SHAHREKORD
University of Medical Sciences



Emergency Nursing (MSc)

(General specifications , plans and headlines)

Islamic Republic of Iran

Ministry of Health and Medical Education

Higher Council for Medical Sciences Planning

Curriculum of the Master of Science (Continuous) Program in Emergency Nursing

Approved at the 84th session of the Higher Council for Medical Sciences Planning, dated 24 July 2022 (3 Mordad 1401)

(A) Expected Procedural Skills

Minimum number of cases required for learning each skill

#	Skill	Observation	Assisting	Independent performance	Total
1	Vascular access (arterial, venous, intraosseous)	2	4	20	26
2	Arterial blood sampling and its interpretation	2	4	20	26
3	Resuscitation measures in specific situations based on the latest scientific evidence	2	4	10	16
4	Advanced cardiopulmonary resuscitation in specific situations based on the latest scientific evidence	2	6	12	20
5	Post-resuscitation care measures based on the latest scientific evidence	2	4	10	16
6	Management of out-of-hospital cardiopulmonary resuscitation situations	4	6	10	20
7	Management of in-hospital cardiopulmonary resuscitation situations	4	6	10	20
8	Recording of out-of-hospital and in-hospital resuscitation reports	4	6	10	20
9	Monitoring and interpretation of the patient's cardiac rhythm in emergency situations	4	6	10	20
10	Safe and correct transfer of an injured person or patient	4	6	20	30
11	Correct use of the electroshock device in life-threatening situations (defibrillation)	4	6	10	20
12	Correct use of the electroshock device in unstable situations (synchronized shock / cardioversion)	2	2	6	10
13	Correct use of the transcutaneous pacemaker of the electroshock device	2	2	6	10
14	Care of CV line and PICC (peripherally inserted central catheter)	4	6	30	40
15	Care of a patient with an internal pacemaker	2	2	6	10
16	Body fluid resuscitation management (replacement fluids) and transfusion of blood and emergency blood products according to physician's order	2	2	20	24
17	Correct use of antiarrhythmic drugs in cardiac emergencies	2	4	24	30
18	Correct use of vasoactive drugs in emergency situations	2	4	24	30
19	Calculation, adjustment and infusion of cardiovascular drugs	2	2	6	10
20	Preparing the patient for infusion of thrombolytic drugs in myocardial infarction	2	2	6	10
21	Preparing the patient in emergency conditions for primary coronary angioplasty	2	2	6	10
22	Monitoring and care of a patient with severe hypertension	2	6	20	28
23	Oxygen therapy for patients in acute and emergency conditions	4	8	20	32
24	Care of a patient with moderate to severe burns	2	4	15	21
25	Care of a patient with various types of trauma (limb trauma, skin trauma, eye trauma, abdominal trauma, etc.)	3	4	20	27
26	Pain management of patients in emergency situations	4	8	20	32

#	Skill	Observation	Assisting	Independent performance	Total
27	Care of a patient with decreased level of consciousness	2	3	25	30
28	Assessment of the respiratory system in emergency situations	4	8	20	32
29	Use of a nebulizer in emergency situations	4	8	20	32
30	Airway management (tracheal tube, laryngeal mask)	4	8	20	32
31	Care of patients with traumatic head injuries	4	8	20	32
32	Appropriate use of waveform capnography	2	2	6	10
33	Care of a patient with tension pneumothorax	2	2	6	10
34	Initial setup of a mechanical ventilator	4	8	20	32
35	Setting the mechanical ventilator based on interpretation of arterial blood gases	4	8	20	32
36	Setting non-invasive mechanical ventilation in emergency conditions	4	8	20	32
37	Performing triage based on different models	4	8	20	32
38	Gastric lavage and irrigation in emergencies via nasogastric tube	2	2	6	10

Educational Strategies

Education in this program is student-centered, with the instructor acting as a guide (blended learning); faculty members provide appropriate supportive strategies to the student. The aim of the program is also for the student to attain the skills and knowledge needed to deliver high-quality work at the various preventive levels of treatment and care centers. Graduates of the field must be able to teach these skills to other learners.

The main strategies in this program are as follows:

- Self-directed / independent learning
- Task-based learning
- Evidence-based learning
- Clinical teaching
- e-Learning and virtual education
- Problem-based learning
- Project-based learning
- Education integrated with research and service
- Cooperative learning
- Community-based learning
- Portfolio development

Educational Methods and Techniques

In this program a broad spectrum of methods, from individualized to group and collective methods, will be used deliberately, including the following:

- Lectures, group discussion, question and answer, group work, problem-solving, flipped classroom, group text reading, independent learning, personalized portfolio, short subject-based courses, interprofessional search, interactive workshops, role-playing, article reading and journal club, use of virtual methods, simulators, use of virtual systems, use of available artificial intelligence, case presentation and management, seminars and congresses.
- Role-model, morning report, individual and group rounds and conferences, interprofessional and cross-departmental sessions and observations, feedback, seminars, mentoring, forums and professional networking, journaling, and learning logs.

- Direct service delivery, and interdepartmental or cross-field rotations.
- International participation and international problem-solving projects.
- Applied research, knowledge-translation methods, and project-based methods.

Teaching of the courses of the Master of Science in Emergency Nursing may be delivered 50% in person and 50% virtually.

Ethical Expectations of Learners

Learners are expected to:

- Strictly observe the Patients' and Clients' Rights Charter, especially for emergency patients (Appendix 1).
- Strictly observe the regulations on personal safety and the safety of patients, staff and the work environment. These regulations must be compiled by the educational group or the relevant department and made available to students. The educational group is also obliged to compile the safety regulations for patients who are cared for at home and make them available to students.
- Observe the professional and university dress code regulations (Appendix 2) and professional guidelines.
- Protect the resources and equipment with which they work under all conditions.
- Observe the professional codes of ethics in nursing when providing specialized activities (Appendix 3).
- Respect faculty members, staff, classmates and other learners, and participate in creating a warm, sincere and respectful atmosphere in the workplace.
- Observe social and professional ethical considerations when critiquing programs.
- Observe research ethics points when conducting research related to the field (Appendix 4).
- Adhere to the ethical principles and professional conduct of nursing in Iran. The professional codes of ethics and the regulations approved by the Department, as well as those of the professional associations of emergency nursing, must be made available for viewing and access on the website of the relevant educational group.

Student Assessment

A – Assessment method

Students will be assessed using the following methods. Assessment will be based on a customized portfolio prepared by the group related to emergency nursing. The portfolio review criterion is of the mastery-testing type, and obtaining 100% of the portfolio score is required. Under the portfolio scoring criteria below, scoring varies from at least 65% (for non-mastery types) to 100% (for mastery types).

Items to be considered in the portfolio include:

- Written tests
- Oral examination / viva results
- Checklists
- Tutor / trainer reports
- Short case assessment
- Logbook
- 360-degree / multisource assessment
- Objective Structured Clinical Examination (OSCE) results
- Documents related to workshops

Portfolio assessment includes: logbook assessment, results of examinations taken, articles, rewards and reminders, certificates of work done, and the like.

B – Assessment times

Assessment will be continuous, periodic and final, as follows:

- Intra-group examinations are at the disposal of the educational group.
- Examinations based on specific and case-by-case needs will be conducted.

Chapter Two: Minimum Requirements of the Emergency Nursing Program at the Master's (Continuous) Level

Minimum Required Academic Staff

A – The implementing educational group of faculty members is formed with the following composition:

Permanent and full-time faculty members of the universities of medical sciences under the Expansion Council, holding a doctoral degree (Ph.D.) in nursing with a specialty and work background related to emergency nursing.

B – Required supporting specialties:

Mandatory: specialists from other nursing groups (community health, gerontology, medical-surgical, critical care) and the emergency medicine group.

Preferred: the group of health in disasters.

Required Trained Staff (with specific technical skill) for Implementing the Program

Three employed trained staff members (master's-level experts) working in emergency departments, treatment centers and emergency bases.

Required General Educational Spaces and Facilities

A. Required general spaces

- Classrooms
- Interns' and externs' room in the hospital
- Internet of sufficient speed
- Conference hall
- Educational archive
- Faculty room
- Clinical skills center (Skill Lab)
- Computer room
- Library (equipped with reputable and relevant books and journals)
- Dedicated educational website of the educational group
- Facilities for holding classes and workshops virtually

Required specific spaces and fields

Mandatory items:

- Clinics, emergency departments and educational treatment wards
- Regional emergency bases
- General wards of hospitals and treatment centers

Preferred items:

- Related research institutes and research centers
- Social media such as the press, television, radio and other virtual networks

Required Populations or Samples

- Patients with acute and chronic disorders referring to emergency departments
- The family or primary caregivers of patients in acute and emergency conditions
- Vulnerable and at-risk populations (children and adolescents, marginalized populations, and the like)
- Healthy populations with inadequate and insufficient health literacy
- Clients injured by natural and man-made incidents and disasters

Required Major (Capital) Specialized Equipment

- A dedicated space for the group, including the group manager’s room and faculty members’ rooms
- A classroom designed on group-teaching principles, with the possibility of interdisciplinary and multi-site (domestic and international) virtual participation
- A conference hall for text-reading sessions, journal club and the like
- A simulated room equipped for skills practice, with spaces prepared for student attendance
- Specialized manikins and simulators, and the use of artificial intelligence for practicing skills

Chapter Three: Course Specifications and Courses of the Emergency Nursing Program at the Master's (Continuous) Level

Course Specifications

1 – Name of the course

Master of Science (Continuous) in Emergency Nursing.

