



OFFICE OF INSTRUCTION

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Catalog Update for 2019-20 College Catalog Last Updated: September 3, 2019

Updated Programs

The following programs have been updated.

Department	Program	Effective Date
Broadcast Electronic Media Arts	Certificate of Achievement in Live Sound	Fall 2019
Culinary Arts and Hospitality Studies	Associate in Science in Food Service Management (AS)	Fall 2019
Earth Sciences	Associate in Science in Geology for Transfer (AS-T)	Fall 2019
Radiologic Sciences	Associate in Science in Diagnostic Medical Imaging (AS)	Fall 2019

BROADCAST ELECTRONIC MEDIA ARTS

Live Sound Certificate of Achievement

The Live Sound Certificate builds on the Foundations in Broadcast Electronic Media Arts Certificate with an emphasis in the sound reinforcement industry. This certificate provides students with a foundation in the application of live sound in various acoustic spaces. Students learn how to operate and troubleshoot live sound production equipment and are prepared for entry-level work doing live sound for theaters, nightclubs, concert halls, sporting events, conferences, conventions, presentations, and live sound distribution via broadcast, cable, wireless, mobile devices and emerging media.

Learning Outcomes

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

- Plan and execute the sound reinforcement set-up for vocals, acoustic and electronic instruments.
- Configure public address (PA) system for various sized spaces and audience numbers and demonstrate proper placement and distribution of speakers.
- Identify and troubleshoot acoustic requirements of various sized spaces.
- Utilize equalization techniques to remedy any problems with acoustics.
- Plan and configure multi-track recorder and video camera for live event recording.

BOARD OF TRUSTEES

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- Display professionalism and effective application of workforce protocol and communication skills in the live sound industry.

Students must complete at least 3 of the courses listed below at City College of San Francisco.

The minimum time for completion of this certificate is 2 semesters. Completion time will vary based on student preparation and number of classes completed per semester.

Courses Required for the Certificate of Achievement in Live Sound

Course.....	Units
Required courses:	
BCST 124A Pro Tools Editing Essentials	2.0
BCST 124B Pro Tools Mixing with Plugins.....	2.0
BCST 125A Beginning Sound Recording Studio.....	5.0
BCST 127B Interconnected Audio Systems	1.0
BCST 128 Sound Reinforcement.....	3.0
Choose 2 units from the following internship courses:	
BCST 160 College Internship	1.0-2.0
BCST 165 Industry Internship.....	1.0-2.0
Total:	15.0

CULINARY ARTS AND HOSPITALITY STUDIES

Associate in Science in Food Service Management (AS)

Students may earn an Associate in Science Degree with a major in Food Service Management. This major is offered to prepare students who are interested in a front of the house food-related career. These classes should be taken with A.S. degree requirements.

Learning Outcomes

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

- Practice communication skills, professional behaviors and techniques required to execute superior customer service and exceed guest’s expectations
- Apply professional, supervisory and interpersonal skills needed to work with diverse groups and successfully manage food and beverage operations.
- Implement principles of cost control and sound business practices to profitably operate and evaluate food service establishments.
- Apply fundamental front and back-of-house skills in a variety of food service operations.

Assuming students start this AS with transfer-level math and English eligibility, the minimum time for completion is 4 semesters. Completion time will vary based on student preparation and number of units completed per semester.

There is a separate application form for the CAHS program. Applicants should contact the Culinary Arts and Hospitality Studies department for deadline dates.

Recommended preparation for entry into the program:

ENGL 88 or ESL 186 or placement in ESL 188 or readiness for college-level English

MATH 30 or equivalent

Courses Required for the Major in Food Service Management

Course.....	Units
Required introductory course:	
CAHS 100 Introduction to Hospitality.....	3.0
Choose one of the following required options:	
OPTION ONE	
CAHS 10A Culinary Fundamentals I.....	5.0

