religions
PLSC 110: Contemporary Foreign Governments
PLSC 130: International Relations

## 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 251 and MATH 252**

*To fulfill the admission mathematics requirement, complete both MATH 251 and 252 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).*

College of San Mateo Course	SCU course equivalencies
MATH 251: Calculus with Analytic Geometry I	MATH 11
MATH 252: Calculus with Analytic Geometry II	MATH 12
MATH 253: Calculus with Analytic Geometry III	MATH 13&14
MATH 268: Discrete Mathematics	MATH 51 or COEN 19
MATH 270: Linear Algebra	MATH 53
MATH 275: Ordinary 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.

<b>College of San Mateo Course</b>
<i>No approved College of San Mateo course equivalencies at time of publication.</i>

*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

### EXPLORATIONS Core requirements

**ETHICS:** Complete one course from the list below.

<b>College of San Mateo Course</b>
BUS 205: Business Ethics and Social Responsibility
DGME 102: Media Law & Ethics
PHIL 244: Contemporary Social & Moral Issues

**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.

<b>College of San Mateo Course</b>
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ETHN 101: Intro to Ethnic Studies I
ETHN 103: Asian Pacific American History and Cultural Experience
ETHN 104: Asian Pacific Islanders in United States History and Culture
ETHN 105: African American History and Culture
ETHN 106: Oceania & the Arts
ETHN 107: Introduction to Native American Studies
ETHN 108: Rethinking Race, Gender, and Nation
ETHN 109: Borders and Crossings
ETHN 122: Black Leadership Theory
ETHN 265: Evolution of Hip Hop Culture- A Socio-Economic and Political Persp
ETHN 288: African-American Cinema
ETHN 300: Introduction to La Raza Studies
ETHN 585: Ethnicity in Cinema
HIST 260: Women in American History
HIST 261: Women in American History I
HIST 262: Women in American History II
LIT 154: Introduction to LGBT Literature
LIT 251: Women in Literature
LIT 266: African American Literature
PLSC 215: Contemporary Issues in American Politics
SOCI 105: Social Problems
SOCI 141: Race and Ethnic 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 210; PHYS 250 & PHYS 260***

***(Note: Web Design and Engineering major completes one course to satisfy Natural Science core requirement. It is recommended to complete CHEM 210)***

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 College of San Mateo 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.*

College of San Mateo Course	SCU course equivalency
ANTH 125/127: Physical Anthropology w/ Lab	TRCR 18
ASTR 100/101: Intro to Astronomy w/ Lab	TRCR 18
ASTR 100/103: Intro to Astronomy w/ Observational Astronomy Lab	TRCR 18
ASTR 210: Fundamentals of Astrophysics	TRCR 18
BIOL 110: General Principles of Biology	TRCR 18
BIOL 130/132: Human Biology w/ Lab	TRCR 18
BIOL 184/195: Wildlife Biol/Biol Field Lab	TRCR 18
BIOL 210: General Zoology	TRCR 18
BIOL 220: General Botany	TRCR 18
BIOL 230: Introductory Cell Biology	TRCR 18
BIOL 240: General Microbiology	TRCR 18
BIOL 250: Anatomy	TRCR 18
BIOL 260: Introductory Physiology	TRCR 18
CHEM 192: Elementary Chemistry	TRCR 18
CHEM 210: General Chemistry I	CHEM 11
CHEM 220: General Chemistry II	CHEM 12&50
CHEM 231: Organic Chemistry I	CHEM 31
CHEM 232: Organic Chemistry II	CHEM 33 (If CHEM 231 & 232 completed, equates to SCU's CHEM 31, 32, & 33)
CHEM 250: Analytical Chemistry Quantitative Analysis	TRCR 18
GEOL 100/101: Survey of Geology w/ Lab	CENG 20/20L or TRCR 18
PALN 110/111: General Paleontology w/ Lab/ Field Studies	TRCR 18
PHYS 100/101: Conceptual Physics w/ Lab	TRCR 18
PHYS 210: General Physics I	PHYS 11
PHYS 220: General Physics II	PHYS 12 (If PHYS 210 & 220 completed, equates to SCU's PHYS 11, 12 & 13)
PHYS 250: Physics with Calculus I	PHYS 31
PHYS 260: Physics with Calculus II	PHYS 33 (If PHYS 250 & 260 completed, equates to SCU's PHYS 31, 32 & 33)
PHYS 270: Physics with Calculus III	PHYS 32 or 34 (If PHYS 250, 260 & 270 completed, 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.