2 – Length and structure of the course

According to the bylaw of the Master's (Continuous) program approved by the Higher Council for Medical Sciences Planning.

3 – Total number of course units

Excluding remedial or compensatory courses (Table A), the number of course units in this program is 32 units, as follows:

Mandatory specialized units (Core)	26 units
Elective specialized units (Non-Core)	2 units
Thesis	4 units
Total	**32 units**

Table A – Remedial or compensatory courses of the Master's (Continuous) program in Emergency Nursing

Code	Course name	Total units	Theory units	Practical units	Total hours	Theory hours	Practical hours	Prerequisite / co-requisite
01	Medical Information Systems †	1	0.5	0.5	26	9	17	–
02	Advanced Statistics and Research Methods	3	2	1	68	34	34	–
	Total	**4**						

* These courses may be offered in a blended format (20% in person and 80% virtual).

† Passing this course is mandatory as a remedial or compensatory course only for students who did not pass it at the bachelor's level.

Table B – Mandatory specialized (Core) courses of the Master's (Continuous) program in Emergency Nursing

Code	Course name	Total units	Theory units	Practical units	Practicum units	Internship units	Total hours	Theory hours	Practical hours	Practicum hours	Internship hours	Prerequisite / co-requisite
03	Nursing Ethics and Professional Relationships in Emergency Nursing	1.5	1	0.5	–	–	34	17	17	–	–	–
04	Nursing Theories and Models and Their Application	2	1.5	–	0.5	–	52	26	–	26	–	–
05	Principles of Management and Leadership in the Emergency Department	2	1.5	–	0.5	–	52	26	–	26	–	04
06	Patient and Family Education Methods in the Emergency Department	1	0.5	0.5	–	–	26	9	17	–	–	–
07	Emergency Pharmacology	2	1.5	0.5	–	–	43	26	17	–	–	–
08	Emergency Nursing Care 1	3.5	1.5	–	2	–	128	26	–	102	–	04 and 07
09	Emergency Nursing Care 2	3.5	1.5	–	2	–	128	26	–	102	–	08
10	Emergency Nursing Care 3	3.5	1.5	–	2	–	128	26	–	102	–	09
11	Provision of Health Services in Emergencies, Incidents and Disasters	1	0.5	0.5	–	–	26	9	17	–	–	–
12	Emergency Nursing Clinical Internship*	6	–	–	–	6	408	–	–	–	408	–
13	Thesis	4	4	–	–	–	–	–	–	–	–	All courses
	Total	**30**										

* Note: Attendance hours in internship fields will follow the work shift hours from Saturday to Thursday (6 hours of morning shift, 6 hours of afternoon shift, 12 hours of night shift).

Table C – Elective specialized (Non-Core) courses of the Master's (Continuous) program in Emergency Nursing

Code	Course name	Total units	Theory units	Practicum units	Total hours	Theory hours	Practicum hours	Prerequisite
14	Sociology and Psychology in Emergencies, Incidents and Disasters	1	0.5	0.5	35	9	26	–
15	Pediatric Emergencies	1	0.5	0.5	35	9	26	–
16	Psychiatric Emergencies	1	0.5	0.5	35	9	26	–
17	Prehospital Life Support in Trauma (PHTM and PHTLS)	1	0.5	0.5	35	9	26	–
	Total	**4**						

* The student must pass 2 units of the above courses (Table C), appropriate to the intended thesis topic, with the approval of the advisor and the confirmation of the university's Council for Graduate Education.

Suggested Educational Workshop Titles Required for the Course

Semester of delivery	Workshop name	Hours	Mandatory / elective
First semester	Communication skills and teamwork in the emergency team	6	Mandatory
First semester	Infection control and patient safety in the emergency department	6	Mandatory
Second semester	Mechanical ventilation	6	Mandatory
Second semester	Basic and advanced resuscitation in pregnant women	8	Mandatory
Third semester	Basic and advanced resuscitation in neonates, infants and children	8	Mandatory
Third semester	Telecare course	6	Mandatory

- Completion of the above mandatory workshops, in the form of workshops at universities or continuing education courses of the country's universities of medical sciences, is compulsory for students and is among the items reviewed in the educational portfolio. The relevant certificates must be submitted to the group manager at the end of the academic semester and placed in the student's file.
- The above workshops will be designed and delivered by the educational group in cooperation with relevant specialists and other educational groups.
- Workshops will be held in person, virtually, or in a blended format.

Course 01: Medical Information Systems

Course code: 01

Prerequisite or co-requisite: None

Number of units: 1 unit (0.5 theory – 0.5 practical)

Type of unit: Theoretical–practical

General objective of the course

By the end of this course the student should be able to become familiar with search engines and with the role of five software components: Spider (crawler), Crawl (fetcher), Indexer, Database (information bank) and Ranker. The student should be able to recognize the differences and the capabilities of these programs in several search engines such as Bing, Yahoo and Google, and compare them with one another. The student also becomes familiar with several meta-search engines, and should be able to search effectively using advanced search, the factors influencing searching, and the Boolean operators system, and to use truncation (e.g., the asterisk) for errors in shortened keywords, parentheses, and the mutual effect of keywords on search results, and become familiar with the facilities in browser software (Internet Explorer, Mozilla Firefox, Google Chrome). Other objectives of this course include: familiarity with the services of the student's home university library; awareness of the information banks and publishers related to health and medical sciences; important health and medical sites, especially PubMed and Cochrane; criteria for measuring articles (such as citations), journals (impact factor) and authors (H-index); and one of the mandatory reference-management software packages.

Course description

In this course the student learns scientific search methods and the problems of searching and overcoming them on the Internet, and becomes familiar with the concepts of measuring articles, journals and searches on some important publisher sites. In this way the student will be able to perform organized searches using browsers and information banks. Finally, the student will be able to create a personal library using one of the reference-management software packages in order to gather all the sources needed for writing a thesis, articles and reports.

Syllabus: (9 theory hours – 17 practical hours)

A – Theory: 0.5 unit (9 hours)

- Familiarity with general search engines, their differences, and a comparison of several search engines in terms of identical search (practical work: individual performance of advanced search using the Not, Or, And Boolean operators in the PubMed search engine in class).
- Familiarity with the role of five software components: Spider (crawler), Crawl (fetcher), Indexer, Database (information bank) and Ranker, in each search engine.
- Familiarity with the browsers Internet Explorer, Mozilla Firefox and Google Chrome and their capabilities (practical work: sorting and saving Favorites on a flash drive).
- Familiarity with the services available in the library of the student's home university, including access to domestic and foreign journals and comprehensive software.
- Familiarity with publishers such as Elsevier, EBSCO, Wiley and Springer.
- Familiarity with databases and information sources such as Web of Science, Science Direct, Scopus, ProQuest, Biological Abstracts, etc.
- Familiarity with citation databases.
- Familiarity with comprehensive medical article databases such as Medlib, Iranmedex, Irandoc, etc.
- Search methods through Medical Subject Headings (MeSH).
- Familiarity with article-measurement criteria (such as citations), journal-measurement criteria (impact factor) and author-measurement criteria (H-index) in the relevant information banks.
- Familiarity with the application of DOI.
- Familiarity with PubMed and a collection of online articles from the Medline information bank, the Gene bank, and the online software available in it.
- Familiarity with EndNote software and practical creation of a personal library of sources.

- Familiarity with electronic health technologies.
- Familiarity with artificial intelligence systems in nursing.

B – Practical: 0.5 unit (17 hours)

- Practical performance of trained skills in searching for information.
- Practical and accurate retrieval of scientific sources based on a systematic approach.

Course resources (latest edition):

- Books available on medical information systems and related software.
- Baker L. Finding Information in Science, Technology and Medicine. Reference Reviews.
- Lambert J. Finding Information in Science, Technology and Medicine. Taylor & Francis.
- Saba V. Clinical care classification (CCC) system manual: a guide to nursing documentation. Springer Publishing Company.
- www.medlib.ir
- www.ncbi.nlm.nih.gov
- www.proquest.com
- Zielinski K, Duplaga M, Ingram D. Information technology solutions for healthcare. Springer Science & Business Media.

Student assessment method:

In the cognitive domain:

- Written test
- Interactive computer test

In the psychomotor domain:

The student's practical skill in using the computer, the Windows operating system and Internet search is assessed using the Direct Observation of Procedural Skills (DOPS) test.

