Anesthesia Technology Program++

Associate in Applied Science

Minimum of 64-66 credit hours

Oklahoma City Community College offers the first and only anesthesia technology program in Oklahoma. As an integral member of the anesthesia care team, certified anesthesia technologists focus on fundamental and advanced clinical procedures that assist licensed anesthesia providers in the safe and efficient care of patients receiving anesthesia. Anesthesia technologists are trained to anticipate the needs of the patient and the provider, as determined by the surgical requirements, procedure or circumstance. Upon successful completion of the associate degree in anesthesia technology, the graduate will be eligible to sit for the American Society of Anesthesia Technologists and Technicians (ASATT) national certification examination. Certified anesthesia technologists may work in a variety of clinical settings including hospital operating rooms, interventional and diagnostic radiology, labor and delivery suites, intensive care units, emergency rooms, outpatient procedure suites, and ambulatory surgery centers.

Courses identified by “C” within a program curriculum pattern must be completed with a grade of “C” or better by students majoring in this program.

### Course Sequence

<table>
<thead>
<tr>
<th>Course ID</th>
<th>Course Name</th>
<th>Credits</th>
<th>Type</th>
<th>Min Gd</th>
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<tr>
<td>Suggested Freshman 1st Semester</td>
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<tr>
<td>SCL 1001</td>
<td>Success in College and Life</td>
<td>1</td>
<td>Life Skills</td>
<td></td>
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<tr>
<td>ENGL 1113</td>
<td>English Composition I</td>
<td>3</td>
<td>Gen Ed</td>
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<tr>
<td>AHP 1013</td>
<td>Medical Terminology</td>
<td>3</td>
<td>Gen Ed</td>
<td>C</td>
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<td>MATH 1503</td>
<td>Contemporary Mathematics</td>
<td>-OR-</td>
<td>Gen Ed</td>
<td>C</td>
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<tr>
<td>MATH 1513</td>
<td>College Algebra for Business, Life Sciences and Social Sciences</td>
<td>3</td>
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<td>BIO 1314</td>
<td>Human Anatomy and Physiology I</td>
<td>-OR-</td>
<td>Gen Ed</td>
<td>C</td>
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<tr>
<td>BIO 2255</td>
<td>Human Anatomy</td>
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<td>Gen Ed</td>
<td>C</td>
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<tr>
<td>CHEM 1123</td>
<td>Survey of General, Organic, and Biochemistry</td>
<td>-AND-</td>
<td>Gen Ed</td>
<td>C</td>
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<tr>
<td>CHEM 1131</td>
<td>Laboratory for Survey of General, Organic, and Biochemistry</td>
<td>-OR-</td>
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<td>Human Physiology</td>
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<td>Gen Ed</td>
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<td>Critical Thinking</td>
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<td>PSY 1113</td>
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<tr>
<td>ANES 1112</td>
<td>Introduction to Anesthesia Technology</td>
<td>2</td>
<td>Major</td>
<td>C</td>
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<tr>
<td>ANES 1124</td>
<td>Fundamentals I</td>
<td>4</td>
<td>Major</td>
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<td>Suggested Sophomore 1st Semester</td>
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<td>Instrumentation I</td>
<td>4</td>
<td>Major</td>
<td>C</td>
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<td>ANES 1143</td>
<td>Pharmacology</td>
<td>3</td>
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<td>POLSC 1113</td>
<td>American Federal Government</td>
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<td>ANES 2114</td>
<td>Instrumentation II</td>
<td>4</td>
<td>Major</td>
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<td>ANES 2125</td>
<td>Fundamentals III</td>
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<td>ANES 2133</td>
<td>Professional Aspects of Anesthesia Technology</td>
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<td>HIST 1483</td>
<td>U.S. History to 1877</td>
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<td>3</td>
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### Course Grouping

Major Courses: (30 credit hours) Anesthesia Technology: (C)ANES 1112; (C)ANES 1124; (C)ANES 1134; (C)ANES 1143; (C)ANES 1155; (C)ANES 2114; (C)ANES 2125; (C)ANES 2133 (All Anesthesia major courses have pre and co-requisite courses which are listed with the course descriptions in this catalog. These courses also have clinical components that require purchase of liability insurance, immunizations and health records, a clinical uniform, extensive background checks and transportation to clinical sites).

