Catalog Update for 2015-16 College Catalog
Last Updated: March 25, 2016

Accreditation Status

City College of San Francisco is accredited by the Accrediting Commission for Community and Junior Colleges, Western Association of Schools and Colleges, 10 Commercial Blvd., Suite 204, Novato, CA 94949, (415) 506-0234, an institutional accrediting body recognized by the Council for Higher Education Accreditation and the U.S. Department of Education. Additional information about accreditation, including the filing of complaints against member institutions, can be found at: www.accjc.org. City College of San Francisco is currently accredited, on Restoration Status.

Programmatic Accreditation

The following programs are subject to additional accreditation standards:

Administration of Justice Department

ADM 85, PC 832 Arrest & Control
Presenter number 4540

Accredited by:
California Commission on Peace Officer Standards and Training
860 Stillwater Road, Suite 100
West Sacramento, CA 95605
916-227-3909

Contact: Donald Lane, 916-227-3918, don.lane@post.ca.gov

Aircraft Maintenance Technology Program

Certified by:
The Federal Aviation Administration
US Department of Transportation
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591
1-866-TELL-FAA (1-866-835-5322)

Culinary Arts Program

Accredited by:
The American Culinary Federation

Send comments in writing to:
American Culinary Federation Education Foundation
Attn: Accreditation
180 Center Place Way
St. Augustine, FL 32095
Fax: 904-940-0741
Email: wlaino@acfcchefeds.net
Dental Assisting Program
Accredited by:
The Commission on Dental Accreditation (CODA)
American Dental Association
211 East Chicago Avenue
Chicago, IL 60611-2678
312-440-2500

Submit complaints: www.ada.org/314.aspx

Diagnostic Medical Imaging (DMI) Program
Accredited by:
The Joint Review Committee on Education in Radiologic Technology
20 N. Wacker Drive, Suite 2850
Chicago, IL 60606-3182
Phone: 312-704-5300
Fax: 312-704-5304

Contact:
Leslie F. Winter, M.S., R.T.(R), CEO
JRCERT
20 N. Wacker Drive, Suite 2850
Chicago, IL 60606-3182
lwinter@jrcert.org

Drug and Alcohol Studies Certificate
Accredited by:
California Association of Alcohol and Drug Educators (CAADE)
5230 Clark Ave., Suite 3
Lakewood, CA 90712
707-722-2331

Comments or Questions: office@caade.org

EMT & Paramedic Programs
The EMT Program is approved by the State of California EMS Authority and local approving EMS agency.
The Paramedic Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) under the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Profession (CoAEMSP). Program #600218

Commission on Accreditation of Allied Health Education Programs (CAAHEP)
1361 Park Street
Clearwater, FL 33756
727-210-2350
www.caahep.org

Committee on Accreditation of Educational Programs for the Emergency Medical Services Profession (CoAEMSP)
8301 Lakeview Parkway, Suite 111-312
Rowlett TX 75088
Phone: 214-703-8445
Fax: 214-703-8992
www.coaemsp.org
Fire Science Technology Program
Accredited by:
The California State Fire Marshal's Office of State Fire Training
PO Box 944246
Sacramento, CA 94244-2460
http://osfm.fire.ca.gov/training/accreditedacademies.php

Contact: Rodney Slaughter, Rodney.Slaughter@fire.ca.gov

Health Information Management Program (Associate in Science)
Accredited by:
The Commission on Accreditation for Health Informatics and Information Management (CAHIIM)
233 N. Michigan Ave, 21st Floor
Chicago, IL 60601-5800

Licensed Vocational Nursing Program
Accredited by:
The Board of Vocational Nursing and Psychiatric Technicians
2535 Capitol Oaks Drive, Suite 205
Sacramento, CA 95833
916-263-7800
bvnpt@dca.ca.gov

Medical Assisting Program
Accredited by:
The Commission on Accreditation of Allied Health Education Programs
1361 Park Street
Clearwater, FL 33756
Phone: 727-210-2350
Fax: 727-210-2354
Submit complaints: http://www.caahep.org/File-Complaints/

Radiation Therapy Technology (RTT) Program
Accredited by:
The Joint Review Committee on Education in Radiologic Technology
20 N. Wacker Drive, Suite 2850
Chicago, IL 60606-3182
Phone: 312-704-5300
Fax: 312-704-5304
Submit comments to:
Leslie F. Winter, M.S., R.T.(R), CEO
JRCERT
20 N. Wacker Drive, Suite 2850
Chicago, IL 60606-3182
lwinter@jrcert.org
Registered Nursing Program
Approved by:
The California State Board of Registered Nursing
P.O. Box 944210
Sacramento, CA 94244-2100
http://www.rn.ca.gov/about_us/whatisbrn.shtml,