Course 02: Advanced Statistics and Research Methods

Course code: 02

Prerequisite or co-requisite: None

Number of units: 3 units (2 theory units – 1 practical unit)

Type of unit: Theoretical–practical

General objective of the course

Learners' mastery of the concepts of descriptive–analytical statistics and scientific research methods, so that they are able to design and carry out a research project and apply evidence in practice.

Syllabus: (34 theory hours – 34 practical hours)

A – Theory: 2 units (34 hours)

Part One – Statistics

Review of:

- Types of variables and their measurement scales (nominal, ordinal, interval, ratio).
- Descriptive statistics (calculating central and dispersion indices, drawing frequency distribution tables, drawing charts):
  - Central indices (mean, median and mode)
  - Dispersion indices (range of changes, variance, standard deviation and coefficient of variation)
  - One-dimensional and two-dimensional frequency distribution tables
  - Bar, pie and line charts, histogram and box plot
- Definition of important probabilities and distributions (binomial, Poisson and normal).

Inferential statistics

- Point estimation of the mean and proportion.
- Interval estimation of the mean and proportion.
- Definition of hypothesis testing, types of hypotheses, types of errors (type I and type II errors), and calculation of the p-value.
- Types of statistical tests:
  - Independent-samples t-test, paired-samples t-test, one-way analysis of variance (ANOVA), two-way ANOVA, repeated-measures ANOVA, and their non-parametric equivalents
  - Homogeneity and independence tests (chi-square test)
  - Correlation coefficient test

Familiarity with SPSS software

- Creating a data file (how to define variables and enter data); the Compute and Recode commands.
- Descriptive statistics: (1) drawing frequency distribution tables (one- and two-dimensional); (2) calculating numerical indices (central and dispersion); (3) drawing statistical charts.
- Performing the required statistical tests based on the type of variable: (1) chi-square and Fisher's exact test; (2) comparison of means (independent t, paired t, analysis of variance, repeated-measures ANOVA); (3) correlation between two quantitative variables; (4) non-parametric tests (Mann–Whitney, Wilcoxon, Kruskal–Wallis and Friedman); (5) linear regression.

Part Two – Research Methodology

- Review of the principles of research methodology.
- Familiarity with research (history, definitions, … types of quantitative studies, topic selection).
- Theoretical–conceptual framework, review of studies, and the method of using sources.
- Aims, questions, hypotheses, assumptions and limitations of the research.
- Methods and materials, including: population, sample and sampling methods, research setting, research variables, and their measurement scales.
- Data collection methods, validity and reliability of instruments, presentation of findings, data sources, statistical methods of data analysis, ethical principles in research.

- Conclusion, discussion, suggestions for the application of findings and for future research.
- Review of types of qualitative studies.
- How to prepare a research proposal.
- Methods of applying research results to improve nursing services (Research Utilization).

B – Practical: 1 unit (34 hours)

- Performing statistical calculations on hypothetical data or the data of a research project.
- Presenting a draft of a research proposal.

Course resources (latest edition):

- Daniel W. Biostatistics: Principles and Methods of Biological Statistics. Translated by Seyyed Mohammad Taghi Ayatollahi. Tehran: Amirkabir Publications.
- Other books and journals in the field of nursing research.
- Mohammad K, Malek Afzali H. Statistical Methods and Health Indices. Tehran: Moalef Publisher.
- Wood GT, Haber J. Nursing Research: Method, Critical Appraisal Utilization. Mosby.
- Deniz F, Polit B. Nursing Research.

Student assessment method:

Theory:

- Written test or interactive computer test, mid-term and end-of-term
- Critique and review of 2 research studies

Practical / practicum:

- Project-report-based assessment (written presentation of a research proposal)

Course 03: Nursing Ethics and Professional Relationships in Emergency Nursing

Course code: 03

Prerequisite or co-requisite: None

Number of units: 1.5 units (1 theory unit – 0.5 practical unit)

Type of unit: Theoretical–practical

General objective of the course

Students become familiar with the basic concepts and principles of professional ethics and acquire the ability needed to deliver the clinical services required, based on the principles of professional ethics and ethical decision-making in the field of health, particularly in the emergency department, where challenging, complex and sometimes dilemma-like legal and ethical issues arise. Familiarity with the complex issues of applied ethics and with the rights and regulations enacted and approved in the field of emergency and nursing in the emergency department, and with the ethical–legal challenges related to the emergency department, are among the aims of this course.

Course description

This course provides the theoretical foundations and the skills needed for ethical measures in nursing care and for establishing professional relationships based on human values. In this course learners become familiar with how to support patients' and clients' rights and their families, and learn the foundations and ways of developing ethical practice in nursing. In addition, the ethical theories of nursing and the ethical dimensions of nursing actions and interactions are examined. In this course learners analyze and practice nursing work that is sensitive to ethical issues, and ethical decision-making, in order to strengthen their professional ethical competencies.

Syllabus: (17 theory hours – 17 practical hours)

A – Theory: 1 unit (17 hours)

- Concepts and foundations of medical ethics, bioethics and applied ethics.
- The role of spirituality and religion in patient care.
- Foundations and concepts of nursing ethics: ethical valuing in nursing, professional values, ethical conflicts in care, moral agency, moral authority.
- Relational ethics in nursing: elements of relational ethics, interpersonal communication, misbehavior and violence, incivility.
- Ethical performance in nursing: professional commitment (professionalism), codes, guidelines and professional standards, ethical decision-making and reasoning in nursing.
- Foundations and principles of professional ethics for specialists in the field of medicine and emergency nursing.
- Ethical issues and challenges in the emergency department.
- Ethical challenges in the emergency department.
- Legal and ethical issues and challenges in the field of emergency (e.g., fault, negligence and the like).
- Ethics, rights and law in education and research in the field of emergency nursing.

B – Practical: 0.5 unit (17 hours)

- Small-group discussion with Patient Management Problem (PMP) scenarios.
- Responding to case scenarios in virtual classroom systems or university systems.
- Text reading and group discussion of professional ethics documents in the field of emergency nursing.

Course resources (latest edition):

- Larijani B. Physician and Ethical Considerations, Volumes 1 and 2. Tehran: Baraye Farda Publications.
- Buka P. Essential Law and Ethics in Nursing: Patients, Rights and Decision-making. Routledge.
- Butts JB, Rich KL. Nursing Ethics. Jones & Bartlett Learning.
- Jones-Bonofiglio K. Health care ethics through the lens of moral distress. Springer.
- Robinson S, Doody O. Nursing & Healthcare Ethics (E-Book). Elsevier Health Sciences.

Student assessment method:

Theory:

- Essay or multiple-choice written test
- Interactive computer test (answering PMP questions)

Practical / practicum:

- Case-study reports (Short/Long Case Assessment) – this assignment is placed in the portfolio together with the instructor's feedback
- Group / individual project

Course 04: Nursing Theories and Models in Emergency Nursing and Their Application

Course code: 04

Prerequisite or co-requisite: None

Number of units: 2 units (1.5 theory units – 0.5 practicum unit)

Type of unit: Theoretical–practicum

General objective of the course

By the end of this course students should be able to explain the types of theories and models that are important in emergency nursing and, while becoming familiar with the necessity of applying them in the various areas of emergency nursing, describe the principles, conditions and method of applying nursing theories and models.

Course description

The growth of the nursing profession arises from a scientific approach and from the generation of knowledge and theories based on empirical knowledge. Theories and models are in fact the same specialized knowledge, particularly nursing knowledge, that guides and facilitates how knowledge and care and treatment skills are applied. In this course, students become familiar with theoretical concepts and models and apply them in providing their nursing services.

Syllabus: (26 theory hours – 26 practicum hours)

A – Theory: 1.5 units (26 hours)

- Concepts related to theory and model.
- Definitions and main characteristics of a theory, and types of theory and model.
- Review of the history of theories and models in nursing.
- Generalities of the critique and review of nursing theories and models.
- Application of the nursing process in providing interventions based on nursing diagnoses.
- Nursing theorists and presenters of models, including: Florence Nightingale, Roy, Orem, Johnson, Watson, Rogers, Peplau, Roper–Logan, Erickson, King, Neuman, Orlando, Pender, Henderson, Mercer, Parse and Kolcaba, with emphasis on the use of indigenous nursing models of empowerment that have cultural affinity.
- Principles, conditions and method of applying nursing theories and models, with emphasis on models proposed domestically in emergency nursing.

B – Practicum: 0.5 unit (26 hours)

Services: Design and piloting of a clinical care program for clients within the framework of one of the theories, or participation in one of the models of service delivery.

Field: all areas of emergency nursing service delivery.

Course resources (latest edition):

- Reputable books and journals related to nursing theories and models, in line with current knowledge published by reputable universities and scientific centers of the world.
- Alligood MR, Tomey AM. Nursing Theory Utilization & Application. Mosby, Elsevier.
- Johnson BM, Webber PB. An Introduction to Theory and Reasoning in Nursing. Lippincott Williams & Wilkins.