General Education Courses: (34-36 credit hours) Allied Health: (C)AHP 1013; Biological Science: (C)BIO 1314 or (C)BIO 2255; (C)BIO 1414 or (C)BIO 2234; Chemistry: (C)CHEM 1123, and (C)CHEM 1131, or (C)CHEM 1115; English: (C)ENGL 1113; (C)ENGL 1213; History: HIST 1483 or HIST 1493; Interpersonal Communications: (C)COM 2213 or (C)PHIL 1123 or (C)ENGL 1233 or (C)PSY 1113; Math: (C)MATH 1503, or (C)MATH 1513; Political Science: POLSC 1113

Life Skills Courses: (1 credit hour) Life Skills: (C)SCL 1001

A grade of “C” must be achieved in all courses required for this degree with the exception of POLSC 1113 and HIST 1483 or HIST 1493 (a grade of “D” is minimum for these courses).

### Program Notes

Notes: This Technical and Occupational program is designed to prepare students to enter the job force following completion. See Technical and Occupational Programs in the general information section of the catalog.

### Special Admissions Procedures:

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Oklahoma City Community College
Background Checks: Due to clinical agency requirements, the Division of Health Professions requires an extensive nationwide Background Report which includes, but is not limited to, Oklahoma State Bureau of Investigation (OSBI) background searches for sex offender, violent offender, and criminal history. The student is responsible for the cost of the Background Report, which must be paid by credit card or money order only. Clinical agency representative(s) review the reports that have any criminal history (or “hits on the designated areas of concern”). The facility alone can accept or deny clinical access to a student. If a student is denied access to clinical sites, he/she will be unable to successfully complete the course or the program. Any break in continuous enrollment will require another complete Background Report.

Drug Testing:
Drug testing is required for all student in the Division of Health Professions. Each student must have a random drug test prior to the first clinical assignment. The fee will be paid with the tuition and other fees for the semester in the program where actual clinical assignments begin. Random drug tests will be done on a predetermined date. Any break in continuous enrollment will require an additional random test.
Degree Program Course Descriptions

- **Prerequisites:**
  - Credit

- **Prerequisites:**
  - Credit

- **Prerequisites:**
  - Credit

- **Prerequisites:**
  - Credit

### ANES 1112 - Introduction to Anesthesia Technology
**Prerequisites:** Co-requisite: ANES 1124

**2 Credits** This course is an introduction to the role of the Anesthesia Technologist and their relationship to other Healthcare Professionals. In addition, the student will be introduced to the theory and concepts of functioning in a surgical environment including a fundamental understanding of a variety of anesthesia equipment/supplies and basic case set-up.

### ANES 1124 - Fundamentals I
**Prerequisites:** Co-requisite: ANES 1112

**4 Credits** This course introduces the student to management of patients undergoing general, regional, or sedation anesthesia. The dependence of medical diagnostics and the analogous relationship of the human body to the sciences are emphasized. Didactic and laboratory instruction as well as clinical preceptorships are provided to prepare the student with cognitive, psychomotor, and affective learning related to anesthesia technology fundamentals.

### ANES 1134 - Instrumentation I
**Prerequisites:** ANES 1112 and ANES 1124; Co-requisites: ANES 1143; ANES 1155; and POLSC 1113.

**4 Credits** This course focuses on the equipment and instrumentation utilized in providing anesthesia. Topics to be covered include the anesthesia machine, airway equipment and basic set-up. In addition, ancillary equipment including but not limited to gas cylinders, hospital gas supply lines, ventilators, absorbers, and pulse oximetry will be covered. Set-up, calibration, operation, basic troubleshooting, maintenance, and safety checks will be examined. Didactic and laboratory instruction are provided to prepare the student with cognitive, psychomotor, and affective learning related to anesthesia technology basic instrumentation.

### ANES 1143 - Pharmacology
**Prerequisites:** ANES 1112 and ANES 1124; Co-requisites: ANES 1134; ANES 1155; and POLSC 1113.

**3 Credits** This course focuses on the pharmacokinetics and pharmacodynamics of drugs used in the administration of anesthesia and analgesia. Topics covered include dosage calculation, routes of administration, drug interactions, and the various classes of anesthetic agents. Proper use and safe practice of delivery and storage and assisting anesthesia care providers in the preparation of medications will be introduced. Additionally, a review of the nervous system will be presented.

### ANES 1155 - Fundamentals II
**Prerequisites:** ANES 1112 and ANES 1124; Co-requisites: ANES 1134; ANES 1143 and POLSC 1113

**5 Credits** This course introduces the student to anesthesia emergencies to include difficult airway algorithms, malignant hyperthermia, fire in the operating room, cardiac arrest, anaphylaxis, and local anesthesia toxicity. Clinical settings will include adult hospital operating rooms, interventional and diagnostic radiology, outpatient procedure suites, and ambulatory surgery centers. All clinical experiences will be under direct supervision with a clinical preceptor. Students will progress to independently set-up, and/or assess efficacy of equipment, medications, and treatments as well as assist in the care of the patient.

