

## Washtenaw Community College Comprehensive Report

### SUR 270 Biomedical Science and Minimally Invasive Surgery Effective Term: Spring/Summer 2024

#### Course Cover

**College:** Health Sciences

**Division:** Health Sciences

**Department:** Allied Health

**Discipline:** Surgical Technology

**Course Number:** 270

**Org Number:** 15320

**Full Course Title:** Biomedical Science and Minimally Invasive Surgery

**Transcript Title:** Biomed & MIS

**Is Consultation with other department(s) required:** No

**Publish in the Following:** College Catalog , Time Schedule , Web Page

**Reason for Submission:** Three Year Review / Assessment Report

**Change Information:**

**Course description**

**Objectives/Evaluation**

**Rationale:** No major changes are needed at this time.

**Proposed Start Semester:** Fall 2024

**Course Description:** In this course, students are introduced to the areas of information technology, interventional radiology, electricity, laser and robotics as they apply to the surgical technologist role in minimally invasive surgery. As surgical equipment becomes more technical, understanding the fundamental principles of these technologies is essential to the entry-level surgical technologist. Students will practice and be evaluated on their surgical technologist support skills in robotics and minimally invasive surgery.

#### Course Credit Hours

**Variable hours:** Yes

**Credits:** 0 – 2

**Lecture Hours: Instructor:** 15 **Student:** 15

**Lab: Instructor:** 30 **Student:** 30

**Clinical: Instructor:** 0 **Student:** 0

**Total Contact Hours: Instructor:** 0 to 45 **Student:** 0 to 45

**Repeatable for Credit:** NO

**Grading Methods:** Letter Grades

Audit

**Are lectures, labs, or clinicals offered as separate sections?:** YES (separate sections)

#### College-Level Reading and Writing

College-level Reading & Writing

#### College-Level Math

No Level Required

**Requisites****Prerequisite**

SUR 110 minimum grade "C+"  
and

**Prerequisite**

SUR 170 minimum grade "C+"  
and

**Prerequisite**

SUR 180 minimum grade "C+"  
and

**Prerequisite**

SUR 181 minimum grade "C+"

**General Education****Request Course Transfer**

**Proposed For:**

**Student Learning Outcomes**

1. Identify basic components of information technology, lasers and robots used in the surgical setting.

**Assessment 1**

Assessment Tool: Outcome-related exam questions

Assessment Date: Fall 2026

Assessment Cycle: Every Three Years

Course section(s)/other population: All sections

Number students to be assessed: All students

How the assessment will be scored: Answer key

Standard of success to be used for this assessment: 80% of students will score 80% or higher.

Who will score and analyze the data: Departmental faculty

2. Demonstrate surgical technologist support skills in minimally invasive and robotic surgery settings.

**Assessment 1**

Assessment Tool: Skills checklist

Assessment Date: Fall 2026

Assessment Cycle: Every Three Years

Course section(s)/other population: All sections

Number students to be assessed: All students

How the assessment will be scored: Rubric

Standard of success to be used for this assessment: 80% of students will score 80% or higher.

Who will score and analyze the data: Departmental faculty

**Course Objectives**

1. Describe the principles of electricity.
2. Demonstrate electrical knowledge as it relates to patient safety.
3. Apply computer knowledge to the educational process and safe patient care practices in the operating room (OR).
4. Identify the different lasers and their hazards relating to the surgical environment.
5. Identify the basic components of equipment used in robotic surgery.
6. Describe the movements of the robotic system manipulators.
7. Describe the use of Interventional Radiology in the OR and the safety methods for the OR staff that come in contact with Radiology in the operating room.

**New Resources for Course**

**Course Textbooks/Resources**

Textbooks  
 Manuals  
 Periodicals  
 Software

**Equipment/Facilities**

Computer workstations/lab

<b><u>Reviewer</u></b>	<b><u>Action</u></b>	<b><u>Date</u></b>
<b>Faculty Preparer:</b> <i>Kathryn Walker</i>	<i>Faculty Preparer</i>	<i>Sep 18, 2023</i>
<b>Department Chair/Area Director:</b> <i>Kristina Sprague</i>	<i>Recommend Approval</i>	<i>Oct 10, 2023</i>
<b>Dean:</b> <i>Shari Lambert</i>	<i>Recommend Approval</i>	<i>Nov 20, 2023</i>
<b>Curriculum Committee Chair:</b> <i>Randy Van Wagnen</i>	<i>Recommend Approval</i>	<i>Apr 03, 2024</i>
<b>Assessment Committee Chair:</b> <i>Jessica Hale</i>	<i>Recommend Approval</i>	<i>Apr 10, 2024</i>
<b>Vice President for Instruction:</b> <i>Brandon Tucker</i>	<i>Approve</i>	<i>Apr 16, 2024</i>