Student assessment method:

Theory:

- Continuous and end-of-course written tests
- Written tests
- Oral tests
- Presentation of a nursing theory and its critique

Practical / practicum:

- Group / individual project carried out in the practicum
- Learning Log / Field Note written from the experiences of implementing or participating in a model
- Formative assessment during implementation of the program, based on anecdotal records
- Portfolio assessment

Course 05: Principles of Management and Leadership in the Emergency Department

Course code: 05

Prerequisite or co-requisite: 04 (Nursing theories and models in the emergency department and their application)

Number of units: 2 units (1.5 theory units – 0.5 practicum unit)

Type of unit: Theoretical–practicum

General objective

Familiarizing students with the evolutionary course of management and leadership theories and with modern theories, the principles and foundations of management and leadership, and their application in the emergency department.

Course description

Management and leadership are among the roles that nurses hold in the various areas of service and at different levels. Therefore, familiarity of emergency nurses with the principles and foundations of management and leadership for achieving organizational goals, monitoring and improving the quality of nursing care, and productivity is of particular importance. This course prepares students to perform the management and leadership role in emergency departments.

Syllabus: (26 theory hours – 26 practicum hours)

A – Theory: 1.5 units (26 hours)

- Definition of management and leadership, principles, duties of management, the process and components of nursing service management in the emergency department.
- Introduction to national and international professional and guild organizations and associations of emergency nursing.
- Planning, including definitions, concepts, types of plans and planning methods in the emergency department.
- Familiarity with the principles and process of risk management, error management and safety in the emergency department.
- Familiarity with the principles and foundations of organizing, human resource management and development in the emergency department.
- Principles and standards of establishing hospital emergency departments.
- Guidance and leadership, including leadership theories, leadership styles, motivation, emotional intelligence and change.
- Principles and foundations of effective communication, conflict management and negotiation techniques in the emergency department.
- Familiarity with the principles and foundations of evaluation and continuous quality improvement of care in the emergency department.

B – Practicum: 0.5 unit (26 hours)

Students apply the theoretical foundations of the course, in relation to its objectives on emergency department management, practically in hospital emergency environments, under the guidance of the relevant course instructor.

Course resources (latest edition):

- Kayden S, et al., eds. Emergency Department Leadership and Management. Cambridge University Press.
- Solheim J. Emergency Nursing: The Profession, the Pathway, the Practice. Sigma Theta Tau.
- Huber DL. Leadership and Nursing Care Management. Saunders Elsevier.
- Gerber BJ. Disaster management in the United States: Examining key political and policy challenges. Policy Studies Journal.
- Marquis BL, Huston CJ. Leadership roles and management functions in nursing: Theory and application. Lippincott Williams & Wilkins.

- Roussel L, Harris J, Thomas P. Management and leadership for nurse administrators. Jones & Bartlett Learning.
- Swansburg RC, Swansburg RJ. Introduction to management and leadership for nurse managers. Jones & Bartlett Learning.
- Tomey AM. Guide to Nursing Management and Leadership. St. Louis, MO: Mosby.
- Weiss SA, Tappen RM, Grimley K. Essentials of Nursing Leadership and Management. Philadelphia: F.A. Davis Company.
- Yoder-Wise PS. Leading and managing in nursing. Elsevier Health Sciences.

Student assessment method:

Theory:

- Active and regular attendance in class
- Written tests
- Oral tests
- Computer interactive tests
- Individual and group assignments and projects

Practical / practicum:

- 360-degree / multisource assessment
- Portfolio assessment

Course 06: Patient and Family Education Methods in the Emergency Department

Course code: 06

Prerequisite or co-requisite: None

Number of units: 1 unit (0.5 theory unit – 0.5 practical unit)

Type of unit: Theoretical–practical

General objective of the course

The aim of this course is for students to master the knowledge and acquire the teaching and educational-planning skills needed to design an educational program and to teach and evaluate how to implement education, in order to raise awareness and change the behavior of patients, families and staff.

Course description

In this course, teaching methods and learning principles and the factors influencing each of them are presented and discussed, and each student prepares one educational session for a group of emergency staff and one for patients and their companions, according to a specified pattern, and in addition to written submission, carries it out in practice and evaluates it.

Syllabus: (9 theory hours – 17 practical hours)

A – Theory: 0.5 unit (9 hours)

- Learning (definitions, theories, general principles, process, and factors influencing learning and teaching (education)).
- Educational planning, educational objectives, strategies and materials.
- Virtual and distance education (Telemedicine / Telenursing).
- Types of learning, mental skills and strategies.
- Introduction to new teaching patterns and methods (in-person and virtual) in the medical sciences.
- Educational assessment (concepts, principles, types, tests and their application).
- Performance evaluation.

B – Practical: 0.5 unit (17 hours)

- Needs assessment, design, planning and educational evaluation of a patient, family and staff education program.
- Selection and use of real and virtual media in teaching.
- Familiarity with educational software (such as CAMTASIA, SCORM, etc.) and patient education software.
- Evaluation of patient education software.

Course resources (latest edition):

- Bastable SB. Nurse as Educator: Principles of Teaching and Learning Practice. Boston: Jones & Bartlett Publishers.
- Billings DM, Halstead JA. Teaching in Nursing: A Guide for Faculty. Saunders, Elsevier.
- Devinney BK. Patient education in the emergency department. Gardner-Webb University.
- Fenrich P. Practical principles of instructional design, media selection, and interface design with a focus on computer-based training/educational software. Informing Science.
- Moonen J, Plomp T. EURIT 86: Developments in Educational Software and Courseware: Proceedings of the First European Conference on Education and Information Technology. Elsevier.
- Monroe P. A Cyclopedia of Education. Macmillan.
- Murray T, Blessing S, Ainsworth S. Authoring tools for advanced technology learning environments: Toward cost-effective adaptive, interactive and intelligent educational software. Springer Science & Business Media.
- Pollard A, Collins J, Maddock M, Sinco N. Reflective Teaching. London: Continuum.

Student assessment method:

Theory:

- Essay or multi-stage / final multiple-choice written test
- Interactive computer test
- Journal club reports or classroom presentation
- Analytical / review articles

Practical / practicum:

- Self-assessment
- Peer assessment
- Tutor / trainer reports
- Documents related to seminars, conferences and specialized congresses
- Portfolio assessment

Course 07: Emergency Pharmacology

Course code: 07

Prerequisite or co-requisite: None

Number of units: 2 units (1.5 theory units – 0.5 practical unit)

Type of unit: Theoretical–practical

General objective of the course

The aim of this course is to familiarize students with the types of drugs used in in-hospital and prehospital emergency situations.

Course description

In this course the student learns the effects, function, complications, drug interactions, dosage, route of administration, method of storage and preparation of emergency drugs, as well as nursing care and patient and family education regarding emergency drugs.

Syllabus: (26 theory hours – 17 practical hours)

A – Theory: 1.5 units (26 hours)

- An introduction to the pharmacodynamics and pharmacokinetics of drugs used in emergencies.
- Familiarity with cardiac and vascular drugs used in emergencies (including thrombolytics, antiarrhythmics, anticoagulants, drugs affecting vessels, blood-pressure-controlling drugs, etc.).
- Familiarity with drugs affecting the respiratory system in emergency conditions (including antihistamines, bronchodilators, corticosteroids, etc.).
- Familiarity with drugs used in neurological and psychiatric emergencies (including anticonvulsants, antipsychotics, analgesics, anxiolytics, sedatives, muscle relaxants, etc.).
- Familiarity with other common drugs used in emergency departments (including antiemetics, antispasmodics, types of serums and volume-expanding fluids, electrolytes, antidotes, and drugs used in poisonings).
- Familiarity with storage, nursing care and educational points when using emergency drugs, and with the side effects of drugs used in emergencies.

B – Practical: 0.5 unit (17 hours)

Attendance in the emergency department and evaluation of the reasons for prescription, side effects, drug interactions, nursing care points in drug use, patient response, drug calculations, storage and preparation of the drugs used in emergencies, and working with the equipment used to prepare and prescribe emergency drugs.

Course resources (latest edition):

- Adams M, Urban CQ, Holland N. Pharmacology for Nurses: A Pathophysiologic Approach. Pearson.
- Brown MJ, Sharma P, Mir FA, Bennett PN. Clinical Pharmacology. Elsevier.
- Simonsen T, Aarbakke J, Kay I, et al. Illustrated Pharmacology for Nurses. Oxford University Press.

Student assessment method:

Theory:

- Written tests
- Oral tests
- Computer interactive examination

Practical / practicum:

- Mini-Clinical Evaluation Exercise (Mini-CEX)
- Direct Observation of Procedural Skills (DOPS)

Course 08: Emergency Nursing Care 1

Course code: 08

Prerequisite or co-requisite: 04 (Nursing theories and models and their application), 07 (Emergency pharmacology)

Number of units: 3.5 units (1.5 theory units – 2 practicum units)

Type of unit: Theoretical–practicum

General objective of the course

Familiarizing students with the basic concepts, the structure and the characteristics of activities at the different levels of providing emergency care services, from the prehospital stage to the emergency department.

