

# SURGICAL TECHNOLOGY

## ASSOCIATE OF APPLIED SCIENCE (AAS) - 60 CREDITS

### About this program

The Surgical Technology program prepares competent entry-level surgical technologists in the cognitive (knowledge), psychomotor (skills) and affective (behavior) learning domains. Graduates will have the entry-level knowledge to assist surgeons and be active members of the surgical team. Throughout the perioperative experience, students will demonstrate proficiency in surgical asepsis with the preparation and use of surgical equipment, instruments and supplies while employing an understanding of anatomy, physiology, pathophysiology and microbiology.

### Program outcomes

1. Participate as an active member of the perioperative team.
2. Demonstrate professional behaviors, communication and collaboration in providing safe patient care.
3. Apply concepts of patient safety, asepsis and infection control throughout the patient's perioperative experience.
4. Demonstrate proficiency in the use of surgical equipment, supplies and instruments in providing patient care.
5. Demonstrate professional and ethical skills and behaviors consistent with the role of surgical technologist.
6. Demonstrate effective therapeutic communication with the patient and other members of the perioperative team.
7. Demonstrate respect for the dignity, rights, beliefs and values of a diverse population of patients.
8. Demonstrate efficient use of technology in the perioperative setting, including appropriate use of social media.
9. Demonstrate critical thinking and problem solving.

### Curriculum overview

<b>Crds</b>	<b>Requirement type</b>
60	Required courses
60	<b>Total</b>

**Developmental courses note:** A student may be required to enroll in developmental courses in reading, writing and math. A student's scores on the Accuplacer assessment will determine enrollment in developmental courses. The purpose of developmental courses is to prepare students for the demands of a college-level curriculum. *Credits may vary.*

**Accreditation:** Minnesota State Community and Technical College is accredited by the Higher Learning Commission, a regional accreditation agency recognized by the U.S. Department of Education. The Higher Learning Commission 230 South LaSalle Street, Suite 7-500 Chicago, IL 60604-1411 <http://www.ncahigherlearningcommission.org> Phone: 312.263.0456 / 800.621.7440

## Curriculum requirement details

### Required courses

Course	Crds
BIOL2260 - Human Anatomy and Physiology I .....	3
BIOL2261 - Human Anatomy and Physiology I Lab .....	1
BIOL2262 - Human Anatomy and Physiology II .....	3
BIOL2263 - Human Anatomy and Physiology II Lab .....	1
BIOL2267 - Medical Microbiology .....	3
BIOL2268 - Medical Microbiology Lab .....	1
ENGL1101 - College Writing .....	3
HLTH1116 - Medical Terminology .....	3
PHIL1200 - Applied and Professional Ethics .....	3
PSYC2222 - Lifespan Development .....	3
SURT1200 - Introduction to Surgical Technology .....	3
SURT1210 - Surgical Technology I .....	6
SURT1215 - Surgical Pharmacology .....	3
SURT1220 - Surgical Technology II .....	5
SURT1225 - Surgical Pathophysiology .....	3
SURT1230 - Surgical Technology III .....	4
SURT1250 - Surgical Clinical I .....	6
SURT1255 - Surgical Clinical II .....	6

### Other requirements or restricted electives

#### Special Requirement: 0 credits

- Complete MATH0095 or test into a higher level math course

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#### Special Requirement: 0 credits

- Eligibility Criteria: GPA 2.0 or higher or a C in required courses

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#### Special Requirement: 0 credits

- Program Pre-requisites: American Heart Association Health Care Provider CPR MDH Background Check National Background Check Developmental Education with C or better Health Form/Immunization documentation
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## Course summaries

### **BIOL2260 - Human Anatomy and Physiology I** ..... (3 credits)

Meets MnTC Goal Area 3. This course is a comprehensive introductory overview of human anatomy and physiology that includes basic fundamental concepts of cell biology, tissues and organs making up the integumentary, skeletal, muscular and nervous systems. It is the first of a two-semester sequence in which anatomy and physiology are studied with an emphasis on structure and functions of systems. This course contains a lab-like component.

#### **Prerequisites:**

- Assessment into ENGL 1101 or college level writing equivalent.

