1. OVERVIEW

Subject Area	General Basics of Surgery. Diagnostic and Therapeutic Procedures
Degree	Bachelor's Degree in Medicine
School/Faculty	BIOMEDICAL AND HEALTH SCIENCES
Ac. Year	THREE
ECTS	6 ECTS Clinical placements
Type	COMPULSORY
Language(s)	SPANISH
Delivery Mode	ON CAMPUS
Semester	Six-monthly

2. INTRODUCTION

General Basics of Surgery is a compulsory subject (worth 6 ECTS) taught each semester during the third year in the Degree in Medicine. This subject belongs to the Diagnostic and Therapeutic Procedures module worth a total of 43 ECTS.
The general aim of this subject is to teach students the basics of general surgery, the knowledge required for surgical pathophysiology, the skills any doctor must have regardless of their speciality, and the appropriate attitude for dealing with surgical patients.

3. SKILLS AND LEARNING OUTCOMES

Basic Skills (CB, by the acronym in Spanish):

- CB1: Students have shown their knowledge and understanding of a study area that builds on general secondary school education, and are usually at the level where, with the support of more advanced textbooks, they may also demonstrate awareness of the latest developments in their field of study.
- CB5: Students will develop the learning capacity required to undertake subsequent study with a high degree of autonomy.

General skills (CG, by the acronym in Spanish):

CG10 (CB10): Understand and recognise the causal agents and risk factors which determine health conditions and the development of a disease.
CG12 (CB12): Understand the principles of action, indications and effectiveness of therapeutic interventions, based on the available scientific evidence.
CG18 (CC18): Indicate the most suitable therapy for the most common acute and chronic processes, including patients in the terminal phase.

Cross-curricular skills (CT, by the acronym in Spanish):

- CT10: Independent learning.
- CT1: Communication.

Specific skills (CE, by the acronym in Spanish):

CE 4.1.12: Understand the general principles of anaesthesia and reanimation.

CE 4.1.15: Understand the pathophysiology of wounds (burns, frostbite and other types of wounds). Scarring. Surgical haemorrhage and thromboembolic prophylaxis.
CE 4.1.16: Understand the general surgical indications, the pre-operative risks and post-operative complications.
CE 4.1.17: Transfusions and transplants.
CE 4.2.3: Manage disinfection and sterilisation techniques.
CE 4.2.7: Practice basic surgical procedures: cleanliness, haemostasis and wound stitching.

Learning outcomes (RA, by the acronym in Spanish):

- Understand the pathophysiology of wounds, burns, frostbite, electrical and radiation wounds, bites and stings.
- Understand the biological response to surgical stress and scarring.
- Understand the basic principles of surgery.
- Know how to make a preoperative assessment of the surgical risk.
- Understand the general principles of anaesthesia, reanimation and vital support techniques for surgical patients. This also includes multiple trauma patients.
- Understand and know how to apply asepsis rules in the operating theatre.
- Recognise basic surgical material.
- Be aware of the main post-operative complications, surgical bleeding and thromboembolic complications.
- Practice basic surgical procedures: cleanliness, debridements, haemostasis, stitching, removing stitches, incisions, drains, local anaesthetic.
- Direct the handling of wounds (curing, dressings, bandages, immobilisations, etc.), burns, frostbite, electrical and radiation lesions bites and stings.
- Understand the principles and indications of prophylaxis of surgical infection.
- Understand the principles and indications of antithrombotic prophylaxis.
- Understand the basic principles of solid organ and tissue transplants.

The following table shows how the skills developed in the subject area match up with the intended learning outcomes:

Skills	Learning outcomes
CB1, CB5, CT1, CT10, CB10, CE55	Understand the pathophysiology of wounds, burns, frostbite, electrical and radiation wounds, bites and stings.
CB1, CB5, CT1, CT10, CB10, CE55	Understand the biological response to surgical stress and scarring.
CB1, CB5, CT1, CT10, CE55	Understand the basic principles of surgery.
CB1, CB5, CT1, CT10, CB10, CE56	Know how to make a preoperative assessment of the surgical risk.
CB1, CB5, CT1, CT10, CB10, CE52, CE56	Understand the general principles of anaesthetic, reanimation and vital support techniques for surgical patients.
CB1, CB5, CT1, CT10, CB10, CE62	Understand and know how to apply asepsis rules in the operating theatre.
CB1, CB5, CT1, CT10, CG12	Recognise basic surgical material.
CB1, CB5, CT1, CT10, CB10, CE56, CG12	Be aware of the main post-operative complications surgical bleeding and thromboembolic complications.
CB1, CB5, CT1, CT10, CB10, CE52, CE56	Practice basic surgical procedures: cleanliness, debridements, haemostasis, stitching, removing stitches, incisions, drains, local anaesthetic.