Submit complaints:
Board of Registered Nursing
Attn: Complaint Intake
P.O. Box 944210
Sacramento, CA 94244-2100
Fax: 916-574-7693

Associate Degree General Education Requirements
The following courses were approved during the 2015-16 academic year and may be applied towards the General Education Graduation Requirements in addition to those listed in the Associate Degree section of the 2015-16 print catalog:

- AMSL 2A to Area A
- CHIN 30A to Areas A & E
- CHIN 30B to Areas A & E
- CHIN 32 to Area A & E
- CHIN 33 to Area E
- CHIN 36 to Area E
- CHIN 38 to Areas A & E
- DSPS 20 to Area G2
- ECON 3 to Area D
- ECON 15 to Area D
- ECON 20 to Areas D & H
- ENGL 30A to Area E
- ENGL 48C to Area E
- ENGL 48K to Area E
- ENGL 52 to Area E
- FREN 15A to Areas A & E
- FREN 15B to Areas A & E
- GEOG 3 to Area D
- JAPA 17 to Areas A & E
- JAPA 18 to Areas A & E
- JAPA 19 to Areas A & E
- JAPA 20 to Areas A & E
- PHOT 51 to Area E
- PHYC 20 to Area C
- RUS 16A to Areas A &E
- RUSS 16B to Areas A & E
- SPAN 32A to Areas A & E
- SPAN 32B to Areas A & E
- SPAN 6 to Areas A & E
- SPAN 6A to Areas A & E
- SPAN 6B to Areas A & E
Courses

Degree applicable heading for ESL credit courses was omitted in the 2015-16 College Catalog. The following courses are still degree applicable:


Programs

The following programs shall be considered included in the 2015-16 College Catalog, with the effective dates noted below.

<table>
<thead>
<tr>
<th>Department</th>
<th>Program</th>
<th>Effective Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture</td>
<td>Associate in Science in Interior Design (AS) - CORRECTED</td>
<td>Fall 2015</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>Associate in Science in Biology for Transfer (AS-T) - NEW</td>
<td>Fall 2015</td>
</tr>
<tr>
<td>Broadcast Electronic Media Arts and Cinema</td>
<td>Associate in Science in Film, Television &amp; Electronic Media for Transfer (AS-T) - NEW</td>
<td>Fall 2015</td>
</tr>
<tr>
<td>Broadcast Electronic Media Arts</td>
<td>Certificate of Accomplishment in Video Production and Editing-CORRECTED</td>
<td>Fall 2015</td>
</tr>
<tr>
<td>Business</td>
<td>Certificate of Accomplishment in International Business - REVISED</td>
<td>Fall 2015</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Associate in Science in Chemistry for Transfer (AS-T) - NEW</td>
<td>Fall 2015</td>
</tr>
<tr>
<td>Computer Science</td>
<td>Certificate of Accomplishment in Linux Administration II - NEW</td>
<td>Fall 2015</td>
</tr>
<tr>
<td>Foreign Languages</td>
<td>Associate in Arts in Spanish for Transfer (AA-T) - CORRECTED</td>
<td>Fall 2015</td>
</tr>
<tr>
<td>Journalism</td>
<td>Associate in Arts in Journalism for Transfer (AA-T) - NEW</td>
<td>Fall 2015</td>
</tr>
<tr>
<td>Theatre Arts</td>
<td>Associate in Arts in Theatre Arts for Transfer (AA-T) - NEW</td>
<td>Fall 2015</td>
</tr>
</tbody>
</table>

ARCHITECTURE

The course, INTD 102 was mistakenly omitted for the AS in Interior Design. Below is the corrected version of the course requirements for this program.

Associate in Science in Interior Design (AS) - CORRECTED

This program will prepare students in areas of design, technology, digital skills, drawing, delineation and rendering, structures, history and professional practice.
Students who wish to transfer to a 4 year degree program should understand that each transfer institution has its own set of transfer requirements. Those different requirements can be found on the individual transfer institution’s websites. Students are strongly urged to speak with architecture program faculty if they need assistance on understanding transfer requirements.

The A.S. degree in Interior Design has strong emphasis on both Architecture and Art. The program will prepare them in areas of design, technology, digital skills, drawing, delineation and rendering, structures, history, professional practice, art history, and graphic design. Entry positions for which graduates who have received the degree of Associate in Science in Interior Design may qualify for employment positions that may include those of draftsperson; delineator; salesperson; furniture designer; and assistant in coordination of colors, fabric, furniture, lighting systems, and exhibits.

**Learning Outcomes**

Upon completion of this degree, students will be able to:

- Create interior solutions to a set of project requirements including material and color selection.
- Develop interior graphics using digital and analog tools that communicate design intentions and document construction requirements.
- Analyze the historical periods and movements of Interior Design.
- Explain the duties and responsibilities of stakeholders within the legal and regulatory environments.
- Understand technical building and material systems and their interface with interior spaces.