CAHS 10B Culinary Fundamentals I.....	5.0
OPTION TWO	
CAHS 10N Culinary Fundamentals 1	4.0
CAHS 10NL Culinary Fundamentals 1 Laboratory	6.5
Required courses:	
CAHS 30A Restaurant Operations	4.5
CAHS 30B Restaurant Operations	4.5
CAHS 32 Hospitality Marketing.....	3.0
CAHS 33 Procurement and Costing	3.0
CAHS 34 Fundamentals of Contemporary Hospitality Law	3.0
CAHS 208 Intro to Event and Meeting Planning.....	4.0
CAHS 42 Fundamentals of Hospitality Financial Reports	3.0
BIO 121 Sanitation Principles and Practices	2.0
MGT 231 Introduction to Supervision and Management	3.0
BIO 130 Nutrition and Culinary Arts.....	2.0
CMST 11 Basic Public Speaking	3.0
CAHS 40W Work Experience*	5.0
* CAHS 40W to be taken in student's final semester and by consent of instructor.	
Choose one of the following required courses:	
CAHS 205 Introduction to Wine	3.0
CAHS 222 Beverage Management.....	3.0
Choose one of the following required courses:	
PSYC 26 Applied Psychology	3.0
LBCS 96C Labor Relations in the Modern American	3.0
Total:	59.0 – 60.0

EARTH SCIENCES

Associate in Science in Geology for Transfer (AS-T)

Geology is the study of the materials of which the Earth is made (rocks, minerals, water, oil, natural gas, and magmas), the structures that are produced (Earth layers, mountains, volcanoes, basins), the processes acting upon them (earthquakes, volcanism, landslides, floods, magnetic fields), and the evolution of Earth and its materials over time (Earth formation, early history, ice ages, and climate change).

Geology courses are recommended for anyone interested in understanding and living with the natural world around us and in making informed decisions on matters pertaining to interactions between natural Earth processes and society.

Geology, an interdisciplinary science, requires expertise in chemistry, physics, mathematics, computer science, and critical thinking. It requires skill in problem solving, analysis, scientific inquiry, and communication. This Associate's of Science Transfer in Geology is specifically designed to prepare students for transfer to a CSU geology program at the upper division level. It may also be appropriate for transfer to other four-year institutions. To accomplish this goal, majors will complete transferable lower-division courses in geology, math, and chemistry.

Geology majors will be able to take most or all of their lower division courses at CCSF before they transfer, but should see a counselor to confirm their program of study. Additional courses might be required to transfer to particular institutions. The geology transfer major is suitable for students planning to transfer into programs in the geology, oceanography, earth sciences, and environmental sciences.

Through the core classes of the AS-T in Geology, students will gain the scientific knowledge necessary to investigate problems and ideas presented in upper division geology courses. The laboratory work will train students to use current laboratory technologies, equipment and techniques to engage in the research process using scientific methods and to investigate research questions safely.

Learning Outcomes

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

- Collect, analyze, and interpret data.
- Apply scientific inquiry and investigation of evidence as well as a synthesis of ideas from multiple disciplines including physics, chemistry, biology, and geology to formulate and critically evaluate scientific arguments, especially as relates to geologic phenomena.
- Apply basic field skills and techniques such as making observations, recognizing geologic clues and evidence, taking field notes, understanding the difference between observations and interpretations, and using and annotating maps.
- Evaluate how humans impact earth processes and how earth processes impact humans in a multitude of ways including economically, politically, socially, and environmentally.

Degree Requirements: Students who wish to earn the Associate in Science in Geology 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 the 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.

Assuming students start this AS-T with transfer-level math and English eligibility, the minimum time for completion is 4 semesters. Completion time will vary based on student preparation and number of units completed per semester.

Courses Required for the AS-T in Geology

Course..... **Units**

Required courses:

GEOL 10 Physical Geology	3.0
GEOL 10L Physical Geology Lab	2.0
GEOL 11 Historical Geology	3.0
GEOL 11L Historical Geology Lab	1.0
CHEM 101A General College Chemistry	6.0
CHEM 101B General College Chemistry	5.0
MATH 110A Calculus I	5.0
MATH 110B Calculus II	5.0

RECOMMENDED: One of the following physics courses

PHYC 4A Classical Mechanics for Scientists and Engineers	3.0
PHYC 4AL Mechanics Laboratory for Scientists and Engineers	1.0
PHYC 4B Electromagnetism for Scientists and Engineers	3.0
PHYC 4BL Electromagnetism Laboratory for Scientists and Engineers	1.0
or PHYC 2A Introductory Physics	3.0
PHYC 2AL Introductory Physics Laboratory	1.0
PHYC 2B Introductory Physics	3.0
PHYC 2BL Introductory Physics Laboratory	1.0

* NOTE: Students who want to increase their opportunities should choose Physics 4A/B series instead of 2A/B (especially if they plan to major in geochemistry or geophysics).