College of San Mateo Course
ANTH 110: Cultural Anthropology
ANTH 180: Magic, Science and Religion
ECON 100: Principles of Macro Economics
ECON 102: Principles of Micro Economics

PLSC 110: Contemporary Foreign Governments
PLSC 130: International Relations
PLSC 150: Intro to Political Thought
PLSC 200: National, State and Local Governments
PSYC 100: General Psychology
PSYC 110: Courtship, Marriage and Family
PSYC 300: Social Psychology
SOCI 100: Intro to Sociology
SOCI 105: Social Problems
SOCI 110: Courtship, Marriage and Family
SOCI 141: Race and Ethnic Relations

**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.

College of San Mateo Course
ANTH 110: Cultural Anthropology
ANTH 180: Magic, Science & Religion
ANTH 350: Intro to Archaeology and World Prehistory
ART 105: Art of Asia and the Near East
BUS 125: Internation Business
COMM 150: Intercultural Communication
ETHN 265: Evolution of Hip Hop Culture: Political
FILM 140: Contemporary World Cinema
GBST 101: Introduction to Global Studies
GBST 102: Global Studies and Applications
GEOG 110: Cultural Geography
GEOG 150: World Regional Geography
LIT 220: Intro to World Literature
LIT 221: World Literature from 1600
MUS 250: World Music
PHIL 300: Intro to World Religions
PLSC 110: Contemporary Foreign Governments
PLSC 130: International Relations

**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	CoSM COURSE	BIOE	CENG	COEN	ECEN	ELEN	ENGR	MECH	WDE
MATH 11	MATH 251	X	X	X	X	X	X	X	X
MATH 12	MATH 252	X	X	X	X	X	X	X	X
MATH 13	MATH 253	X	X	X	X	X	X	X	X
MATH 14	MATH 253	X	X	X	X	X	X	X	X
MATH 22 or AMTH 106	MATH 275	X	X	X	X	X	X	X	
MATH 51 or COEN 19	MATH 268/CIS 262			X	X				
MATH 53	MATH 270			X	X				
PHYS 31	PHYS 250	X	X	X	X	X	X	X	
PHYS 32	PHYS 270	X	X	X	X	X	X	X	
PHYS 33	PHYS 260	X	X	X	X	X	X	X	
PHYS 34	-					X			
CHEM 11	CHEM 210	X	X	X	X	X	X	X	
ELEN/COEN 21/21L	-			X	X	X	X		
ELEN 50/50L	ENGR 260	X		X	X	X	X	X	
CENG 41	ENGR 230		X				X	X	
COEN 10/10L	CIS 254/CIS 255			X	X	X	X		X
COEN 11/11L	CIS 278			X	X	X			X
COEN 12/12L	CIS 279			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.

\*\*\* All students who are qualified for COEN 11/11L & 12/12L are also waived for COEN 10/10L.

## BIOENGINEERING MAJOR REQUIREMENTS

College of San Mateo Course	SCU Course Equivalency
<b>Natural Science:</b>	
CHEM 210: General Chemistry I	CHEM 11
CHEM 220: General Chemistry II	CHEM 12&50
CHEM 231: Organic Chemistry I	CHEM 31
CHEM 232: Organic Chemistry II	CHEM 33 (If CHEM 231 & 232 completed, equates to SCU's CHEM 31, 32 & 33)
PHYS 250: Physics with Calculus I	PHYS 31
PHYS 260: Physics with Calculus II	PHYS 33 (If PHYS 250 & 260 completed, equates to SCU's PHYS 31, 32 & 33)
<b>Engineering:</b>	
ENGR 260: Circuits and Devices	ELEN 50/50L
ENGR 210: Engineering Graphics	MECH 10/10L (*Medical Device track)
<b>Mathematics:</b>	
MATH 251: Calculus with Analytic Geometry I	MATH 11
MATH 252: Calculus with Analytic Geometry II	MATH 12
MATH 253: Calculus with Analytic Geometry III	MATH 13&14
MATH 275: Ord Differential Equations	MATH 22 or AMTH 106