**Courses Required for the Major in Interior Design**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester (fall)</strong></td>
<td></td>
</tr>
<tr>
<td>ARCH 100 Introduction to Architecture and Design</td>
<td>2</td>
</tr>
<tr>
<td>ARCH 20 Architectural Graphics I</td>
<td>3</td>
</tr>
<tr>
<td>ARCH 29A Freehand Drawing I</td>
<td>1</td>
</tr>
<tr>
<td><strong>Second Semester (spring)</strong></td>
<td></td>
</tr>
<tr>
<td>ARCH 29B Freehand Drawing II</td>
<td>1</td>
</tr>
<tr>
<td>ARCH 22A Delineation &amp; Rendering</td>
<td>3</td>
</tr>
<tr>
<td>DSGN 150 Color in Design</td>
<td>3</td>
</tr>
<tr>
<td>or ART 126 Color</td>
<td></td>
</tr>
<tr>
<td><strong>Additional graduation requirements</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Third Semester (fall)</strong></td>
<td></td>
</tr>
<tr>
<td>ARCH 101 Architecture Design Studio I</td>
<td>3</td>
</tr>
<tr>
<td>ARCH 214 Architectural CADD</td>
<td>3</td>
</tr>
<tr>
<td>or BIM 120 Revit Architecture I</td>
<td></td>
</tr>
<tr>
<td>ART 170A Beginning Sculpture</td>
<td>3</td>
</tr>
<tr>
<td>INTD 124 Interior Bldg Materials &amp; Systems</td>
<td>3</td>
</tr>
<tr>
<td>or ARCH 120 Fundamentals of Building Construction</td>
<td></td>
</tr>
<tr>
<td><strong>Additional graduation requirements</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Fourth Semester (spring)</strong></td>
<td></td>
</tr>
<tr>
<td>INTD 102 Interior Design Studio I</td>
<td>3</td>
</tr>
<tr>
<td>INTD 138 Global History of Interior Design</td>
<td>3</td>
</tr>
<tr>
<td>ARCH 160 (spring only) Professional Practice</td>
<td>3</td>
</tr>
<tr>
<td><strong>Additional graduation requirements</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total Units</strong></td>
<td>34</td>
</tr>
</tbody>
</table>
BIOLOGICAL SCIENCES

Associate in Science in Biology for Transfer (AS-T) - NEW

Biology is the scientific study of life through the observation of structure, function, reproduction, growth, origin, evolution, and behavior of living organisms and their relation to each other and their environment. Biologists have deepened our understanding of processes and interactions on all levels of biological organization from elucidating cellular processes to fight cancer to assessing interactions in communities that might help prevent the extinction of species. Studying biology provides a background for students to evaluate and understand new discoveries and to make informed decisions about the use of scientific knowledge to benefit all living organisms.

The Associate of Science in Biology for Transfer (AS-T) prepares student for upper division biology courses, including general biology, cell or molecular biology, organism biology, marine biology, botany, zoology, ecology, evolution, genetics, anatomy, physiology, microbiology, and agricultural sciences. The AS-T in Biology is designed to prepare students for transfer to a baccalaureate degree program in biology, particularly at the California State University.

Learning Outcomes

Upon completion of the major, students will be able to:

- Successfully participate in upper division coursework including general biology, cell or molecular biology, organism biology, marine biology, botany, zoology, ecology, evolution, genetics, anatomy, physiology, microbiology, and agricultural sciences.
- Define and correctly use scientific terminology relevant to biological organisms and processes.
- Apply the theory of evolution and use examples from biochemistry and all levels of biological organization to explain the unity and diversity of living forms.
- Explain how form relates to function in both small scale (molecules and subcellular parts) and large scale (animal and plant physiology) systems.
- Evaluate how the expression of genetic information in context activates various elements of organism growth and behavior.
- Provide and evaluate evidence for the growth and change of biological systems through processes based upon chemical transformation pathways and governed by the laws of thermodynamics.
- Write clear, well organized essays or research papers that demonstrate synthesis of information, quantitative reasoning, and critical thinking.
- Apply the process of science and the skills necessary to successfully and safely carry out laboratory experiments.

Degree Requirements:

Students who wish to earn the Associate in Science in Biology for Transfer must complete 60 CSU transferable units with at least a 2.0 grade point average. This must include the units required for completion of either IGETC for STEM or CSU GE for STEM and the 34-36 units for the major as specified below. Each course in the major must be completed with a grade of "C" or better. The IGETC for STEM and CSU GE for STEM options permit students completing the AS-T in Biology to follow the IGETC or CSU GE curriculum but delay one Arts or Humanities course and one Social or Behavioral Science course until after transfer. Courses used to meet the major requirement may also be used to meet IGETC or CSU GE requirements.