### ANES 2114 - Instrumentation II
**Prerequisites:** ANES 1112; ANES 1124; ANES 1134; ANES 1143 and ANES 1155; Co- 4 Credits This course provides instruction and lab application to the theories and concepts of advanced anesthesia equipment used in complex anesthesia situations. Topics include Point of Care Technology, Invasive monitoring and transducers, thromboelastograph, cell saver, rapid volume infuser, IABP's transport monitoring, NMB assessment, VADs, defibrillators, pacemakers and implantable defibrillators.

### ANES 2125 - Fundamentals III
**Prerequisites:** ANES 1112; ANES 1124; ANES 1134; ANES 1143 and ANES 1155; Co- 5 Credits This course provides didactic, laboratory and clinical instruction to prepare the student with the cognitive, psychomotor, and affective learning skills related to anesthesia technology advanced fundamentals. Topics include ACLS certification, IV therapy, pediatric, obstetric and emergency anesthesia.

### ANES 2133 - Professional Aspects of Anesthesia Technology
**Prerequisites:** ANES 1112; ANES 1124; ANES 1134; ANES 1143 and ANES 1155; Co- 3 Credits This course serves as a capstone course for the anesthesia technology program. Topics include supply chain fundamentals, including budget limitations and cost effectiveness; ethics and law related to anesthesia technology, policies and standards for quality assurance, process improvement, regulatory associations, and credentialing. Students will prepare for the national technologist credentialing exam, review career opportunities and discuss present and future technologies.

### BIO 1314 - Human Anatomy and Physiology I
**Prerequisites:** ENGL 0203 or adequate placement score or by meeting determined placement measures; MATH 0103 or adequate math placement test score. An adequate biology placement test score or BIO 0123 or a college-level biological science class.

**4 Credits** Through a systematic study of the structure and function of the human body, its cells, tissues, organs and systems, the student will identify and describe basic anatomical structures and fundamental physiological processes that occur in health and disease for the major body systems. Laboratory work which requires dissection is an integral and required part of the course.

### BIO 1414 - Human Anatomy and Physiology II
**Prerequisites:** BIO 1314

**4 Credits** With Human Anatomy & Physiology I as a foundation, the student will advance his or her study of the structure and function of the human body and will identify and describe more detailed anatomical structures and more comprehensive physiological processes that occur in health through a systematic survey of the major body systems. Laboratory work.
which requires dissection is an integral and required part of the course.

**BIO 2234 - Human Physiology**  
Prerequisites: BIO 1124 and one college-level chemistry course.  
4 Credits  Students discuss major systems of the human body, contrast functional and regulatory activities of each and identify factors influencing homeostasis. Through the use of models, the student will recognize the relative influences and interrelationships between circulation, digestion, metabolism, respiration, kidney function, muscle action, endocrine and nervous control, and reproduction of other systems and the organism as a whole. Laboratory work which requires dissection is an integral and required part of the course.

**BIO 2255 - Human Anatomy**  
Prerequisites: BIO 1124  
5 Credits  Students study the development and gross morphology of the human body and its systems. This course may not be applied for Biology major credit. Open only to majors in physical education, science education, physical therapy, nursing, occupational therapy, physician's associate, dental hygiene, pharmacy, and selected fields. Laboratory dissection of human cadavers is required.

**CHEM 1115 - General Chemistry I**  
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures; MATH 1513 or MATH 1533, or both MATH 0403 and High School Chemistry or CHEM 1123. A grade of 5 Credits  This course is designed for science and engineering majors. The course covers nomenclature, atomic and molecular structure, stoichiometry, acid/base and other aqueous reactions, states of matter, phase changes, gas laws, and an introduction to thermochemistry. Laboratory experience is an integral part of the course.

**CHEM 1123 - Survey of General, Organic, and Biochemistry**  
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures; MATH 0403 or adequate math placement test score.  
3 Credits  This course is designed for nursing and allied health programs which do not require General Chemistry I for science majors. This course is also appropriate for individuals interested in a general overview of chemistry. The course covers selected topics in general chemistry including unit conversions, atomic structure, chemical bonding, acids, bases, pH, chemical equilibrium, electrolytes, and properties of solutions. The course also introduces topics from organic and biochemistry. The relationship between chemical principles and human health is emphasized throughout the course.

**CHEM 1131 - Laboratory for Survey of General, Organic, and Biochemistry**  
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures; MATH 0403 or adequate math placement test score.  
Prerequisite or Corequisite: CHEM 1123  
1 Credit  Students apply chemical principles discussed in CHEM 1123 in a laboratory setting.