Course description

In this course students become familiar with basic and fundamental concepts such as the structure of the emergency department and the specific characteristics of activities in prehospital emergency and in emergency departments, the number of personnel needed and their characteristics, and the assessment, monitoring and transfer of the patient. It is hoped that the student will gain a clinical perspective on emergency care and understand the difference between emergency and non-emergency care.

Syllabus: (26 theory hours – 102 practicum hours)

A – Theory: 1.5 units (26 hours)

- Definitions and stages of prehospital and hospital emergency and of the emergency department (trauma kinetics, primary assessment and secondary examination, nursing care at the scene of the incident, relocation and transfer of clients to emergency departments, the admission process, and hemodynamic and paraclinical monitoring).
- Minimum requirements of prehospital emergency and emergency departments and their characteristics (equipment and types of ambulances, personnel, drugs, physical space).
- Familiarity with several specialties working in the emergency department and establishing professional communication with them (dispatch and registration systems such as Asayar, etc.).
- Legal and medical considerations in the performance of the emergency nurse.
- Application of research evidence and approved clinical guidelines for clients with poisoning, burns, bleeding and shock, insect stings, bites by snakes and animals, heat stroke and cold injury, electrical injury, drowning, vascular events, pain, and suicide.
- Triage and its types: Emergency, SAVE, SALT, CHILDREN, Reverse, Military, VIP, START (Severity Index).
- How to document and report emergency cases.
- Application of electronic health technologies.
- Application of artificial intelligence systems in emergency nursing.

B – Practicum: 2 units (102 hours)

According to the objectives of the course, students attend prehospital emergency and emergency wards to provide nursing services; they analyze the structure, barriers and stages of prehospital emergency and the emergency department, and, using research evidence at the patient's bedside and applying the interdisciplinary process, participate in various decisions.

Field: prehospital emergencies and emergency wards.

Course resources (latest edition):

- American Academy of Orthopaedic Surgeons (AAOS) & American College of Emergency Physicians (ACEP), UMBC. Critical Care Transport. Jones & Bartlett Learning.
- Curtis K, Ramsden C, Shaban RZ, Fry M, Considine J. Emergency and Trauma Care for Nurses and Paramedics (eBook). Elsevier Health Sciences.
- Emergency Nurses Association. Sheehy's Emergency Nursing (E-Book): Principles and Practice. Elsevier Health Sciences.

- Fenske C, D'Amico D, Watkins K, Saunders T, Barbarito C. Health and Physical Assessment in Nursing. Pearson Education, Incorporated.
- McQuillan KA, Makic MBF. Trauma Nursing: From Resuscitation Through Rehabilitation. Saunders.
- National Association of Emergency Medical Technicians (NAEMT). AMLS: Advanced Medical Life Support: An Assessment-Based Approach. Jones & Bartlett Learning.
- National Association of Emergency Medical Technicians (NAEMT). PHTLS: Prehospital Trauma Life Support. Jones & Bartlett Learning.
- Rebar CR, Heimgartner N. Emergency Nursing Made Incredibly Easy. Lippincott Williams & Wilkins.
- Sayre Visser L, Sivo Montejano A. Fast Facts for the Triage Nurse: An Orientation and Care Guide. Springer Publishing Company.
- Tener G, Ready R. Handbook for Disaster Nursing and Emergency Preparedness for Chemical, Biological, and Radiological Terrorism, and Other Hazards. St. Louis, MO: Springer Publishing Company.

Student assessment method:

Theory:

- Written tests
- Oral examination / viva results
- Key Feature Test and PMP
- Study of texts / analytical articles
- Documents related to seminars, conferences and specialized congresses

Practical / practicum:

- Assessment of the student at the bedside and review of the items to be considered in the portfolio, including: Direct Observation of Procedural Skills (DOPS); Mini-CEX; 360-degree / multisource assessment; Clinical Work Sampling; journal club reports and rounds; logbooks; short case assessment; documents related to workshops or short professional courses

Course 09: Emergency Nursing Care 2

Course code: 09

Prerequisite or co-requisite: 08 (Emergency nursing care 1)

Number of units: 3.5 units (1.5 theory units – 2 practicum units)

Type of unit: Theoretical–practicum

General objective of the course

Providing opportunities and learning in order to become familiar with the principles of emergency care in patients with disorders of the gastrointestinal, neurological, endocrine and urogenital systems.

Course description

This course explains diseases of the gastrointestinal, nervous, endocrine and urogenital systems, and describes the measures needed to manage emergency patients with diagnoses and disorders of the gastrointestinal, neurological and endocrine systems. Nurses will learn the changes in the gastrointestinal, neurological, endocrine and urogenital status of patients in the emergency department, and how to manage emergency patients in the conditions mentioned.

Syllabus: (26 theory hours – 102 practicum hours)

A – Theory: 1.5 units (26 hours)

1. Gastrointestinal system

- Review of the anatomy and physiology of the gastrointestinal system
- Nursing assessment of the gastrointestinal system
- Common nursing diagnoses in the gastrointestinal system
- Acute abdomen
- Acute pancreatitis
- Gastrointestinal bleeding
- Liver failure and hepatic encephalopathy
- Types of abdominal trauma
- Acute abdominal compartment syndrome
- Hepatitis
- Epigastric pain, biliary perforation, gastrointestinal bleeding, cholecystitis, esophageal varices, diverticulitis, intestinal obstruction, gastroenteritis, inflammatory bowel diseases, pilonidal abscess, rectal bleeding

2. Nervous system

- Review of the anatomy and physiology of the nervous system
- Nursing assessment of the nervous system
- Common nursing diagnoses in the nervous system
- Cerebral perfusion and its disorders
- Decreased level of consciousness
- Fluid and electrolyte imbalance and its central causes
- Head trauma
- Increased intracranial pressure
- Cerebrovascular accidents
- Intracranial hemorrhage
- Seizures and convulsions
- Spinal cord injuries
- Psychiatric emergencies, their recognition and treatment
- Initial nursing interventions, neurological monitoring, skull fracture, head trauma, meningitis, encephalitis

3. Endocrine and metabolic system

- Review of the anatomy and physiology of the glandular system
- Nursing assessment of the endocrine glands
- Common nursing diagnoses of the endocrine glands
- Hyperthyroidism and hypothyroidism
- Hyperparathyroidism and hypoparathyroidism
- Diabetes and its emergencies
- Diabetic ketoacidosis and hyperosmolar coma
- Hypoglycemia and hyperglycemia, acid–base disorders, hypokalemia and hyperkalemia, hyponatremia and hypernatremia, adrenal crises (hypoadrenal crisis), thyrotoxic crisis, myxedema coma (hypothyroid coma), heat illness, hypothermia, drowning, diving emergencies, altitude-related diseases

4. Urinary and reproductive system

- General review of the urinary and reproductive system
- Nursing assessment
- Common nursing diagnoses in renal patients
- Acute and chronic renal failure
- Renal traumas
- Electrolyte disorders
- Renal replacement therapies
- Emergency interventions and surgeries of the kidney
- Renal colic, urinary tract infections and cystitis
- Upper urinary tract infections and pyelonephritis
- Acute urinary retention
- Trauma to the urinary and reproductive system
- Priapism
- Testicular torsion
- Epididymo-orchitis
- Urinary and genital abscesses
- Candidiasis
- Vulvovaginitis
- Sexually transmitted infections
- Emergency contraception
- Post-exposure prophylaxis

B – Practicum: 2 units (102 hours)

According to the objectives of the course, students attend emergency wards and care for patients with respiratory, endocrine and neurological disorders. They will apply what they have learned, using the nursing process, at the bedside of patients; at the end of each practicum day they will present the challenges they encountered, solve them using available resources and research evidence, and report them the next day to the other students and ward staff.

Fields: emergency wards, and internal and surgical wards.

Course resources (latest edition):

- Blabber A. Emergency Nursing Made Incredibly Easy. Lippincott Williams & Wilkins.
- Crouch R, et al. Handbook of Emergency Nursing. Oxford University Press.
- McQuillan KA, Makic MBF. Trauma Nursing: From Resuscitation Through Rehabilitation. Saunders.
- Powers R, Daily E. International Disaster Nursing.
- Tener G, Ready R. Handbook for Disaster Nursing and Emergency Preparedness. St. Louis, MO: Mosby, Elsevier.

Student assessment method:

Theory assessment:

- Written tests
- Oral tests
- Computer interactive examination

Practicum assessment:

- Objective Structured Clinical Examination (OSCE)
- Setting short-term and long-term goals in the nursing care plan for emergency patients, with preparation of an emergency patient care program
- Logbook assessment
- Direct Observation of Procedural Skills (DOPS)
- Mini-CEX
- Portfolio assessment
- Articles, rewards and reminders, certificates of work done, and the like

Course 10: Emergency Nursing Care 3

Course code: 10

Prerequisite or co-requisite: 09 (Emergency nursing care 2)

Number of units: 3.5 units (1.5 theory units – 2 practicum units) [printed as "2 units" in the original course sheet; the breakdown shown and Table B give 3.5]

Type of unit: Theoretical–practicum

General objective of the course

Providing learning opportunities in order to become familiar with the principles of emergency nursing care in respiratory and cardiac patients, trauma, and poisoning.