Courses Required for a Major in Biology for Transfer

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 100A General Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIO 100B General Biology</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 101A General College Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 101B Introductory College Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>MATH 110A Calculus I</td>
<td></td>
</tr>
<tr>
<td>or MATH 100A Short Calculus I</td>
<td></td>
</tr>
</tbody>
</table>

Complete one of the following Physics Series:

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### Option 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYC 2A Introductory Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYC 2AL Introductory Physics Lab</td>
<td>1</td>
</tr>
<tr>
<td>PHYC 2B Introductory Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYC 2BL Introductory Physics Lab</td>
<td>1</td>
</tr>
</tbody>
</table>

### Option 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYC 4A Calculus-Based Physics for Scientists and Engineers</td>
<td>3</td>
</tr>
<tr>
<td>PHYC 4AL Calculus-Based Physics for Scientists and Engineers Lab</td>
<td>1</td>
</tr>
<tr>
<td>PHYC 4B Calculus-Based Physics for Scientists and Engineers</td>
<td>3</td>
</tr>
<tr>
<td>PHYC 4BL Calculus-Based Physics for Scientists and Engineers Lab</td>
<td>1</td>
</tr>
</tbody>
</table>

Complete one of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 208A Organic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 1B Reading, Writing, and Critical Thinking About Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1C Advanced Composition</td>
<td>3</td>
</tr>
<tr>
<td>MATH 100B Short Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 110B Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 2 Introduction to Rhetorical Criticism</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Units**: 34-36

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**BROADCAST ELECTRONIC MEDIA ARTS AND CINEMA**

**Associate in Science in Film, Television & Electronic Media for Transfer (AS-T) - NEW**

The AS-T in Film, Television and Electronic Media offers students a comprehensive lower division program in film, television and electronic media, revolving around a basic core program. The AS-T prepares students for transfer to upper division film, television and electronic media programs at four-year colleges and universities, particularly to California State University (CSU) campuses.

**Learning Outcomes**

Upon completion of this degree the student will be able to:

- Describe and analyze the history, issues and impact of film, television and electronic media in a local and global context.
- Demonstrate media literacy as a key part of the development of critical thinking skills.
- Apply introductory analytical skills to the design and creation of content for film, television and electronic media with a focus on writing, storytelling, teamwork and leadership in preparation for further study at the university level.
- Demonstrate film, television and electronic media production and performance craft skills suitable for further development at the university level.
- Display professionalism and understanding of workforce protocol in communication and behavior.

**Degree Requirements**: Students who wish to earn the Associate in Science in Film, Television and Electronic Media for Transfer (AS-T) must complete 60 CSU transferable units with at least a 2.0 grade point average. This must include the units required for full completion of the IGETC or CSU GE curriculum and 18-20 units for the major as specified below. Each course in the major must be completed with a grade of “C” or better. Courses used to meet the major requirement may also be used to meet IGETC or CSU GE requirements.

**Courses Required for the Transfer Major in Film, Television and Electronic Media**

### Core Courses – 12-13 units

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCST 120 – Audio Production</td>
<td>3</td>
</tr>
</tbody>
</table>

Choose two courses: (6 units)
The courses required for the Video Production and Editing certificate were revised, but this revision was not reflected in the 2015-16 print catalog. Below is the corrected version of the course requirements for this program.

**Video Production and Editing Certificate- CORRECTED**

This certificate provides basic video production and editing craft skills for entry-level employment in video production and editing for television, Internet, advertising, public relations, multimedia, education, music, theater, film, entrepreneurial projects and media departments of agencies, businesses, and institutions.

**Learning Outcomes**

Upon completion of this certificate, students will be able to:

- Plan, implement, and manage the aesthetic and technical elements of video production through the preproduction, production, and delivery stages
- Produce content in a variety of areas within the context of video production including producing, directing, camera operation, lighting, audio, and video editing.
- Demonstrate knowledge of current digital audio and video file types and formats.
- Apply a variety of video editing techniques related to content, efficiently manage logging and
Students must complete each course with a grade of C or higher
Students must complete 4 of 6 courses at City College of San Francisco
All courses must be taken within the last four years

Courses Required for the Certificate of Accomplishment in Video Production and Editing

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCST 110 Writing for Electronic Media</td>
<td>3</td>
</tr>
<tr>
<td>BCST 119 Digital Media Skills</td>
<td>3</td>
</tr>
<tr>
<td>BCST 120 Audio Production</td>
<td>3</td>
</tr>
<tr>
<td>BCST 141 Field Video Production</td>
<td>3</td>
</tr>
<tr>
<td>BCST 143 Digital Video Editing – AVID</td>
<td>3</td>
</tr>
<tr>
<td>or BCST 144 Digital Video Editing - FCP/PR</td>
<td></td>
</tr>
<tr>
<td>BCST 159 Digital Media Portfolio</td>
<td>1</td>
</tr>
<tr>
<td>BCST 160 College Internship</td>
<td>1</td>
</tr>
<tr>
<td>or BCST 165 Industry Internship</td>
<td></td>
</tr>
<tr>
<td><strong>Total Units</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

Recommended Additional Coursework: BCST 100, BCST 115, BCST 140, BCST 146, and BCST 149.