**COM 2213 - Intro to Public Speaking**  
Prerequisites: ENGL 0106 or adequate placement score  
3 Credits  Given the principles of effective listening and speaking, the student will assimilate those skills into his or her physical and psychological worlds. After being exposed to public, business and professional speaking, the student will apply the principles of invention, organization, style, and delivery through practical exercises and will use the principles of rhetorical criticism in discussing speeches delivered in class.

**ENGL 1113 - English Composition I**  
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures  
3 Credits  The student will write well-developed compositions which demonstrate the principles of unity, coherence, and organization and which contain specific details and vivid language. The students will locate library material and incorporate researched materials into compositions.

**ENGL 1213 - English Composition II**  
Prerequisites: ENGL 1103 or ENGL 1113 taken within the last year, with strong encouragement for immediate continuation.  
3 Credits  In this advanced writing course, students will create essays that explore and evaluate a variety of issues and perspectives suggested by fiction, poetry, drama, essays, and other types of cultural texts. Students will refine and augment the writing techniques they learned in ENGL 1113 or ENGL 1103 to develop well-reasoned, well-structured arguments in a clear, fluid, and engaging prose style.

**ENGL 1233 - Technical Writing for the Workplace**  
Prerequisites: ENGL 1113 or ENGL 1103; MATH 0203 College Prep Math II or adequate Math Placement Test Score  
3 Credits  This course will expose students to technical communication and will allow students to practice professional methods of writing in the workplace. In addition to constructing technical documents appropriate for use in professional and job-related environments, students will learn about rhetorical methods for presenting technical information in ethical and formal prose designed for clear and effective communication with employers and colleagues. This course will equip the student with written and oral communication skills necessary for sharing information and discussing content in professional settings; developing an awareness of technical genres; utilizing technological platforms for constructing documents; using visuals and graphics professionally; writing professional correspondence; constructing reports; designing project proposals, and composing instructions..

**HIST 1483 - U.S. History to 1877**  
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures  
3 Credits  After analyzing events in American history from 1400 to 1877 in such areas as revolution, geographic and social mobility, political reform, government precedents and war, students will be able to identify patterns of present day mobility, describe governmental operations in their society and help resolve conflict in society based on the student’s search for change, precedents, and conflict in the American past. A general education requirement.

**HIST 1493 - U.S. History 1877 to Present**  
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures  
3 Credits  After analyzing events in American history from 1877 to the present in such areas as geographic and social mobility, political reform, government precedents and war, students will be able to identify patterns of present day mobility, describe governmental operations in their society and help resolve conflict in society based on the student’s search for change, precedents, and conflict in the American past. A general education requirement.

**MATH 1503 - Contemporary Mathematics**  
Prerequisites: MATH 0403 or adequate math placement test score. Pre or Co-requisite ENGL 1113 or ENGL 1103  
3 Credits  A study of the mathematics needed for critical evaluation of quantitative information and arguments (including logic, critical appraisal of graphs and tables); use of simple mathematical models, and an introduction to elementary statistics. This course satisfies the computer proficiency requirement.
MATH 1513 - College Algebra for Business, Life Sciences and Social Sciences
Prerequisites: MATH 0403 or adequate math placement test score; ENGL 0203, adequate placement score, or by meeting determined placement measures
3 Credits The student will demonstrate an understanding of the general concepts of relation and function and specifically of polynomial, exponential, and logarithmic functions; the ability to solve systems of equations by utilizing matrices and determinants; and the ability to solve practical problems using algebra.

PHIL 1123 - Critical Thinking
Prerequisites: ENGL 1113
3 Credits Critical Thinking provides opportunities for students to practice skills in both intellectual and personal development. Throughout the course, students will examine cognitive development, sound inductive argument development, biases and fallacies in decision formation, and problem solving skills. Students will apply these aspects of thought formation and critical thinking skills to writing development, goal setting, social analysis, and problem solving. This course satisfies three credit hours of the General Education humanities requirement for all Associates in Arts, Science, and Diversified Studies degrees.

POLSC 1113 - American Federal Government
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures
3 Credits A study of the principles, structure, processes and functions of the United States federal government.

PSY 1113 - General Psychology
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures
3 Credits A survey of the major areas of study in psychology such as motivation, learning, physiology, personality, social psychology, abnormal behavior, perception, memory, cognition/thought, and treatment.

SCL 1001 - Success in College and Life
Prerequisites: ENGL 0106 or adequate reading/writing assessment scores
1 Credit Students will learn best practices for academic, career, and personal success. Students will discover their individual strengths, interests, and values to create a personalized plan; select and utilize resources that are applicable to their growth and success; and engage as active and responsible members of the academic community. This course should be taken during a student’s first semester of college work at Oklahoma City Community College and is a required course in degree plans to satisfy the Life Skills requirement.