CB1, CB5, CT1, CT10, CE55	Direct the handling of wounds (curing, dressings, bandages, immobilisations, etc.), burns, frostbite, electrical and radiation lesions bites and stings.
CB1, CB5, CT1, CT10, CB10, CB12, CE55	Understand the principles and indications of prophylaxis of surgical infection.
CB1, CB5, CT1, CT10, CB10, CB12, CE55	Understand the principles and indications of antithrombotic prophylaxis.
CB1, CB5, CT1, CT10, CG10, CG12, CE57	Understand the basic principles of solid organ and tissue transplants.

4. CONTENTS

This subject area is divided into six learning units, which are then divided into various topics.

Topic	General Basics of Surgery
	Learning Unit 1. Basics of Surgery
Topic 1.	Fundamentals of surgery: History. Surgical pathology.
Topic 2.	Biological response to stress. Scarring.
Topic 3.	Haemostasis in surgery. Controlling bleeding.
Topic 4.	Anaesthesia: types and techniques.
Topic 5	Animation and vital support techniques for surgical patients. Hydroelectrolytic alterations in surgical patients. Serotherapy.
	Learning Unit 2. Basics of operations
Topic 6	Pre-operation. Surgical risk. Complications in surgery.
Topic 7	Antithrombotic prophylaxis and thromboembolic complications.
Topic 8	Treatment of post-operative pain.
Topic 9	Nutrition and metabolism in surgical patients.
Topic 10	Ethics in surgery.
	Learning Unit 3. Transplants
Topic 11	Immunological foundations of transplants. Immunosuppression.
Topic 12	Transplants: basic concepts and types of transplant.
Topic 13	Brain death. Organ donation.
	Learning Unit 4. Traumas
Topic 14	Mechanical traumas. Wounds, bites and stings.

Topic 15	Traumas from physical and chemical agents.
Topic 16	Burns and frostbite.
Topic 17	Caring for polytrauma patients. Medical care in catastrophes.
Topic 18	Injuries due to explosion. Barotrauma. Crush syndrome.
	Learning Unit 5. Surgical infections.
Topic 19	Asepsis and anti-sepsis. Clothing and hand washing. Sterilisation.
Topic 20	Basics of antibiotic therapy in surgery. Prophylaxis of surgical infections.
Topic 21	Infections of the skin and soft tissue: boils, abscesses and gangrene.
	Learning Unit 6. Oncologic surgery
Topic 22	Tumour biology. Tumour markers. Tumour dissemination. Basics of oncologic surgery.

5. TEACHING/LEARNING METHODS

The types of teaching/learning methods are as follows:

1. Problem-based learning: Presentation of problems, reorganising into small groups, literature analysis, analysis of scientific texts and documents, symposiums and presentations, directed debates, specialised individual and collective tutorials, and reaching a consensus.
2. Specialised seminars: literature research and debate on scientific data in small groups.
3. Lectures: Classroom presentations by the professor on basic theory, encouraging debate and student participation.
4. Case study method: presentation and discussion of clinical cases in small groups.
5. Skills learning in the classroom and simulation environments: Practical work with IT programs, anatomical models, human dissection and standardised patients.
6. Experiential learning in supervised clinical placements in the different hospital services: problem-solving in a practical context observing the tutor, being observed by the tutor, or with the tutor's supervision. Students will integrate themselves and participate in the activities performed in the healthcare units. The student activities will be programmed, tutor-assisted and assessed by the tutor.

6. LEARNING ACTIVITIES

The types of learning activities, plus the amount of time spent on each activity, and the percentage of participation in each of them are as follows:

On campus:

Learning activity	Number of hours	Attendance (%)
AF.1 Theory/practical learning activities on-campus	42 h	100
AF.2 Directed learning activities	20 h	20

AF.3 Independent working	30 h	0
AF.4 Clinical placements	50 h	100
AF.7 Tutorials	6 h	100
Knowledge tests	2 h	100
TOTAL	**150 h**	

7. ASSESSMENT

The assessment methods, plus their weighting in the final grade for the subject area, are as follows:

On campus:

	Assessment system	Weighting
THEORY (65%)	Final assessment exam	65%
PRACTICAL PART (35%)	Attitude (rubric)	5%
	Clinical practice (rubric)	15%
	Simulation	15%

On the Virtual Campus, when you open the subject area, you can see all the details of your assessment activities and the deadlines and assessment procedures for each activity.

8. BIBLIOGRAPHY

• **Tratado de cirugía: fundamentos biológicos de la práctica quirúrgica moderna**. DC Sabiston. CM Townsend Jr. Editorial a la 21ª Edición del 2021.

• **Greenfield´s Surgery**. Scientific Principles and Practice. M. Mullholland. Editorial Lippincott 6 ª Edición 2016.

• **Schwartz Principios de Cirugía General** (2 volúmenes). Brunicardi F. McGraw Hill 11ª Edición. 2019. ISBN 9786071512758.