**BUSINESS**

**International Business Certificate of Accomplishment - REVISED**

The Certificate Program in International Business fulfills the needs of three groups: 1) students preparing themselves for careers in international business, 2) currently employed individuals whose job responsibilities require expertise in international business practices, and 3) entrepreneurs who want to begin or globalize their business ventures.

**Learning Outcomes**

Upon completion of this degree, students will be able to:

- Identify core concepts of International Business, including marketing, finance, operations, economics, law, culture, export-import, and E-commerce.
- Communicate effectively in oral and written formats within an international business context.
- Describe and identify the functions and operations of international financial markets, institutions, and foreign currency issues.
- Analyze issues arising from technology transfers and the protection of intellectual property.
- Formulate marketing plans and promotional strategies that incorporate consumer behavior factors and measurements of effectiveness.
- Describe and identify the functions and procedures of export-import operations.
- Formulate effective applications of the internet and electronic payment systems in the context of international business transactions.

Students may obtain the Certificate of Accomplishment in International Business by completing each of the following courses with a final grade of “C” or higher.

**Courses Required for the Certificate of Accomplishment in International Business**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTR 162 Survey of International Business</td>
<td>3</td>
</tr>
<tr>
<td>INTR 163 International Marketing</td>
<td>3</td>
</tr>
<tr>
<td>INTR 167 International Law</td>
<td>3</td>
</tr>
<tr>
<td>INTR 170 International Finance</td>
<td>3</td>
</tr>
</tbody>
</table>

Choose one of the following options:
CHEMISTRY

Associate in Science in Chemistry for Transfer (AS-T) - NEW

Chemistry is the investigation of matter. Grappling with the difficult problems students will face during their lifetimes such as the treatment of disease, assessment of environmental pollutant risk, the challenge of feeding a growing world population, understanding the processes that affect the Earth’s climate, and the continuous improvement of technology all require an integrated approach to problem solving and an understanding of chemistry. Students majoring in chemistry will develop a view of the world around them that is shaped by their understanding of chemical principles, physics, and the language of mathematics. During experiences in a laboratory setting, students will practice the scientific method to explore chemical phenomena, solve problems in a strategic fashion, and formulate and communicate an understanding of matter from a chemist’s perspective.

The Associate of Science in Chemistry for Transfer (AS-T) prepares student for upper division chemistry courses in quantum mechanics, thermodynamics, organic synthesis and inorganic chemistry offered at four-year colleges and universities. The AS-T in Chemistry is designed to prepare students for transfer to a baccalaureate degree program in chemistry, particularly at the California State University.

Learning Outcomes

Upon completion of the major, students will be able to:

- Successfully participate in upper division course work in thermodynamics, quantum mechanics, as well as organic, inorganic, and nuclear chemistry.
- Assess data presented and use those data to evaluate the quality of conclusions.
- Conduct multi-step organic syntheses from planning through implementation and structural verification using available chemical compounds, microscale glassware, gas chromatography/mass spectrometry, visible, UV, infrared and nuclear magnetic resonance spectroscopy techniques.
- Obtain, purify, identify, and quantify organic chemical compounds from their natural plant sources.
- Use a variety of chemistry-relevant laboratory instruments to gather and examine data for use in answering complex questions.
- Analyze environmental samples, quantitatively determine the abundance of inorganic and organic components, and use results to evaluate the risk of environmental exposure.
- Use current technology to access, organize, and apply relevant chemical information.
- Apply mathematical representations to describe chemical systems and phenomena.
- Apply the language of chemistry to communicate an understanding of chemistry in written and oral form.
- Meet the academic requirements for transfer to a baccalaureate degree program in Chemistry

Degree Requirements

Students who wish to earn the Associate in Science in Chemistry for Transfer must complete 60 CSU transferable units with at least a 2.0 grade point average. This must include the units required for completion of the IGETC for STEM and the 34-36 units for the major as specified below. Each course in the major must be completed with a grade of “C” or better. The IGETC for STEM option permits students completing the AS-T in Chemistry to follow the IGETC curriculum but delay one Arts or Humanities course and one Social or Behavioral Science course until after transfer. Courses used to meet the major requirement may also be used to meet IGETC requirements.

