



SANTA ANA COLLEGE



www.sac.edu

2014 • 2015

catalog addendum

CATALOG UPDATE

This catalog supplement should be used by students and staff along with the existing 2014-2015 printed and online catalog. Students are strongly encouraged to seek advice from the Counseling Department. Additional information and publications will be made available to students throughout the year via the catalog website.

BIOLOGY

Biotechnology Biomanufacturing Technician Certificate (Transcripted)

Program Code: [sac.btmft.ca](#)
(New Program)

This certificate program in biotechnology biomanufacturing is designed to prepare students for entry level positions in the biomanufacturing industry in fields requiring basic laboratory skills such as aseptic technique, solution preparation, standard equipment utilization as well as knowledge of protein expression and purification.

Core Courses	Units
Biology 192, Biotech B: Proteins	4
Biology 211, Cellular and Molecular Biology	5
Chemistry 219, General Chemistry	5
Total	14

Biotechnology Laboratory Technician Certificate (Transcripted)

Program Code: [sac.biotlt.ca](#)
(New Program)

This certificate curriculum is designed to prepare students with the skills they need to work in the upstream processing area of a biotechnology company or provide them with the foundation necessary to transfer to a 4 year university to continue their studies in biotechnology.

Core Courses	Units
Biology 193, Biotech C: Nucleic Acids	4
Biology 194, Quality and Regulatory Compliance in Bioscience	2
At least 8 units from the following list	
Biology 177, Human Genetics (3)	8-10
Biology 139, Health Microbiology (4)	
Biology 197, STEM Internship/ Work Experience (1-4)	
Biology 229, General Microbiology (5)	
Biology 290, Biochemistry and Molecular Biology (5)	
Chemistry 229, General Chemistry and Qualitative Analysis (5)	14-16
Total	

Biotechnology Laboratory Technician: QC Microbiology Certificate (Transcripted)

Program Code: [sac.btlqc.ca](#)
(New Program)

This certificate curriculum in quality control microbiology and biology is designed to prepare students for careers in fields such as biotechnology, medical devices, pharmaceuticals, biologicals, food safety, biomanufacturing, and testing laboratories.

Core Courses	Units
Biology 193, Biotech C: Nucleic Acids	4
Biology 194, Quality and Regulatory Compliance in Bioscience	2
Biology 195, Biotech: QC Microbiology	2
Biology 197, STEM Internship/ Work Experience	1
Biology 229, General Microbiology	5
Total	14

KINESIOLOGY

Fitness Specialist Certificate (Transcripted)

Program Code: [sac.knfs.ca](#)
(New Program)

The Fitness Specialist Certificate program prepares students for employment in the fitness industry by combining a science-based academic foundation with an abundance of experiential learning. Students gain knowledge of Kinesiology principles while developing fitness assessment, exercise leadership, and individual & group exercise programming skills. The program is designed to be completed within 9 months but includes transferrable coursework for students seeking to further their education in Kinesiology-related fields.

Course	Units
Required Core (20.5 – 22)	
Kinesiology Professional 101, Introduction to Kinesiology	3
Kinesiology Professional 201, Movement Anatomy (3)	3-4
-OR-	
Biology 239, General Human Anatomy (4)	2
Kinesiology Professional 203, Physiology of cardiovascular Exercise	
Kinesiology Professional 205, Techniques of Exercise Leadership	1.5

Kinesiology Professional 207, Physiology of Resistance Training	2
Kinesiology Professional 209, Exercise for Special Populations	2
Kinesiology Professional 211, Practicum in Fitness Evaluation I	0.5
Kinesiology Professional 213, Practicum in Fitness Evaluation II	0.5
Kinesiology Professional 215, Fitness Specialist Internship	1
Kinesiology Health Education 104, Nutrition and Fitness (2)	
-OR-	
Nutrition 115, Nutrition (3)	2-3
-OR-	
Nutrition 115H, Honors Nutrition (3)	
Kinesiology Health Education 107, Cardiopulmonary Resuscitation	2
Kinesiology Fitness 101A, Personal Fitness Evaluation I (1)	
-OR-	
Kinesiology Fitness 101B, Personal Fitness Evaluation II (1)	1
-OR-	
Kinesiology Fitness 101C, Personal Fitness Evaluation III (1)	

Select one of the following courses:

Kinesiology Activities 140A, Beginning Karate (1)

-OR-

Kinesiology Activities 150A, Beginning Hatha Yoga (1)

-OR-

Kinesiology Activities 155A, Beginning Self-Defense (1)

-OR-

Kinesiology Activities 170A, Beginning Yoga (1)

-OR-

Kinesiology Adapted Activities 211A, Beginning Adapted Aquatics (1)

-OR-

Kinesiology Adapted Activities 211B, Intermediate Adapted Aquatics (1)

-OR-

Kinesiology Aerobic Fitness 143A, Beginning Extreme Fitness (1)

-OR-

Kinesiology Aerobic Fitness 144A, Beginning Cross Training (1)

-OR-

Kinesiology Aerobic Fitness 146A, Beginning Stability Ball (1)

-OR-

Kinesiology Aerobic Fitness 146B, Intermediate Stability Ball Training (1)