Course description

This course describes the nursing measures and care and the management of patients with respiratory, cardiac, trauma and poisoning disorders. Nurses will acquire the ability to monitor the respiratory, cardiac and hemodynamic status of patients who need emergency nursing care, and will learn and apply the related nursing process.

Syllabus: (26 theory hours – 102 practicum hours)

A – Theory: 1.5 units (26 hours)

1) Respiratory system

- Review of the advanced anatomy and physiology of the respiratory system
- Nursing assessments in respiratory patients with special care needs in emergency conditions, and common nursing diagnoses
- Adult acute respiratory distress syndrome
- Epistaxis
- Laryngitis
- Laryngospasm and bronchospasm
- Asthma
- Community-acquired pneumonia
- Influenza and emerging respiratory infections; influenza and coronaviruses
- Chronic obstructive pulmonary disease
- Pneumothorax
- Pleural effusion
- Hemoptysis
- Nursing care in respiratory emergencies

2) Heart and vascular system

- Review of the advanced anatomy and physiology of the heart and vessels
- Nursing assessment in cardiac patients, with particular attention to emergency conditions and common nursing diagnoses
- Nursing care in cardiac and vascular emergencies
- Chest pain
- Acute coronary syndrome (ACS)
- Cardiac conduction and rhythm disorders
- Pulmonary embolism
- Pericarditis and tamponade
- Emergencies of the heart valves
- Peripheral vascular disease
- Blood pressure
- Aortic dissection

- Aneurysms

3) Emergency care in trauma

- General aspects of injuries
- Nursing assessment in trauma patients
- Neurological trauma
- Spinal column trauma
- Head and face trauma
- Chest trauma
- Abdominal trauma
- Limb trauma
- Trauma in pregnancy

4) Disorders of the musculoskeletal system

- Injuries of the shoulder, arm, hand, hip, thigh, leg and foot
- Compartment syndrome
- Rhabdomyolysis
- Osteomyelitis
- Rheumatology
- Arthritis (monoarthritis and polyarthritis)

5) Poisonings

- Carbon monoxide
- Opioids
- Organophosphates
- Amphetamine and its derivatives
- Drugs
- Airway management
- Vascular access (arterial and venous) in emergency patients who need emergency nursing care
- Invasive and non-invasive mechanical ventilation
- Oxygen therapy
- Hemodynamic monitoring
- Shock
- Sepsis and septic shock
- Arterial blood gases
- Acid–base disorders
- Electrolyte imbalance
- Cerebral resuscitation after cardiopulmonary resuscitation
- Brain death

C – Practicum: 2 units (102 hours)

- Assessment and recognition of clients in need of emergency nursing care.
- Providing nursing diagnoses in patients with respiratory and cardiac disorders and in patients with trauma and poisoning who need special care.
- Developing and implementing a nursing care plan for emergency patients with respiratory and cardiac disorders and for trauma and poisoning patients who need special care.

Fields: emergency wards, medical–surgical wards, and special care wards.

Course resources (latest edition):

- Adams JG. Emergency Medicine E-book: Clinical Essentials (Expert Consult – Online). Elsevier Health Sciences.
- Alspach JG. Core Curriculum for Critical Care Nursing (e-book). Elsevier Health Sciences.

- Asensio JA, Trunkey DD. Current Therapy of Trauma and Surgical Critical Care (E-Book). Elsevier Health Sciences.
- Brent J, Burkhart K, Dargan P, Hatten B, Megarbane B, Palmer R, White J. Critical Care Toxicology: Diagnosis and Management of the Critically Poisoned Patient. Springer.
- Broughton W, Gowens P. Prehospital Trauma Life Support. Jones & Bartlett Learning.
- Cheng A, Magid DJ, Auerbach M, Bhanji F, Bigham BL, Blewer AL, … Leary M. Part 6: Resuscitation education science: American Heart Association guidelines for cardiopulmonary resuscitation and emergency cardiovascular care. Circulation, 142(16_Suppl_2), S551–S579.
- Croskerry P, Cosby KS, Schenkel SM, Wears R. Patient Safety in Emergency Medicine. Wolters Kluwer Health/Lippincott Williams & Wilkins, Philadelphia, PA.
- Devinney BK. Patient education in the emergency department. Gardner-Webb University.
- Elliott D, Aitken L, Chaboyer W, Marshall A. ACCCN's Critical Care Nursing. Elsevier Australia.
- Legome E, Shockley LW. Trauma: A Comprehensive Emergency Medicine Approach. Cambridge University Press.
- Levy M. Biomarkers in Critical Care, An Issue of Critical Care Clinics (E-Book) (Vol. 36). Elsevier Health Sciences.
- Markovchick VJ. Emergency Medicine Secrets (E-Book). Elsevier Health Sciences.
- Marini JJ, Murali S. Mechanical Ventilation/Ventricular Assist Devices, An Issue of Critical Care Clinics (E-Book) (Vol. 34). Elsevier Health Sciences.
- Parrillo JE, Dellinger RP. Critical Care Medicine (e-book): Principles of Diagnosis and Management in the Adult. Elsevier Health Sciences.
- Proehl JA. Emergency Nursing Procedures (E-Book). Elsevier Health Sciences.
- Schumacher L, Chernecky CC. Saunders Nursing Survival Guide: Critical Care & Emergency Nursing (E-Book). Elsevier Health Sciences.
- Sole ML, Klein DG, Moseley MJ. Introduction to Critical Care Nursing (E-Book). Elsevier Health Sciences.
- Vincent J-L, Abraham E, Kochanek P, Moore FA, Fink MP. Textbook of Critical Care (E-Book). Elsevier Health Sciences.
- Walls RM, Murphy MF. Manual of Emergency Airway Management. Lippincott Williams & Wilkins.

Student assessment method:

Theory assessment:

- Formative and final
- Written tests
- Oral tests
- Computer interactive examination

Practicum assessment:

- Objective Structured Clinical Examination (OSCE)
- Setting short-term and long-term goals in the nursing care plan for emergency patients, with preparation of an emergency patient care program
- Logbook assessment
- Direct Observation of Procedural Skills (DOPS)
- Mini-CEX
- Portfolio assessment
- Articles, rewards and reminders, certificates of work done, and the like

Course 11: Provision of Health Services in Emergencies, Incidents and Disasters

Course code: 11

Prerequisite or co-requisite: None

Number of units: 1 unit (0.5 theory unit – 0.5 practical unit)

Type of unit: Theoretical–practical

General objective of the course

Familiarizing students with the principles of safe upgrading and the preparedness of personnel and health–treatment centers for providing health services to people injured by disasters and emergencies.

Course description

In this course nursing students, by having explained the measures related to the principles of disaster risk management in health and treatment centers and the roles and responsibilities in the various phases of the disaster cycle, become familiar with the stages and principles of injury reduction, the safe upgrading and preparedness of health–treatment centers, and the duties and competencies required of nurses in order to respond to and provide relief for casualties of emergencies and disasters.

Syllabus: (9 theory hours – 17 practical hours)

A – Theory: 0.5 unit (9 hours)

- Principles and foundations of incident and disaster management.
- Nursing in incidents and disasters.
- Prepared and safe hospitals in disasters.
- Principles of planning and of hospital response to disasters.
- Upgrading the capacity of hospitals in emergencies and disasters.
- Establishing the Hospital Incident Command System (HICS).
- Emergency Operations Center (EOC or HCC): roles and function.
- Evacuation of the hospital in emergencies and disasters.
- Design, implementation and evaluation of exercises (drills) in incidents and disasters.
- Management of mass casualties in incidents and disasters.
- Hospital Safety Index (HSI).

B – Practical: 0.5 unit (17 hours)

According to the objectives of the course, in relation to the provision of health services in emergencies and disasters, students take action by visiting operational centers and the centers coordinating at the hospital, university and provincial levels, and become familiar with the duties and functions of these centers. In addition, to develop a risk assessment program in the hospital disaster risk reduction committee, they participate, under the guidance of the instructor, in simulated hospital disasters and conditions (workshops, tabletop exercises, etc.) and in the practical application of artificial intelligence.

Course resources (latest edition):

- Koenig and Schultz's Disaster Medicine: Comprehensive Principles and Practices. Cambridge University Press.
- Powers R, Daily E. International Disaster Nursing. Cambridge University Press.
- Bonito S, Minami H. The Role of Nurses in Disaster Management in Asia Pacific. Springer Publishing Company.
- Veenema TG. Disaster Nursing and Emergency Preparedness for Chemical, Biological and Radiological Terrorism and Other Hazards. Springer Publishing Company.