RECOMMENDED: One or more of the following course options for specialization:

GEOL 21A San Francisco Coastal Geology	0.5
GEOL 21B San Francisco Geology	0.5
GEOL 21C The San Andreas Fault System	0.5
OCAN 1 Oceanography	3.0
GEOL 30 Environmental Geology	3.0

Recommended additional activities:

Enroll in the Earth Sciences Club

Become part of the Earth Sciences Mentoring Program (see Department website for details).

Total: **30.0**

RADIOLOGIC SCIENCES

Diagnostic Medical Imaging Major (AS)

The Associate in Science Degree course of study is designed so that students may satisfy the requirements for graduation from the College. Students must complete the required courses in the curriculum, including the 32-week clinical internship, with final grades of C or higher.

Learning Outcomes

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

- Display effective communication skills as appropriate to a given situation or encounter. (Goal 1. Communication)
- Demonstrate evidence of critical thinking and problem solving methods as appropriate to a given situation or encounter. (Goal 2. Critical Thinking/Problem Solving)
- Effectively apply technical expertise, patient care skills, and radiation protection measures to ensure optimal outcomes when conducting diagnostic radiologic examinations. (Goal 3. Clinical Performance)
- Exhibit professionalism in their practice of diagnostic medical imaging. (Goal 4 Professional Development)
- Graduates will be prepared for successful and productive careers as a Diagnostic Medical Imaging Technologist. (Goal 5. Program Effectiveness)

Assuming students start this AS with transfer-level math and English eligibility, the minimum time for completion is 7 semesters (including 2 summer sessions). Completion time will vary based on student preparation and number of units completed per semester.

Courses Required for the Major in Diagnostic Medical Imaging

Course.....	Units
First Semester:	
DMI 49 Introduction to Radiologic Technology	3.0
DMI 50A Introduction to Medical Radiography	3.0
DMI 52 Patient Care in Radiologic Technology	3.0
EMT 14 Advanced First Aid and Basic Life Support.....	2.0
First Semester: choose one of the following speech courses:	
CMST 11 Basic Public Speaking	3.0
CMST 12 Fundamentals of Oral Communication	3.0
CMST 1A Elements of Public Speaking	3.0
Second Semester:	
DMI 50B Radiologic Physics and Equipment	2.5
DMI 51A Radiographic Anatomy and Positioning.....	7.0
DMI 51B Radiographic Exposure Factors	2.0
Second Semester: choose one of the following psychology courses:	
PSYC 1 General Psychology	3.0
PSYC 26 Applied Psychology.....	3.0
Summer Session	
DMI 62 Clinical Education in DMI I	5.0
Third Semester:	
DMI 55 Skull Radiography	2.0
DMI 56 Radiographic Pathology	3.0
DMI 63 Intermediate Diagnostic Procedures	2.0
DMI 64 Clinical Education in DMI II	5.0
Fourth Semester:	
DMI 57 Multiplanar Imaging in Radiologic Sciences.....	3.0
DMI 54 Vascular and Interventional Procedures	2.0
DMI 65 Advanced Imaging Procedures	2.0
DMI 66 Clinical Education in DMI III	5.0

DMI 70 Radiation Protection 2.0
All General Education graduation requirements should be completed by the end of this semester.

Internship:

DMI 68 Clinical Education in DMI IV 13.0
DMI 69 Clinical Education Internship Summer Bridge..... 6.0
DMI 100 Registry Examination and Career Preparation..... 1.0

Recommended additional coursework:

HLTH 10 Health and Aging 3.0
HLTH 25 Women’s Health 3.0
HLTH 27 Men’s Health..... 3.0
HLTH 33 Introduction to Health and Wellness..... 2.0
HLTH 53 Personal and Community Health..... 3.0
HLTH 64 Health Education Training: Skills and Practice..... 3.0
HLTH 67 HIV and Hepatitis Navigation Skills 3.0

These health courses teach current health issues faced by the local patient population.

Total: 79.5