-OR-	
Kinesiology Aerobic Fitness 150A, Beginning Stretch, Flex and Tone (1)	
-OR-	
Kinesiology Aerobic Fitness 156A, Beginning Cardio Kickboxing (1)	
-OR-	
Kinesiology Aerobic Fitness 156B, Intermediate Cardio Kickboxing (1)	1-1.5
-OR-	
Kinesiology Aerobic Fitness 157A, Beginning Cardio Pump (1)	
-OR-	
Kinesiology Aquatics 204, Lifesaving (1.5)	
-OR-	
Kinesiology Fitness 147A, Beginning Weight Training (1)	
-OR-	
Kinesiology Fitness 147B, Intermediate Weight Training (1)	
Total	21.5 - 23.5

PHILOSOPHY

Associate in Arts in Philosophy for Transfer

Program Code: sac.phil.aat

(New Program)

The Associate in Arts in Philosophy for Transfer (A.A.-T in Philosophy) is designed to prepare students for transfer into the CSU system to complete a baccalaureate degree in Philosophy. Please consult a counselor regarding specific course requirements for your transfer institution. Completion of the A.A.-T degree also provides guaranteed admission with junior status to the CSU system, along with priority admission to the local CSU in the Philosophy major.

Upon completion of the A.A.-T in Philosophy students will have an understanding of the core historical and contemporary ideas central to the discipline of philosophy. Students will also have the critical thinking, logical analysis, and analytical writing skills instrumental for success across academic disciplines.

Course	Units
Required Core (7 Units)	
Philosophy 111, Introductory Logic	4
Philosophy 106, Introduction to Philosophy	3
-OR-	
Philosophy 106H, Honors Introduction to Philosophy (3)	
-OR-	
Philosophy 108, Ethics (3)	
List A – Select one (3-4 units)	
Any course from REQUIRED CORE not already used	
-OR-	
Philosophy 110, Critical Thinking (4)	
-OR-	
Philosophy 110H, Honors Critical Thinking (4)	3-4
-OR-	
Philosophy 112, World Religions (3)	
-OR-	
Philosophy 118, History of Philosophy (3)	
List B – Select two (6-7 units)	
Any course from list A not already used	6-7
List C – Select one (3-4 units)	
Any course from list A or B not already used	
-OR-	
History 101, World Civilizations to the 16 th Century (3)	
-OR-	
History 101H, Honors World Civilizations to the 16 th Century (3)	3-4
-OR-	
History 102, World Civilizations since the 16 th Century (3)	
-OR-	
History 102H, Honors World Civilizations since the 16 th Century (3)	
Total	19-22

PHYSICS

Associate in Science Degree in Physics for Transfer

Program Code: sac.phys.ast

(New Program)

The Associate in Science in Physics for Transfer (A.S.-T) prepares students to transfer in to the CSU system leading to a baccalaureate degree in Physics. Please consult a counselor regarding specific course requirements for your transfer institution. Completion of the A.S.-T degree also provides guaranteed admission to the CSU system, although not to a particular campus or major. In addition to the A.S.-T degree requirements, students are encouraged to complete additional courses, that may be articulated as major preparation, prior to transfer. Some typical courses that may be articulated are Mathematics 287, Mathematics 290, Chemistry 219, and Computer Science 120. While these additional courses are not required for this degree, they will better prepare students for upper-division Physics coursework at a CSU. Upon completion of the A.S.-T, students will become grounded in the fundamental physical laws as well as quantitative and analytical reasoning. Upon completion of the baccalaureate degree in Physics, students may then move in to careers in applied physics, education, and/or as assistant research scientists.

Core Course	Units
Physics 217, Engineering Physics I	4
Physics 227, Engineering Physics II	4
Physics 237, Engineering Physics III	4
Mathematics 180, Analytic Geometry and Calculus (4)	
-OR-	4
Mathematics 180H, Honors Analytic Geometry and Calculus (4)	
Mathematics 185, Analytic Geometry and Calculus	4
Math 280, Intermediate Calculus	4
Total	24

ADULT BASIC EDUCATION CERTIFICATE OF COMPETENCY

This certificate provides instruction for students to develop basic reading, writing, and math skills necessary to succeed in high school courses, GED preparation, and college courses. This certificate will provide valuable data on student success as ABE students transfer through programs. This certificate supports the college mission by providing a pathway to support improved language skills and lifelong intellectual pursuits.

Core Courses

Adult Basic Education 023, Adult Basic Education Reading

Adult Basic Education 024, Adult Basic Education Writing

Adult Basic Education 025, Adult Basic Education Math

ADULT BASIC EDUCATION/ADULT SECONDARY EDUCATION WRITING PROFICIENCY CERTIFICATE OF COMPETENCY

This combination of courses is designed to prepare students for higher level writing skills used in high school courses, GED preparation, and College courses.

Core Courses

Adult Basic Education 024, Adult Basic Education Writing

High School Subjects – English 083 composition 1

ADULT BASIC EDUCATION/ADULT SECONDARY EDUCATION MATH PROFICIENCY CERTIFICATE OF COMPETENCY

This combination of courses is designed to prepare students for higher level math skills used in high school courses, GED preparation, and college courses.

Core Courses

Adult Basic Education 025, Adult Basic Education Math

High School subjects – Math 159 Math Fundamentals 2