# Washtenaw Community College Comprehensive Report

## SUR 270 Biomedical Science and Minimally Invasive Surgery Effective Term: Winter 2015

### Course Cover

**Division:** Math, Science and Health

**Department:** Allied Health

**Discipline:** Surgical Technology

**Course Number:** 270

**Org Number:** 15320

**Full Course Title:** Biomedical Science and Minimally Invasive Surgery

**Transcript Title:** Biomed & MIS

**Is Consultation with other department(s) required:** No

**Publish in the Following:** College Catalog , Time Schedule , Web Page

**Reason for Submission:** Course Change

**Change Information:**

**Consultation with all departments affected by this course is required.**

**Course description**

**Outcomes/Assessment**

**Rationale:** Proposed Start Semester: Winter 2015. Changes required for accreditation.

**Proposed Start Semester:** Fall 2014

**Course Description:** In this course, students are introduced to the areas of information technology, electricity, laser and robotics as they apply to the surgical technologist role in minimally invasive surgery. As surgical equipment becomes more technical, understanding the fundamental principles of these technologies is essential to the entry-level surgical technologist. Students will practice and be evaluated on their surgical technologist support skills in robotics and minimally invasive surgery.

### Course Credit Hours

**Variable hours:** Yes

**Credits:** 0 – 2

**Lecture Hours: Instructor: 15 Student: 15**

**Lab: Instructor: 30 Student: 30**

**Clinical: Instructor: 0 Student: 0**

**Total Contact Hours: Instructor: 0 to 45 Student: 0 to 45**

**Repeatable for Credit:** NO

**Grading Methods:** Letter Grades

Audit

**Are lectures, labs, or clinicals offered as separate sections?:** NO (same sections)

### College-Level Reading and Writing

College-level Reading & Writing

### College-Level Math

No Level Required

### Requisites

**Prerequisite**

SUR 110 minimum grade "C+"

and

**Prerequisite**

SUR 170 minimum grade "C+"  
and

**Prerequisite**

SUR 180 minimum grade "C+"  
and

**Prerequisite**

SUR 181 minimum grade "C+"

**General Education****Request Course Transfer**

**Proposed For:**

**Student Learning Outcomes**

1. Identify basic components of information technology, lasers and robots used in the surgical setting.

**Assessment 1**

**Assessment Tool:** Exam

**Assessment Date:** Fall 2016

**Assessment Cycle:** Every Three Years

**Course section(s)/other population:** all sections

**Number students to be assessed:** all students

**How the assessment will be scored:** rubric

**Standard of success to be used for this assessment:** 80% of students will score 80% or higher.

**Who will score and analyze the data:** departmental faculty

2. Demonstrate surgical technologist support skills in minimally invasive and robotic surgery settings.

**Assessment 1**

**Assessment Tool:** skills check-list

**Assessment Date:** Fall 2016

**Assessment Cycle:** Every Three Years

**Course section(s)/other population:** all sections

**Number students to be assessed:** all students

**How the assessment will be scored:** rubric

**Standard of success to be used for this assessment:** 80% of students will score 80% or higher on this outcome based assessment.

**Who will score and analyze the data:** departmental faculty

**Course Objectives**

1. Describe the principles of electricity.

**Matched Outcomes**

2. Demonstrate electrical knowledge as it relates to patient safety.

**Matched Outcomes**

3. Apply computer knowledge to the educational process and safe patient care practices in the OR.

**Matched Outcomes**

4. Identify the different lasers and their hazards relating to the surgical environment.

**Matched Outcomes**

5. Identify the basic components of equipment used in robotic surgery.

**Matched Outcomes**

6. Describe the movements of the robotic system manipulators.

**Matched Outcomes****New Resources for Course**

## Course Textbooks/Resources

Textbooks  
Manuals  
Periodicals  
Software

## Equipment/Facilities

### Reviewer

#### **Faculty Preparer:**

*Paulette Woods-Ramsey*

#### **Department Chair/Area Director:**

*Connie Foster*

#### **Dean:**

*Kristin Brandemuehl*

#### **Vice President for Instruction:**

*Bill Abernethy*

### Action

*Faculty Preparer*

*Recommend Approval*

*Recommend Approval*

*Approve*

### Date

*Nov 23, 2014*

*Nov 24, 2014*

*Nov 25, 2014*

*Jan 05, 2015*