Courses Required for a Major in Chemistry for Transfer

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 101A General College Chemistry</td>
<td>5</td>
</tr>
</tbody>
</table>

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CHEM 101B General College Chemistry ................................................................. 5
PHYC 4A Physics for Scientists and Engineers .................................................. 3
PHYC 4AL Physics Laboratory for Scientists and Engineers .............................. 1
PHYC 4B Physics for Scientists and Engineers .................................................. 3
PHYC 4BL Physics Laboratory for Scientists and Engineers .............................. 1
MATH 110A Calculus I ......................................................................................... 4
MATH 110B Calculus II ....................................................................................... 4

Complete one Organic Chemistry sequence:
Option 1
CHEM 208A Organic Chemistry ......................................................................... 4
CHEM 208B Organic Chemistry ......................................................................... 4

Option 2
CHEM 212A Organic Chemistry ......................................................................... 5
CHEM 212B Organic Chemistry ......................................................................... 5

Total Units ........................................................................................................ 34-36

COMPUTER SCIENCE

Certificate of Accomplishment in Linux Administration II - NEW
The program of study for this second certificate in Linux Administration builds on the Linux Administration I Certificate to deepen expertise in the networking side of Linux Administration. Besides learning basic networking, students learn how to configure and manage standard networked services such as NFS, ssh, mail, DHCP, DNS, ftp, web servers and client LDAP. A second standard scripting language is required to provide greater implementation flexibility. This certificate is designed to prepare students for the industry-standard RHCE certification and for entry-level positions in Linux Administration.

Learning Outcomes
Upon completion of this certificate, students will be able to:
• Configure a physical or virtual local subnet for a set of hosts and the networking interfaces of each.
• Write system administration scripts in Python or Perl.
• Control access to network services by firewall rules, server configuration, and SELinux restrictions.
• Implement and configure standard network services including DHCP, NFS, htp, ftp, and ssh.
• Configure a master name server to map names for a local subdomain.

Students must complete each course with a grade of “c” or higher. Where applicable, grades of Pass may be used.

Courses Required for the Certificate of Accomplishment in Linux Administration II
Course ............................................................................................................ Units
CS 260B Linux Network Administration ........................................................... 3
CNIT 106 Introduction to Networks
   or CNIT 201E Network Fundamentals ....................................................... 3
CS 131A Python Programming
   or CS 113A Perl Programming ...................................................................... 3
Total Units ...................................................................................................... 9
FOREIGN LANGUAGES

The course, SPAN 41, was mistakenly included in the 2015-16 print catalog for the AA-T in Spanish. Below is the corrected version of the course requirements for this program.

Associate in Arts in Spanish for Transfer (AA-T) - CORRECTED

The AA-T in Spanish offers students a solid foundation in the study of Spanish. It prepares students who wish to transfer and pursue a baccalaureate degree in Spanish, particularly at California State University campuses.

Degree Requirements. Students who wish to earn the Associate in Arts in Spanish for Transfer (AA-T) must complete 60 CSU transferable units with at least a 2.0 grade point average. This must include the units required for full completion of the IGETC or CSU GE curriculum and the 21-27 units for the major as specified below. Each course in the major must be completed with a grade of "C" or better. Courses used to meet the major requirement may also be used to meet IGETC or CSU GE requirements.

Learning Outcomes

Upon completion of this degree, students will be able to:

- Interact fluently in Spanish in a normal and spontaneous fashion at an intermediate level.
- Analyze publications and current affairs media as well as contemporary literary prose in Spanish.
- Recognize and distinguish geography and cultural differences in the Spanish-speaking world.
- Speak, understand, read and write in Spanish at a level of proficiency necessary to perform successfully in upper-division course work.

Courses Required for the Major in Spanish for Transfer

Option 1: Spanish Language Learners

Required Courses (20-24 units)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN 1 Elementary Spanish</td>
<td>5 or 6</td>
</tr>
<tr>
<td>or SPAN 1A and SPAN 1B Elementary Spanish</td>
<td>5 or 6</td>
</tr>
<tr>
<td>SPAN 2 Continuation of Elementary Spanish</td>
<td>5 or 6</td>
</tr>
<tr>
<td>or SPAN 2A and SPAN 2B Continuation of Elementary Spanish</td>
<td>5 or 6</td>
</tr>
<tr>
<td>SPAN 3 Intermediate Spanish</td>
<td>5 or 6</td>
</tr>
<tr>
<td>or SPAN 3A and SPAN 3B Intermediate Spanish</td>
<td>5 or 6</td>
</tr>
<tr>
<td>SPAN 6 Continuation of Intermediate Spanish</td>
<td>5 or 6</td>
</tr>
<tr>
<td>or SPAN 6A and SPAN 6B Continuation of Intermediate Spanish</td>
<td>5 or 6</td>
</tr>
</tbody>
</table>

Elective Courses: Select ONE of the Following Courses (3 units)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN 10B Continuation of Beginning Conversational Spanish</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 10C Intermediate Conversational Spanish</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 10D Cont. of Intermediate Conversational Spanish</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 7 Introduction of Literature in Spanish</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 5 Advanced Spanish: Conversation on Hispanic Culture and Civilization</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 5S Advanced Spanish: Conversation on Hispanic Culture and Civilization</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Units for Option 1 ................................................................. 23-27

