

Articulation Agreement by Major

Effective during the 2022-2023 Academic Year

To: California State University, Los Angeles
2022-2023 General Catalog, Semester

From: City College of San Francisco
2022-2023 General Catalog, Semester

Computer Science - B.S.

ADMISSIONS CRITERIA FOR MAJOR

[Major Specific Criteria for Transfer Admission](#)

GENERAL INFORMATION FOR ALL TRANSFER STUDENTS

[Cal State LA](#)

[General Education Lower Division Courses](#)

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[College of Engineering, Computer Science, and Technol](#)

COMPUTER SCIENCE - BS

The objective of the Bachelor of Science degree in Computer Science is to prepare qualified students for careers involving the design of computer systems and their applications to science and industry. The program provides an excellent foundation in all core areas of computer science with the opportunity to choose electives in a variety of specialized fields.

Requirements for the Major

- The total number of units required for the Bachelor of Science degree in Computer Science is 120 units, of which 93 units are in the major.
- Computer Science students are required to take 48 units of [General Education \(GE\)](#) of which 21 units are met by courses in the major. Consult with an advisor in the department for the specific number of units required in all areas of the degree, including GE and free electives.

LOWER DIVISION GENERAL EDUCATION REQUIREMENTS

Lower Division General Education Requirements (39 units)

Block A - English Language Communication and Critical Thinking Courses (9 units):

- A1 Oral Communication (3)
- A2 Written Communication (3) - Must take [ENGL 1010](#) (3)
- A3 Critical Thinking and Composition (3)
 - Critical Thinking - Met by [CS 2011](#) (4), [CS 3801](#) (3), [CS 3337](#) (3), [CS 3186](#) (3), [CS 4961](#) (3), and [CS 4962](#) (3)
 - 2nd Composition - Met by [ENGL 2030](#) (3)

Block B - Natural Science and Math/Quantitative Reasoning Courses (9 units):

- B1 Physical Science (3) - Met by [PHYS 2100](#) (5)
- B2 or B3 Biological science (3) or Interdisciplinary Science (3)
- B4 Quantitative Reasoning and Mathematical Concepts (3) - Met by [MATH 2110](#) (4)

Block C - Arts and Humanities Courses (9 units):

- American Institutions - US History (3)
- C1 Arts (3)
- C2 Humanities (3) - Met by [CS 3801](#) (3)

Block D - Social Science Courses (9 units):

- American Institutions - US Constitution and State/Local Govt. (3)
- Social Science (6 units)

Block E - Lifelong Understanding and Self-Development Courses (3 units):

- Met by [CS 1010](#) (3), also satisfied LD (c) and IHE

DIVERSITY REQUIREMENT FOR CAL STATE LA GRADUATION

The articulation information in Assist.org not only shows a link to the admission requirements (aka our [Major Specific Criteria](#) webpage) but also Cal State LA graduation requirements that may be completed at the lower-division level, prior to transferring to the University. The diversity requirement is a **graduation requirement**, not an admission requirement. The diversity requirement may be completed prior to, or after, transferring to the University.

For the Cal State LA degree, students will be required to complete **two courses (six units)** certified as diversity courses, at least one focusing on issues of race and ethnicity and their intersectionality with other social categories that structure inequality in society. These courses can be completed either at the lower division or upper-division level from among courses satisfying GE requirements.

Please see the **Requirement Information** sections below for the lower-division courses that will meet the Diversity and Race & Ethnicity Requirements.

LOWER DIVISION REQUIRED COURSES

Minimum grade required: C or better

CS 1222 - Introduction to Relational Databases (3.00)	←	CS 150A - Introduction to SQL Databases and NoSQL (3.00)
CS 2011 - Introduction to Programming I (3.00)	←	CS 110B - Programming Fundamentals: C++ (4.00) --- Or --- CS 111B - Programming Fundamentals: Java (4.00)
CS 2012 - Introduction to Programming II (3.00)	←	CS 111C - Data Structures and Algorithms: Java (4.00) --- Or --- CS 110C - Data Structures and Algorithms: C++ (4.00)
CS 2013 - Programming with Data Structures (3.00)	←	CS 111C - Data Structures and Algorithms: Java (4.00) --- Or --- CS 110C - Data Structures and Algorithms: C++ (4.00)
CS 2148 - Discrete Structures (3.00)	←	MATH 115 - Discrete Mathematics (3.00)
CS 2445 - Introduction to Computer Systems (3.00)	←	CS 270 - Computer Architecture with Assembly Language (4.00)
CS 2470 - Fundamentals of Network Systems and Cybersecurity (3.00)	←	No Course Articulated
ENGL 2030 - Introduction to Technical Writing (3.00)	←	No Course Articulated
MATH 2110 - Calculus I (4.00)	←	MATH 110A - Calculus I (5.00) --- And --- MATH 110B - Calculus II (5.00)
MATH 2120 - Calculus II (4.00)	←	MATH 110B - Calculus II (5.00) MATH 110A - Calculus I (5.00)
MATH 2550 - Introduction to Linear Algebra (3.00)	←	MATH 120 - Linear Algebra (3.00)

