



Course Name: Surgical Technology Pharmacology

Course Number: SUR* E215

Credits: 3

Catalog description: This course prepares the students for the safe care and handling of medications and solutions used during surgery. Students are provided with an introduction to pharmacology, principles of anesthesia administration and medications that are commonly used in the surgical environment. Co-requisite SUR 211 and SUR 213

Prerequisite: Math 100 up, MED*E125, BIO*E119, SUR*E109, SUR*E110, & SUR*E111; all with a C+ or higher.

Corequisite, or Parallel:

General Education Competencies Satisfied:

HCC General Education Requirement Designated Competency Attribute Code(s):

None

Additional CSCU General Education Requirements for CSCU Transfer Degree Programs:

None

Embedded Competency(ies):

None

Discipline-Specific Attribute Code(s):

SCI Science elective

Course objectives:

General Education Goals and Outcomes:

None

Course Specific Objectives:

1. Calculate medication conversions and dosages.
2. Apply general terminology to medication use.
3. Prepare and manage medications and solutions.



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4. Understand various medications in the care of surgical patient.
5. Correlate anesthesia monitoring devices and pre-op medications to maintain patient homeostasis.
6. Analyze the principles of anesthesia administration as well as be able to explain the necessity of each component of anesthesia preparation of the surgical patient.
7. Compare and contrast methods, agents, and techniques of anesthesia administration and preparation.
8. Explain anesthesia complication, emergencies, and interventions.

COURSE CONTENT:

Review of conversions

- Apothecary weights & measures

- Metric weights & measures

Review of Mathematics

- Addition & subtraction

- Fractions

- Decimals

- Percentages

- Ratio

- Proportions

Drug Terminology

- Definitions

- Abbreviations

- Units of measure

Drugs Used in the Preoperative and Intraoperative period

- Classifications

- Actions, uses, and modes of administration

- Accepting & handling of medications during surgery

Anesthesia

- Types

- General

- Regional

- Local

Phases

Methods of administration

- Inhalation

- Mask

- Intubation

- Intravenous



- Subcutaneous
- Components of the anesthesia machine
- Anesthetic drugs
 - Purpose
 - Adverse effects
 - Roles during administration
- Devices and methods used to monitor anesthesia administration
 - EKG
 - Blood pressure
 - Pulmonary artery and CVP catheters
 - Temperature monitors
 - Pulse oximeter
 - Controlled ventilation
 - System for anesthetic and respiratory analysis (SARA)
 - Stethoscopes and Doppler
 - Arterial blood gases
- Complications of anesthesia
 - Aspiration
 - Laryngospasm/bronchospasm
 - Malignant hyperthermia
 - Shock
 - Cardiac arrhythmia
 - Cardiac arrest
- Role of operating room personnel in assisting in the administration of anesthesia.

Teaching Methods: Lecture, Demonstration & Return Demonstration, Audio-Visual Aids, Observation, Assigned Readings, and Handouts

Grading: Exams: Math Test Pass/Fail, retake different Math test if the first one is <75%;
5 Unit Exams 80%; Final Examination 20%

Date Course Created: 3/2017

Date of Last Revision: 08/31/2017