## CIVIL ENGINEERING MAJOR REQUIREMENTS

College of San Mateo Course	SCU Course Equivalency
<b>Natural Science:</b>	
CHEM 210: General Chemistry I	CHEM 11
PHYS 250: Physics with Calculus I	PHYS 31
PHYS 260: Physics with Calculus II	PHYS 33 (If PHYS 250 & 260 completed, equates to SCU's PHYS 31, 32 & 33)
<b>Engineering:</b>	
ENGR 210: Engineering Graphics	CENG 7/7L
<i>No approved course equivalency at time of publication</i>	CENG 10/10L
<i>No approved course equivalency at time of publication</i>	CENG 20/20L
ENGR 230: Engineering Statics	CENG 41
ENGR 260: Circuits and Devices	ELEN 50/50L
<i>No approved course equivalency at time of publication</i>	CENG 44A/44B
<b>Mathematics:</b>	
MATH 251: Calculus with Analytic Geometry I	MATH 11
MATH 252: Calculus with Analytic Geometry II	MATH 12
MATH 253: Calculus with Analytic Geometry III	MATH 13&14
MATH 275: Ord Differential Equations	MATH 22 or AMTH 106

## COMPUTER SCIENCE & ENGINEERING MAJOR REQUIREMENTS

College of San Mateo Course	SCU course equivalency
<b>Natural Science:</b>	
CHEM 210: General Chemistry I	CHEM 11
PHYS 250: Physics with Calculus I	PHYS 31
PHYS 260: Physics with Calculus II	PHYS 33 (If PHYS 250 & 260 completed, equates to SCU's PHYS 31, 32 & 33)
<b>Engineering:</b>	
ENGR 260: Circuits and Devices	ELEN 50/50L
CIS 254: Introduction to Object-Oriented Program Design OR CIS 255: (CS1) Programming Methods: Java	COEN 10/10L (if the student is well equipped with C or C++ programming, then can also be COEN 11/11L)
CIS 278: (CS1) Programming Methods I: C++	COEN 11/11L
CIS 256: (CS2) Data Structures: Java OR CIS 279: (CS2) Data Structures: C ++	COEN 12/12L
CIS 262: Discrete Mathematics for Computer Science OR MATH 268: Discrete Mathematics	COEN 19 or MATH 51
CIS 264: Computer Architecture and Assembly Language	COEN 20/20L
<b>Mathematics:</b>	
MATH 251: Calculus with Analytic Geometry I	MATH 11
MATH 252: Calculus with Analytic Geometry II	MATH 12
MATH 253: Calculus with Analytic Geometry III	MATH 13&14
MATH 275: Ord Differential Equations	MATH 22 or AMTH 106
MATH 270: Linear Algebra	MATH 53

**\*\* All students who are qualified for COEN 11/11L and COEN 12/12L are also waived for COEN 10/10L. \*\***

## ELECTRICAL & COMPUTER ENGINEERING MAJOR REQUIREMENTS

College of San Mateo Course	SCU course equivalency
<b>Natural Science:</b>	
CHEM 210: General Chemistry I	CHEM 11
PHYS 250: Physics with Calculus I	PHYS 31
PHYS 260: Physics with Calculus II	PHYS 33 (If PHYS 250 & 260 completed, equates to SCU's PHYS 31, 32 & 33)
<b>Engineering:</b>	
ENGR 260: Circuits and Devices	ELEN 50/50L
CIS 254: Introduction to Object-Oriented Program Design OR CIS 255: (CS1) Programming Methods: Java	COEN 10/10L (if the student is well equipped with C or C++ programming, then can also be COEN 11/11L)
CIS 278: (CS1) Programming Methods I: C++	COEN 11/11L
CIS 256: (CS2) Data Structures: Java OR CIS 279: (CS2) Data Structures: C ++	COEN 12/12L
CIS 262: Discrete Mathematics for Computer Science OR MATH 268: Discrete Mathematics	COEN 19 or MATH 51
<b>Mathematics:</b>	
MATH 251: Calculus with Analytic Geometry I	MATH 11
MATH 252: Calculus with Analytic Geometry II	MATH 12

III	MATH 253: Calculus with Analytic Geometry	MATH 13&14
	MATH 275: Ord Differential Equations	MATH 22 or AMTH 106
	MATH 270: Linear Algebra	MATH 53