Student assessment method:

Theory:

- Periodic and final evaluations

- Conference presentation by the student
- Submission of assignments

Practical / practicum:

- Logbook assessment
- Participation in providing services in incidents with mass casualties (natural, man-made and technological)
- Presence in the emergency department and active participation in admitting casualties from the EMS system
- Submission of a report of visits and of the functions of the hospital disaster risk reduction committee
- Submission of a report of visits to, and the roles and functions of, the university Emergency Operations Center (EOC)
- Submission of a report of visits to the city or provincial crisis management center

Course 12: Emergency Nursing Clinical Internship

Course code: 12

Prerequisite or co-requisite: None

Number of units: 6 internship units (408 hours)

Type of unit: Internship

General objective of the course

The general aim of the internship is to develop specialized clinical services and primary care based on emergency nursing evidence, using a service-based learning approach, at the specialized clinical level; to create continuity of emergency nursing services in treatment centers and in related departments; and to practice the skills acquired in the different areas of care for patients of different age groups in emergency situations, which is the overall aim of this course.

The student may spend each unit of the internship, in coordination with the manager of the relevant group and according to available capacities, as follows:

- Hospital emergency department
- Special care units (CCU, ICU and dialysis)
- Emergency headquarters ward (dispatch unit)
- Air and road emergency bases

Students' attendance in all wards takes place under the direct or indirect supervision of the relevant instructor and/or nursing doctoral students. Assignments in each unit are based on the needs and requirements for developing services and are service-delivery based. In each internship unit, ethical, legal and professional performance guidelines appropriate to the service setting must be compiled and made available to students.

Student assessment method:

- Oral tests
- 360-degree feedback
- Portfolio assessment
- Anecdotal evaluation
- Direct Observation of Procedural Skills (DOPS)
- Project-based assessment

Course 13: Thesis

Course code: 13

Prerequisite or co-requisite: –

Number of units: 4 units

Type of unit: –

Syllabus

Carried out in accordance with the provisions of the Master's (Continuous) program bylaw approved by the Higher Council for Medical Sciences Planning.

Course 14: Sociology and Psychology in Emergencies, Incidents and Disasters

Course code: 14

Prerequisite or co-requisite: –

Number of units: 1 unit (0.5 theory unit – 0.5 practicum unit)

Type of unit: Theoretical–practicum

General objective of the course

Creating an attitude toward and knowledge of care in crises and disasters with a psychological and sociological approach, and developing an analytical view that takes into account the socio-cultural factors of care in crises, are among the aims of this course.

Course description

The course deals with topics such as crisis from the social and psychological perspective, the concept of social vulnerability, and the psychological and sociological dimensions of the care of women, children and older adults in crises. Cultural considerations and the role of communication in health care in crises are among the other topics considered in this course.

Syllabus: (9 theory hours – 26 practicum hours)

A – Theory: 0.5 unit (9 hours)

- Definition of crisis, its types, and sociological theories in crisis.
- Social effects of crises, incidents and disasters, and views of social vulnerability.
- Psychological reactions in crises and disasters.
- The role of the nurse and of group care in crises.
- Sociological and psychological dimensions of health care for children, women and older adults in crises and disasters.
- Cultural considerations in providing care in crises and disasters, and the role of communication.
- Psychological First Aid (PFA) interventions in health care in crises.

B – Practicum: 0.5 unit (26 hours)

In this unit, by attending emergency wards, the student, through article reading and text reading of the experiences, challenges and lessons published by health teams and nurses in providing care to different groups in crises and disasters in various countries with diverse cultural backgrounds, becomes familiar with them and, while recognizing them, examines the experiences of health teams and nurses in recent disasters and crises in the country, by inviting specialists or experienced persons in this field, and examines their effects.

Field: all emergency departments for children and adults.

Course resources (latest edition):

- Valid and up-to-date scientific books and articles related to the sociology and psychology of emergencies and disasters.
- Tierney K. Disasters: A Sociological Approach. John Wiley & Sons.
- Veenema TG, editor. Disaster Nursing and Emergency Preparedness. Springer Publishing Company.
- Webber JM, Mascari J. Disaster Mental Health Counseling: A Guide to Preparing and Responding. American Counseling Association Foundation.
- World Health Organization. Psychological First Aid: Guide for Field Workers. World Health Organization.

Student assessment method:

Theory:

- Written or oral tests, periodic or final
- Computer interactive tests
- Patient Management Problems (PMP) test

- Reports and class assignments and journal clubs
- Assessment based on simulation technologies and artificial intelligence

Practical / practicum:

- Reports in the form of a seminar, conference or article
- Student projects (project-based assessment)
- Short/Long Case Assessment or scenario
- Results of assessment on virtual platforms and simulation, and use of artificial intelligence
- Portfolio assessment

Course 15: Pediatric Emergencies

Course code: 15

Prerequisite or co-requisite: –

Number of units: 1 unit (0.5 theory unit – 0.5 practicum unit)

Type of unit: Theoretical–practicum

General objective of the course

Familiarizing students with the most common pediatric emergencies and with the methods of assessment, planning and provision of nursing care to children in the emergency department based on the nursing process.

Course description

In this unit, content is presented regarding the common problems of children referred to the emergency department, and the student will be able to design and implement a care plan for pediatric clients based on the nursing process.

Syllabus: (9 theory hours – 26 practicum hours)

A – Theory: 0.5 unit (9 hours)

- Initial assessment of the child in the emergency department, and initial measures for managing emergency cases in children.
- Basic and advanced pediatric resuscitation from the newborn to the adolescent.
- Airway spasm, asthma, apnea.
- Foreign body aspiration.
- Child maltreatment (maltreatment, abuse, sexual exploitation, suicide and psychosis).
- Poisonings (carbon monoxide poisoning, cold injury, heat stroke, poisoning, bites and electrical injury).
- Trauma, accidents and shock.
- Management of hypoxemia (decreased blood oxygen) in children.
- Fluid therapy management for children in critical condition.
- Management of seizures in children.

B – Practicum: 0.5 unit (26 hours)

In this unit, by attending pediatric emergency wards and special care wards for neonates and children, the student becomes familiar with the services provided and the types of services offered to this age group, and practices in the clinical setting the topics learned in the theory section.

Field: pediatric emergency ward, and special care wards for children and neonates.

Course resources (latest edition):

- Hockenberry MJ, Wilson D, Rodgers CC. Wong's Essentials of Pediatric Nursing. Elsevier Health Sciences.
- Hazinski MF. Nursing Care of the Critically Ill Child (E-Book). Elsevier Health Sciences.
- Thomas DO, Bernardo LM, Herman B. Core Curriculum for Pediatric Emergency Nursing. Jones & Bartlett Learning.
- WHO. Paediatric Emergency Triage, Assessment and Treatment: Care of Critically Ill Children.

Student assessment method:

Theory:

- Written or oral tests, periodic or final
- Computer interactive tests
- Patient Management Problems (PMP) test
- Reports and class assignments and journal clubs
- Assessment based on simulation technologies and artificial intelligence

Practical / practicum:

- Reports in the form of a written report, seminar or conference
- Student projects (project-based assessment)
- Short/Long Case Assessment
- Logbooks
- Results of assessment on virtual platforms and simulation, and use of artificial intelligence
- Portfolio assessment

Course 16: Psychiatric Emergencies

Course code: 16

Prerequisite or co-requisite: –

Number of units: 1 unit (0.5 theory unit – 0.5 practicum unit)

Type of unit: Theoretical–practicum

General objective of the course

Promoting knowledge, critical attitude and professional performance in nursing diagnosis and in providing effective services to clients in psychiatric emergencies is among the aims of this course.

Course description

In this course learners, with the aim of improving the quality of specialized services in the emergency department, become familiar with the knowledge and skill of providing care and support to mentally ill clients, both patient and family, and, with a critical attitude, will gain the ability to care for the types of psychiatric nursing clinical cases in the emergency department, from suicide and substance abuse to victims of assault and the like.

Syllabus: (9 theory hours – 26 practicum hours)

A – Theory: 0.5 unit (9 hours)

- Nursing in the psychiatric emergency: interviewing and initial assessment, documentation and recording, special situations.
- Observations and emergency care of depressed, psychotic, angry and anxious patients and patients with cognitive disorder.
- Risk assessment and intervention in suicide attempt and violence.
- Managing an angry or agitated patient or family member.
- Restraint and control of psychiatric clients in the emergency department.
- The process of managing grief in emergency clients.
- Psychiatric emergencies in children, adolescents and older adults.
- Social emergencies in psychiatry (victims of accidents, running away from home, assault and the like).
- Legal and ethical issues in psychiatric emergencies.
- Environmental interventions and evidence-based interventions in psychiatric emergencies.

B – Practicum: 0.5 unit (26 hours)

Services:

- Presence, observation and supervised participation in service delivery in fields related to psychiatric emergencies, such as psychiatric emergencies and psychiatric wards.
- Presence, observation and supervised participation in service delivery in the offices or centers of the "follow-up nurse" in psychiatric emergencies.
- Visits to social emergency centers.
- In the absence of real beds for some essential educational skills, and provided the necessary facilities exist, part of the practicum hours (up to 20 percent) may be held through virtual platforms and simulation or the use of artificial intelligence.