### **BIOL2261 - Human Anatomy and Physiology I Lab** ..... (1 credits)

Meets MnTC Goal Area 3 when taken with BIOL 2260. This course is the laboratory component of a comprehensive introductory overview of human anatomy and physiology that includes basic fundamental concepts of cell biology, tissues and organs making up the integumentary, skeletal, muscular and nervous systems. This course is the first of a two-semester sequence in which anatomy and physiology are studied with an emphasis on structure and functions of systems.

#### **Prerequisites:**

- Assessment into ENGL 1101 or College Level writing equivalent.

#### **Corequisites:**

- BIOL 2260

### **BIOL2262 - Human Anatomy and Physiology II** ..... (3 credits)

Meets MnTC Goal Area 3. This course is a continuation of Anatomy and Physiology I. Topics will include the study of cells, tissues and organs making up the endocrine, cardiovascular, lymphatic and immune, respiratory, digestive, urinary and reproductive systems. Emphasis is on the structure and function of included systems. This course contains a lab-like component.

#### **Prerequisites:**

- Assessment into ENGL 1101 or college level writing equivalent.
- BIOL2260

### **BIOL2263 - Human Anatomy and Physiology II Lab** ..... (1 credits)

Meets MnTC Goal Area 3 when taken with BIOL 2262. This course is the laboratory component of a comprehensive introductory overview of human anatomy and physiology that includes basic fundamental concepts of cells, tissues and organs making up the endocrine, cardiovascular, respiratory, digestive, urinary and reproductive systems. This course is the second of a two-semester sequence in which anatomy and physiology are studied with an emphasis on structure and functions of systems.

#### **Prerequisites:**

- Assessment into ENGL 1101 or College Level writing equivalent.
- BIOL2260
- BIOL2261

#### **Corequisites:**

- BIOL2262

### **BIOL2267 - Medical Microbiology** ..... (3 credits)

Meets MnTC Goal Area 3. This course is the study of the structure and the classification of bacteria, viruses, parasites and fungi of medical importance. It emphasizes the transmission of disease agents, signs and symptoms, immunology, immunization, control of microbial growth, specimen collection/transport, methods of identification and antimicrobial resistance. This lecture course includes lab-like components.

#### **Prerequisites:**

- Assessment into ENGL 1101.

**BIOL2268 - Medical Microbiology Lab** ..... (1 credits)  
Meets MnTC Goal Area 3. This laboratory course includes the fundamental techniques of cultivation, staining, biochemical analysis and identification of known and unknown bacterial isolates, and antimicrobial susceptibility testing. Morphological examination and pathogenesis of fungi, protozoans and helminths are also addressed.

**Prerequisites:**

- Assessment into ENGL1101 or college level writing equivalent.

**Corequisites:**

- BIOL2267

**ENGL1101 - College Writing** ..... (3 credits)  
Meets MnTC Goal Area 1. This is an introductory writing course designed to prepare students for later college and career writing. The course focuses on developing fluency through a process approach, with particular emphasis on revision. Students will consider purpose and audience, read and discuss writing and further develop their own writing processes through successive revisions to produce polished drafts. Course work will include an introduction to argumentative writing, writing from academic sources and a short research project.

**Prerequisites:**

- Completion of ELL1080, ENGL0096, or ENGL0097 with a grade of C or higher OR placement into college-level English.

**HLTH1116 - Medical Terminology** ..... (3 credits)  
This course covers prefixes, suffixes and root words used to compose medical terms. The student learns to spell, pronounce, define, analyze and formulate terminology related to body structure, disease, diagnosis and treatment. Medical abbreviations are also included.

**PHIL1200 - Applied and Professional Ethics** ..... (3 credits)  
Meets MnTC Goal Areas 2 and 9. In this course students will explore ethical issues that arise in professional settings including business, medical and technical settings. The course will also look at the philosophical underpinnings of current professional policies and how philosophy can offer insights that can enhance and deepen such policies.

**PSYC2222 - Lifespan Development** ..... (3 credits)  
Meets MnTC Goal Areas 5 and 9. This course is a study of human development from the lifespan perspective, including theories, stages and influences of development. The course views the individual from conception to death through physical, cognitive, social and emotional development.

**SURT1200 - Introduction to Surgical Technology** ..... (3 credits)  
This course explores the role of surgical technologists. Fundamental principles of asepsis, professionalism, communication, universal precautions, the surgical team, operating room environment and patient care concepts are introduced.

**Prerequisites:**

- none.