PHYS 2100 - General Physics I: Mechanics (5.00)



PHYC 4A - Classical Mechanics for Scientists and Engineers (3.00)

--- And ---

PHYC 4AL - Mechanics Laboratory for Scientists and Engineers (1.00)

--- Or ---

PHYC 4B - Electromagnetism for Scientists and Engineers (3.00)

--- And ---

PHYC 4BL - Electromagnetism Laboratory for Scientists and Engineers (1.00)

--- Or ---

PHYC 4C - Waves and Thermodynamics for Scientists and Engineers (3.00)

--- And ---

PHYC 4CL - Waves and Thermodynamics Laboratory for Scientists and Engineers (1.00)

--- Or ---

PHYC 4D - Modern Physics for Scientists and Engineers (3.00)

--- And ---

PHYC 4DL - Modern Physics Laboratory for Scientists and Engineers (1.00)

DIVERSITY COURSES FOR CAL STATE LA GRADUATION REQUIREMENT

REFER TO TOP OF AGREEMENT

AAAS 1600 - History of Asia (3.00)
Same-As: HIST 1600



No Course Articulated

AAAS 1700 - Understanding Contemporary Asia (3.00)



No Course Articulated

AAAS 2000 - Pacific Asian Culture, People, & Society (3.00)



No Course Articulated

ANTH 1001 - Where in the World of Education at CSULA are You? (3.00)



No Course Articulated

ANTH 1500 - Introduction to Cultural Anthropology (3.00)



ANTH 3 - Introduction to Social and Cultural Anthropology (3.00)

ANTH 2700 - Great Archaeological Discoveries of the Past (3.00)



ANTH 2 - Archaeology and Prehistory (3.00)

ART 2090 - Perspectives on Art and Cultural Diversity (3.00)



No Course Articulated

ART 2400 - Art and Life Perspectives (3.00)



No Course Articulated

BUS 2500 - Diversity, Business and the Workplace (3.00)



No Course Articulated

CHDV 1200 - Intimate Relationships in our Diverse Society (3.00)
Same-As: SOC 1200



SOC 35 - Sex, Marriage, and Family Relations (3.00)

CHDV 2250 - Ethnic Identity and Awareness in Children and Families (3.00)



CDEV 93 - Cultural Diversity in Early Childhood Education (3.00)

CLS 2200 - Chicanas and Latinas in Contemporary U.S. Society (3.00)
Same-As: WGSS 2200



No Course Articulated

COMM 2500 - Communication, Identity and Culture (3.00)



No Course Articulated

COUN 2020 - Integration of Adults with Disabilities in the U.S. Society (3.00)



No Course Articulated

COUN 2250 - Diversity and Awareness of Self and Others for Helping Professionals (3.00)



No Course Articulated

ENGL 2600 - Literary Los Angeles (3.00)



No Course Articulated

GEOG 1550 - Cultural Geography (3.00)



GEOG 4 - Cultural Geography (3.00)

HIST 1010 - World History to 1500 CE (3.00)



No Course Articulated

HIST 1020 - World History since 1500 CE (3.00)



No Course Articulated

HIST 1600 - History of Asia (3.00)
Same-As: AAAS 1600



No Course Articulated

HIST 2010 - Early American History (3.00)	←	HIST 17A - United States History to 1877 (3.00)
HIST 2020 - Recent United States History (3.00)	←	HIST 17B - The United States (3.00)
HNRS 2210 - Reading Los Angeles: Engaging Cultural Expressions in a Global City (3.00)	←	No Course Articulated
LAS 1500 - Introduction to Latin American Studies (3.00)	←	ANTH 11 - Latin American Cultures and Societies (3.00)
LAS 2550 - Diverse Latin American Populations in Southern California (3.00) Same-As: CLS 2040	←	No Course Articulated
LBS 2400 - Introduction to Environmental Humanities (3.00)	←	No Course Articulated
LBS 2500 - Social Change and Social Movements in the U.S. (3.00)	←	No Course Articulated
LBS 2666 - Science Fiction Film and Television (3.00) Same-As: TVF 2666	←	No Course Articulated
PHIL 2000 - Introduction to Comparative Religions (3.00) Same-As: RELS 2000	←	No Course Articulated
PHIL 2200 - Contemporary Moral and Social Issues: An Intersectional Approach (3.00)	←	No Course Articulated
HNRS 2210 - Reading Los Angeles: Engaging Cultural Expressions in a Global City (3.00)	←	No Course Articulated
PHIL 2300 - Meanings of Human Life: An Intersectional Approach (3.00)	←	No Course Articulated
PHIL 2400 - Philosophy of Film (3.00)	←	No Course Articulated
RELS 2000 - Introduction to Comparative Religions (3.00) Same-As: PHIL 2000	←	No Course Articulated
SOC 1001 - Individual Development in Diverse Contexts (3.00) • <i>Minimum grade required: C or better</i>	←	No Course Articulated
SOC 1200 - Intimate Relationships in Our Diverse Society (3.00) Same-As: CHDV 1200	←	SOC 35 - Sex, Marriage, and Family Relations (3.00)
SOC 2010 - Introduction to Sociology (3.00)	←	SOC 1 - Introduction to Sociology (3.00)
TVF 1938 - History of Comic Books (3.00)	←	No Course Articulated
TVF 2500 - Media, Culture and Identity (3.00)	←	No Course Articulated
TVF 2666 - Science Fiction Film and Television (3.00) Same-As: LBS 2666	←	No Course Articulated
WGSS 1010 - Gender and Sexuality in College (3.00)	←	No Course Articulated
WGSS 2000 - Introduction to Women's, Gender, and Sexuality Studies (3.00)	←	No Course Articulated