### ELECTRICAL ENGINEERING MAJOR REQUIREMENTS

College of San Mateo Course	SCU course equivalency
<b>Natural Science:</b>	
CHEM 210: General Chemistry I	CHEM 11
PHYS 250: Physics with Calculus I	PHYS 31
PHYS 260: Physics with Calculus II	PHYS 33 (If PHYS 250 & 260 completed, equates to SCU's PHYS 31, 32 & 33)
PHYS 270: Physics with Calculus III	PHYS 32 or 34 (If PHYS 250, 260 & 270 completed, equates to SCU's PHYS 31, 32, 33 & 34)
<b>Engineering:</b>	
ENGR 230: Engineering Statics	CENG 41
ENGR 260: Circuits and Devices	ELEN 50/50L
CIS 254: Introduction to Object-Oriented Program Design OR CIS 255: (CS1) Programming Methods: Java	COEN 10/10L (if the student is well equipped with C or C++ programming, then can also be COEN 11/11L)
CIS 278: (CS1) Programming Methods I: C++	COEN 11/11L
CIS 256: (CS2) Data Structures: Java OR CIS 279: (CS2) Data Structures: C ++	COEN 12/12L
<b>Mathematics:</b>	
MATH 251: Calculus with Analytic Geometry I	MATH 11
MATH 252: Calculus with Analytic Geometry II	MATH 12
MATH 253: Calculus with Analytic Geometry III	MATH 13&14
MATH 275: Ord Differential Equations	MATH 22 or AMTH 106

### GENERAL ENGINEERING MAJOR REQUIREMENTS

College of San Mateo Course	SCU course equivalency
<b>Natural Science:</b>	
CHEM 210: General Chemistry I	CHEM 11
PHYS 250: Physics with Calculus I	PHYS 31
PHYS 260: Physics with Calculus II	PHYS 33 (If PHYS 250 & 260 completed, equates to SCU's PHYS 31, 32 & 33)
<b>Engineering:</b>	
ENGR 230: Engineering Statics	CENG 41
CIS 254: Introduction to Object-Oriented Program Design OR CIS 255: (CS1) Programming Methods: Java	COEN 10/10L
ENGR 260: Circuits and Devices	ELEN 50/50L
ENGR 210: Engineering Graphics	MECH 10/10L
ENGR 270: Materials Science	MECH 15/15L
<b>Mathematics:</b>	
MATH 251: Calculus with Analytic Geometry I	MATH 11
MATH 252: Calculus with Analytic Geometry II	MATH 12
MATH 253: Calculus with Analytic Geometry III	MATH 13&14
MATH 275: Ord Differential Equations	MATH 22 or AMTH 106



## MECHANICAL ENGINEERING MAJOR REQUIREMENTS

College of San Mateo Course	SCU course equivalency
<b>Natural Science:</b>	
CHEM 210: General Chemistry I	CHEM 11
PHYS 250: Physics with Calculus I	PHYS 31
PHYS 260: Physics with Calculus II	PHYS 33 (If PHYS 250 & 260 completed, equates to SCU's PHYS 31, 32 & 33)
<b>Engineering:</b>	
ENGR 210: Engineering Graphics	MECH 10/10L
ENGR 270: Materials Science	MECH 15/15L
ENGR 230: Engineering Statics	CENG 41
ENGR 260: Circuits and Devices	ELEN 50/50L
<b>Mathematics:</b>	
MATH 251: Calculus with Analytic Geometry I	MATH 11
MATH 252: Calculus with Analytic Geometry II	MATH 12
MATH 253: Calculus with Analytic Geometry	MATH 13&14
III	
MATH 275: Ord Differential Equations	MATH 22 or AMTH 106

## WEB DESIGN AND ENGINEERING MAJOR REQUIREMENTS

College of San Mateo Course	SCU course equivalency
<b>Natural Science:</b>	
CHEM 210: General Chemistry I <i>(Recommended)</i>	CHEM 11
<b>Engineering:</b>	
CIS 254: Introduction to Object-Oriented Program Design OR CIS 255: (CS1) Programming Methods: Java	COEN 10/10L (if the student is well equipped with C or C++ programming, then can also be COEN 11/11L)
CIS 278: (CS1) Programming Methods I: C++	COEN 11/11L
CIS 256: (CS2) Data Structures: Java OR CIS 279: (CS2) Data Structures: C ++	COEN 12/12L
<b>Mathematics:</b>	
MATH 251: Calculus with Analytic Geometry I	MATH 11
MATH 252: Calculus with Analytic Geometry II	MATH 12
MATH 253: Calculus with Analytic Geometry	MATH 13&14
III	

### 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](mailto: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.