Note: Students who place into higher level Spanish courses and do not complete a minimum of 18 units in the major, should take courses from Option 2, List B below to meet the minimum 18 units in the major required by Title 5

Option 2: Spanish Heritage Speakers

Required Courses (12 units)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN 31A Intermediate Spanish for Bilingual Students</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 31B Intermediate Spanish for Bilingual Students</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 32A Intermediate Spanish for Bilingual Students</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 32B Intermediate Spanish for Bilingual Students</td>
<td>3</td>
</tr>
</tbody>
</table>
Elective Course. (LIST A). Select ONE of the Following Courses (3 units)
SPAN 7 Introduction of Literature in Spanish ................................................................. 3
SPAN 5 Advanced Spanish: Conversation on Hispanic Culture and Civilization ................ 3
SPAN 5S Advanced Spanish: Conversation on Hispanic Culture and Civilization ............... 3

Elective Course. (LIST B). Select TWO of the Following Courses (6 units)
Any course not already taken from List A ............................................................................ 3
ANTH 11 Latin American Cultures and Societies ............................................................. 3
ART 105 Ancient Art and Architecture of Latin America ................................................. 3
ART 106 Latin American Art History ................................................................................. 3
LALS 1 Latino/a Diaspora: The impact of Latinos Living in the United States .................... 3
LALS 9/LGBT 9 The Latin American and Latina/o LGBT Experience ................................ 3
LALS 10 Latinas in the U.S./VOCES ................................................................................ 3
LALS 14 Diego Rivera; Art and Social Change in Latin America ....................................... 3
HIST 18A History of Latin America .................................................................................... 3
HIST 18B History of Latin America .................................................................................... 3
HIST 20 History of Mexico ................................................................................................. 3
MUS 25 Music of Latin America and the Caribbean ......................................................... 3
Total Units for Option 2 .................................................................................................... 21

JOURNALISM

Associate in Arts in Journalism for Transfer (AA-T) - NEW

The AA-T in Journalism offers students a basic foundation for further study at a four-year university. It specifically prepares students who wish to transfer and pursue a baccalaureate degree in Journalism at California State University campuses that leads to a career in the profession.

Learning Outcomes

Upon completion of the major, students will be able to:

- Research, write, and edit news and feature stories for publication in print and in multimedia platforms.
- Produce journalistic content that demonstrate good news judgment, appropriate sourcing, accuracy and completeness, technical competence, and adherence to ethical, legal and style guidelines.
- Demonstrate good work habits, time management and professionalism while working collaboratively and under deadline pressure to produce news content.
- Critically discuss the role of journalists in modern society.
- Meet academic requirements for transfer, especially to the CSU system, in Journalism.

Degree Requirements: Students who wish to earn the Associate in Arts in Journalism for Transfer must complete 60 CSU transferable units with at least a 2.0 grade point average. This must include the units required for full completion of the IGETC or CSU GE curriculum and the 18-19 units for the major as specified below. Each course in the major must be completed with a grade of “C” or better. Courses used to meet the major requirement may also be used to meet IGETC or CSU GE requirements.

Courses Required for the Major in Journalism

Course .......................................................................................................................... Units
JOUR 19 Contemporary News Media .................................................................................. 3
JOUR 21 News Writing and Reporting .............................................................................. 3
JOUR 24 Newspaper Laboratory
or JOUR 29 Magazine Editing and Production ................................................................ 3-4
Choose ONE of the Following Courses:
- JOUR 26 Fundamentals of Public Relations ................................................................. 3
- JOUR 35 Internet Journalism ....................................................................................... 3
- JOUR 36 Advanced Reporting ................................................................................... 3
- JOUR 37 Introduction to Photojournalism ................................................................. 3

Choose TWO of the Following Courses:
- BCST 110 Writing for Broadcast Electronic Media .................................................. 3
- ECON 1 Principles of Macroeconomics
  - or ECON 3 Principles of Microeconomics .......................................................... 3
- ECON 5 Introductory Statistics
  - or MATH 80 Probability and Statistics
  - or PSYC 5 Statistics for Behavioral Sciences ...................................................... 4
- ENGL 1B Reading, Writing, and Critical Thinking About Literature
  - or ENGL 1C Advanced Composition
  - or SPCH 2 Introduction to Rhetorical Criticism .................................................. 3
- JOUR 22 Feature Writing ........................................................................................... 3
- JOUR 23 Electronic Copy Editing .............................................................................. 3
- PHIL 40 Logic: An Introduction to Critical Thinking .............................................. 3
- PHOT 51 Beginning Photography ............................................................................. 3
- POLS 1 American Government ................................................................................. 3
- POLS 2 Comparative Government ......................................................................... 3
- SPCH 3 Argumentation and Debate ......................................................................... 3
- ASAM 8 Filipino American Community
  - or ASAM 20 Asian American Experience: 1820 to Present
  - or BCST 104 Race and Media
  - or HIST 41A The African American in the United States
  - or HIST 41B The African American in the United States
  - or LALS 1 Latino/a Diaspora: The Impact of Latinos Living in the United States
  - or LGBT 5 Introduction to Lesbian, Bisexual, Gay and Transgender Studies
  - or LGBT 50 Gay/Lesbian/Bisexual/Transgender Communities of Color in the U.S.
  - or WOMN 25 Introduction to Women's Studies: Feminism Demystified ............. 3