**SURT1210 - Surgical Technology I** ..... (6 credits)  
This course introduces the student to the role of the surgical technologist in the operating room and introduces the foundation for patient care in the operating room.

**Prerequisites:**

- Acceptance into Surgical Technology program

**Corequisites:**

- SURT1200

**SURT1215 - Surgical Pharmacology** ..... (3 credits)  
This course introduces basic surgical pharmacology. Topics include drug classification, therapeutic effects, side effects, interactions and dosage calculations.

**Prerequisites:**

- SURT1200
- SURT1210

**Corequisites:**

- SURT1220

**SURT1220 - Surgical Technology II** ..... (5 credits)

This course expands the student's knowledge of the role of the surgical technologist in the operating room. The course considers procedures of the musculoskeletal, digestive, respiratory, reproductive, otic and ophthalmic systems, building on the foundation of patient care relating to these body systems in the different perioperative phases.

**Prerequisites:**

- SURT1210

**Corequisites:**

- SURT1215

**SURT1225 - Surgical Pathophysiology** ..... (3 credits)

This course introduces the learner to human disease processes that prompt surgical intervention. Relationships between cell pathology and disease will be examined. Disorders that disrupt homeostasis and surgical considerations will be presented. Surgical pathologies of the human body will be illustrated.

**Prerequisites:**

- Admission to the Surgical Technology Program
- BIOL2260
- BIOL2261
- Cumulative GPA of 2.5 or better
- Current CPR Certification \*Needs to be AHA HeartCode BLS Healthcare Provider
- ENGL1101
- North Dakota State Board of Nursing Unlicensed Assistive Personnel-Student Surgical Technologist Registry
- PHIL1200
- PSYC2222
- SURT1200
- SURT1210

**Corequisites:**

- SURT1215
- SURT1220

**SURT1230 - Surgical Technology III** ..... (4 credits)

This course continues to expand the student's knowledge of the role of the surgical technologist in the operating room. The course considers procedures of the lymphatic, circulatory, vascular and nervous systems, building on the foundation of patient care relating to these body systems in the different perioperative phases.

**Prerequisites:**

- SURT1215
- SURT1220

**Corequisites:**

- SURT1240

**SURT1250 - Surgical Clinical I** ..... (6 credits)

This course allows the student to practice the role of the surgical technologist under supervision in an active surgical setting.

**Prerequisites:**

- SURT1200
- SURT1210
- SURT1215
- SURT1220

**Corequisites:**

- SURT1230

**SURT1255 - Surgical Clinical II** ..... (6 credits)

This course, Surgical Clinical II, introduces the student to patient care in an operating room in the role of surgical technologist.

**Prerequisites:**

- Successful completion of all SURT courses with a C or better.

**Corequisites:**

- SURT1240



# SURGICAL TECHNOLOGY

## ASSOCIATE OF APPLIED SCIENCE (AAS) - 60 CREDITS

### Program Plan — "Surgical Technology"

Locations: Moorhead

#### 1st Fall Term (17 credits)

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##### Courses

Course	Crds
BIOL2262 - Human Anatomy and Physiology II .....	3
BIOL2263 - Human Anatomy and Physiology II Lab .....	1
BIOL2267 - Medical Microbiology .....	3
BIOL2268 - Medical Microbiology Lab .....	1
PHIL1200 - Applied and Professional Ethics .....	3
SURT1210 - Surgical Technology I .....	6

#### 1st Spring Term (16 credits)

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##### Courses

Course	Crds
BIOL2260 - Human Anatomy and Physiology I .....	3
BIOL2261 - Human Anatomy and Physiology I Lab .....	1
ENGL1101 - College Writing .....	3
HLTH1116 - Medical Terminology .....	3
PSYC2222 - Lifespan Development .....	3
SURT1200 - Introduction to Surgical Technology .....	3

#### 2nd Fall Term (16 credits)

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##### Courses

Course	Crds
SURT1230 - Surgical Technology III .....	4
SURT1250 - Surgical Clinical I .....	6
SURT1255 - Surgical Clinical II .....	6

#### 2nd Spring Term (11 credits)

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##### Courses

Course	Crds
SURT1215 - Surgical Pharmacology .....	3
SURT1220 - Surgical Technology II .....	5
SURT1225 - Surgical Pathophysiology .....	3