RACE & ETHNICITY COURSES FOR CAL STATE LA GRADUATION REQUIREMENT

REFER TO TOP OF AGREEMENT

AAAS 1400 - Introduction to Globalization, Race and Place (3.00) Same-As: PAS 1400, LAS 1400	←	No Course Articulated
AAAS 1500 - Asian-American History (3.00) Same-As: HIST 1500	←	No Course Articulated
AAAS 2100 - Asian America: Culture, History, and Community (3.00)	←	No Course Articulated
AAAS 2200 - Asia and Asian American in Literature, Arts, and Media (3.00)	←	No Course Articulated
AAAS 2630 - Asian-American Experience (3.00)	←	No Course Articulated
CLS 1200 - Chicanas/os Latinas/os, Gender, and Class in the US Experience (3.00)	←	No Course Articulated
CLS 1300 - The Constitution, Equity and Chicanas/os and Latinas/os (3.00)	←	No Course Articulated
CLS 1500 - Cultural Diversity, Chicanas/os, and Latinas/os (3.00)	←	No Course Articulated
CLS 1600 - Cultural Expressions in the Americas (3.00)	←	No Course Articulated
CLS 2010 - Modern Mexican Literature in Translation (3.00)	←	No Course Articulated
CLS 2050 - Chicanas/os and Latinas/os in Film and Popular Culture (3.00)	←	No Course Articulated

CLS 2060 - Latina/o Images in Media, Social Media, and Digital Communication Systems (3.00)	←	No Course Articulated
CLS 2100 - Chicana/o and Latino/a Political and Social Movements (3.00)	←	No Course Articulated
CLS 2300 - Family Structure in the Americas (3.00)	←	No Course Articulated
ENGL 2665 - Race and Ethnicity in Science Fiction (3.00) Same-As: LBS 2665	←	No Course Articulated
HIST 1500 - Asian-American History (3.00) Same-As: AAAS 1500	←	No Course Articulated
HIST 2050 - Race and Ethnicity in United States History (3.00)	←	No Course Articulated
LAS 1020 - The African Diaspora in the Americas (3.00) Same-As: PAS 1020	←	No Course Articulated
LAS 1400 - Introduction to Globalization, Race and Place (3.00) Same-As: PAS 1400, AAAS 1400	←	No Course Articulated
LBS 2340 - Multicultural Arts, L.A. (3.00)	←	No Course Articulated
LBS 2665 - Multicultural Science Fiction (3.00) Same-As: ENGL 2665	←	No Course Articulated
PAS 1020 - The African Diaspora in the Americas (3.00) Same-As: LAS 1020	←	No Course Articulated
PAS 1100 - Racial Equality, Government and the Constitution (3.00)	←	No Course Articulated
PAS 1200 - Elementary African Language and Culture (3.00)	←	No Course Articulated
PAS 1400 - Introduction to Globalization, Race and Place (3.00) Same-As: LAS 1400, AAAS 1400	←	No Course Articulated
PAS 1500 - Black Oral Traditions and Communication (3.00)	←	No Course Articulated
PAS 1510 - African American History (3.00)	←	No Course Articulated
PAS 1800 - Critical Race Theory (3.00)	←	No Course Articulated
PAS 2010 - Third World Literature (3.00)	←	No Course Articulated
PAS 2020 - African American Religion as Civic Culture (3.00)	←	No Course Articulated
PAS 2210 - African American Music as History and Criticism (3.00)	←	No Course Articulated
PAS 2500 - African History (3.00)	←	No Course Articulated
PAS 2600 - Third World Images in Film (3.00)	←	No Course Articulated
PHIL 2230 - Diversity and Justice (3.00)	←	No Course Articulated
SOC 2630 - Asian-American Experience (3.00)	←	ASAM 20 - Asian American Experience: 1820 to Present (3.00)
SPAN 2420 - Hispanic Societies through Literature (3.00)	←	No Course Articulated
WGSS 2030 - Gender and Race in the United States (3.00)	←	No Course Articulated
WGSS 2200 - Chicanas and Latinas in Contemporary U.S. Society (3.00) Same-As: CLS 2200	←	No Course Articulated
WGSS 2300 - Gender, Sexuality, and American Indian Communities (3.00)	←	No Course Articulated

END OF AGREEMENT