Total ......................................................................................................................... 18-20

THEATRE ARTS

Associate in Arts in Theatre Arts for Transfer (AA-T) - NEW

The AA-T in Theatre Arts offers students a comprehensive lower division program in Theatre revolving around a basic core program. The AA-T prepares students for transfer to upper division theatre programs at four-year colleges and universities, particularly to California State University (CSU) campuses.

Learning Outcomes

Upon completion of this degree, students will be able to:

- Analyze aspects of acting, including physical, vocal, imaginative, analytic and emotional levels
- Compare and contrast theatrical periods and styles of acting, directing, playwriting and technical elements
- Analyze theatre as a dynamic art form influencing society
- Apply technical processes, including lighting, set and costume and/or make-up design as they pertain to a given dramatic script
- Meet the academic requirements and skills in performance and/or technical production to perform successfully in upper division courses

**Degree Requirements:** Students who wish to earn the AA-T in Theatre Arts must complete 60 CSU transferable units with at least a 2.0 grade point average. This must include the units required for full completion of the IGETC or CSU GE curriculum and 18 units for the major as specified below. Each course in the major must be completed with a grade of "C" or better. Courses used to meet the major requirement may also be used to meet IGETC or CSU GE requirements.

**Courses Required for the Major in Journalism**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TH A 30 Introduction to Theatre</td>
<td>3</td>
</tr>
<tr>
<td>TH A 150A Beginning Acting Fundamentals</td>
<td>3</td>
</tr>
</tbody>
</table>

A total of 3 units from Group 1 or 3 units from Group 2 below:

**Group 1: Play Rehearsal and Presentation**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TH A 201A Ensemble Role Comedy – Play Rehearsal and Presentation</td>
<td>1</td>
</tr>
<tr>
<td>TH A 201B Supporting Role Comedy – Play Rehearsal and Presentation</td>
<td>2</td>
</tr>
<tr>
<td>TH A 201C Principal Role Comedy – Play Rehearsal and Presentation</td>
<td>3</td>
</tr>
<tr>
<td>TH A 202A Ensemble Role Drama – Play Rehearsal and Presentation</td>
<td>1</td>
</tr>
<tr>
<td>TH A 202B Supporting Role Drama – Play Rehearsal and Presentation</td>
<td>2</td>
</tr>
<tr>
<td>TH A 202C Principal Role Drama – Play Rehearsal and Presentation</td>
<td>3</td>
</tr>
<tr>
<td>TH A 203A Ensemble Role Classical – Play Rehearsal and Presentation</td>
<td>1</td>
</tr>
<tr>
<td>TH A 203B Supporting Role Classical – Play Rehearsal and Presentation</td>
<td>2</td>
</tr>
<tr>
<td>TH A 203C Principal Role Classical – Play Rehearsal and Presentation</td>
<td>3</td>
</tr>
<tr>
<td>TH A 204A Ensemble Role Tragedy – Play Rehearsal and Presentation</td>
<td>1</td>
</tr>
<tr>
<td>TH A 204B Supporting Role Tragedy – Play Rehearsal and Presentation</td>
<td>2</td>
</tr>
<tr>
<td>TH A 204C Principal Role Tragedy – Play Rehearsal and Presentation</td>
<td>3</td>
</tr>
</tbody>
</table>

or

**Group 2: Technical Theatre Production**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TH A 61 Technical Theatre Production</td>
<td>1-3</td>
</tr>
</tbody>
</table>

**Elective Courses:** Choose 9 units from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TH A 150B Intermediate Acting Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>TH A 63 Introduction to Lighting Design</td>
<td>3</td>
</tr>
<tr>
<td>TH A 71 Introduction to Make-up and Costume Design</td>
<td>3</td>
</tr>
<tr>
<td>TH A 72 Intermediate Make-up and Costume Design</td>
<td>3</td>
</tr>
<tr>
<td>TH A 60 Stagecraft</td>
<td>3</td>
</tr>
</tbody>
</table>

Course(s) in Group 1 or Group 2 (whichever Group was not taken for the Core requirements) ............................................................... 3

Total ........................................................................................................ 18