Fields: poisoning emergencies, psychiatric emergencies and psychiatric wards, social emergency centers, and virtual platforms.

Course resources (latest edition):

- Valid and up-to-date scientific books and articles related to psychiatric emergencies and psychiatric nursing.
- Byatt N, Pinals MD. Legal and Ethical Issues in Emergency Psychiatry. Clinical Manual of Emergency Psychiatry.
- Fortinash KM, Worret PA. Psychiatric Mental Health Nursing (E-book). Elsevier Health Sciences.

- Kaplan HI, Sadock BJ. Psychiatric Emergencies. Synopsis of Psychiatry. Baltimore, MD: Williams & Wilkins.
- Riba MB, Ravindranath D, Winder GS, editors. Clinical Manual of Emergency Psychiatry. American Psychiatric Pub.
- Zeller SL. Treatment of psychiatric patients in emergency settings. Primary Psychiatry.

Student assessment method:

Theory:

- Written or oral tests, periodic or final
- Computer interactive tests
- Patient Management Problems (PMP) test
- Reports and class assignments and journal clubs
- Assessment based on simulation technologies and artificial intelligence

Practical / practicum:

- Reports in the form of a written report, seminar or conference
- Student projects (project-based assessment)
- Short/Long Case Assessment
- Logbooks
- Results of assessment on virtual platforms and simulation, and use of artificial intelligence
- Portfolio assessment

Course 17: Prehospital Life Support in Trauma (PHTM and PHTLS)

Course code: 17

Prerequisite or co-requisite: –

Number of units: 1 unit (0.5 theory unit – 0.5 practicum unit)

Type of unit: Theoretical–practicum

General objective

Familiarizing students with the principles of injury prevention, the mechanism of trauma, scene assessment, assessment and management of patients, airway management and ventilation, shock, and trauma to the head, spine, chest, abdomen and musculoskeletal system.

Course description

In this course master's students of emergency nursing acquire the skills needed in providing treatment services for injuries caused by burns and for trauma in children and older adults, and in providing services in environmental traumas, and become familiar with the duties and competencies required of nurses for responding to and providing relief for casualties of emergencies in prehospital environments.

Syllabus: (9 theory hours – 26 practicum hours)

A – Theory: 1 unit (9 hours)

- Injury prevention
- Familiarity with the kinematics of trauma
- Scene assessment
- Assessment and management of patients at the scene of the incident
- Wound management
- Airway management and ventilation
- Management of patients with shock
- Trauma to the head, spine, chest, abdomen and musculoskeletal system
- Injuries caused by burns
- Trauma in children and older adults
- Environmental traumas

B – Practicum: 0.5 unit (26 hours)

- Article reading and text reading of the published experiences of health teams and nurses in providing care to different groups in crises and disasters.
- Operational review of the scene of accidents and traumas.
- Assessment of clients in different age groups at the scene of accidents and trauma.
- Practicing the skills needed to provide initial care in crises and disasters through scenarios or simulated platforms and with the use of artificial intelligence.

Field: prehospital emergencies and emergency wards.

Course resources (latest edition):

- Pollak AN, Hunt RJ. Advanced Emergency Care and Transportation of the Sick and Injured. Jones & Bartlett Learning, LLC, an Ascend Learning Company, and the American Academy of Orthopaedic Surgeons.
- Advanced Trauma Life Support, Student Course Manual. American College of Surgeons.
- Campbell JE, Alson RL. International Trauma Life Support for Emergency Care Providers. Pearson Education Limited.
- Mistovich JJ, Hafen BQ. Prehospital Emergency Care. Pearson Education, Inc.
- Prehospital Trauma Life Support Committee of the National Association of Emergency Medical Technicians. Prehospital Trauma Life Support. Jones & Bartlett Learning.
- Howard PK, Steinmann RA. Sheehy's Emergency Nursing: Principles and Practice. Elsevier Inc.

- Cydulka RK, Fitch MT. Tintinalli's Emergency Medicine Manual. McGraw-Hill Education.

Student assessment method:

Theory:

- Written or oral tests, periodic or final
- Computer interactive tests
- Patient Management Problems (PMP) test
- Reports and class assignments and journal clubs
- Assessment based on simulation technologies and artificial intelligence

Practical / practicum:

- Reports in the form of a seminar, conference or article
- Student projects (project-based assessment)
- Short/Long Case Assessment or scenario
- Results of assessment on virtual platforms and simulation, and use of artificial intelligence
- Portfolio assessment

Chapter Four: Standards of the Emergency Nursing Educational Program at the Master's (Continuous) Level

Standards of the Educational Program

The following items are the minimum topics that must be reviewed by evaluators in the process of evaluating educational programs:

- It is necessary that the educational group have available the required general educational spaces and facilities, such as: a specialized classroom, a conference hall, a dedicated shelf of books for the group, a general library, a computer center equipped with Internet of sufficient speed and specialized software, and a dedicated website and a free educational archive system.
- It is necessary that the educational group make available to learners the specialized educational spaces required, including laboratories and clinical fields (internship settings), as well as hospital and community fields, based on the content of the educational program.
- It is necessary that the educational department make available to the program the required welfare and cultural spaces, including: a faculty room, a students' room, a self-service restaurant, a prayer room, a dormitory, and sports and cultural facilities.
- It is necessary that educational fields outside the educational department that are used for rotational courses be definitively approved by the group of evaluators.
- It is necessary that the required populations and specialized materials, including: patients, active hospital beds, laboratory samples, food and drug samples, and simulators, according to the needs of the educational program, be available to learners in sufficient number and in a variety acceptable to the evaluators.
- It is necessary that the capital and consumable equipment needed and listed in the program be made available to those implementing the program, and that their quality also be approved by the evaluation group.
- It is necessary that the facilities needed for educational exercises and for conducting relevant research, appropriate to the field being evaluated, be available to faculty members and learners, and that this be approved by the evaluators.
- It is necessary that the educational department being evaluated have the faculty members required based on the items in the educational program and the resolutions of the Council, and that their documents be made available to the evaluation group.
- It is necessary that the educational department have the trained staff required for educating learners of the course, according to what is stated in the educational program.
- It is essential that the educational program (curriculum) be made available to all stakeholders.
- It is necessary that bylaws, instructions, guidelines, laws and educational regulations be made available to all stakeholders, that they be explained to learners at the beginning of the course, and that their documents be made available to the evaluators.
- It is necessary that educational resources, including the books and journals needed by learners and faculty members, be available in the library of the educational group.
- It is necessary that learners be actively present in their workplace during the week for the number of days stated in current regulations, perform their duties under the supervision of professors or senior learners, and that the group's weekly or monthly program be available.
- It is necessary that the content of the theoretical class program conform, in at least 80% of topics, with the table of courses in the educational program.
- It is necessary that learners participate actively, according to the group's organizational program, in all educational and research programs of the group, such as intra-group conferences, seminars, practical work, lower-level research and teaching of lower levels, and that their documents be made available to the evaluators.
- It is necessary that the process of skills training in the course be approved by the relative satisfaction of learners and the approval of the evaluators.
- It is necessary that the dress code regulations be communicated to learners at the start of the course, and that suitable mechanisms for monitoring them, approved by the evaluators, exist in the department.

- It is necessary that learners be aware of the ethical codes stated in the curriculum, act on them, and that their conduct be approved by the evaluators.
- It is necessary that an educational portfolio be formed in the group for all learners, and that the results of evaluations, certificates of educational activities inside and outside the educational group, rewards, reminders and other necessary documents be kept in it.
- It is necessary that learners have an acceptable logbook, conforming to the general and specialized competencies stated in the program being evaluated.
- It is necessary that learners, according to each academic semester, have performed the specialized intervention skills required on the basis of the items stated in the program, have recorded them in their logbooks, and have had them signed by the supervising professors.
- It is necessary that the logbook be completed continuously by learners, monitored and followed up by the relevant professors, and that the necessary written feedback be provided to them.
- It is necessary that learners participate in the scientific research programs of the group during their course, and that their documents be available.
- It is necessary that learners have passed the units outside the educational group according to their academic year (if any), have received a certificate from the person in charge of the relevant field, and have submitted it to the head of the evaluation group.
- It is necessary that cooperation between the main educational group and other interdisciplinary scientific educational groups be foreseen and planned in advance, and that documents indicating this cooperation be available.
- It is necessary that at least 70% of the educational methods and techniques stated in the program be used in teaching.
- It is necessary that learners be evaluated during their course by the methods stated in the program, and that their documents be submitted to the evaluation group.
- It is necessary that the university or educational centers being evaluated have the criteria stated in the educational program.

Chapter Five: Evaluation of the Emergency Nursing Educational Program at the Master's (Continuous) Level

Program Evaluation

Method of formative evaluation of the program

The educational program of the Master of Science in Emergency Nursing is evaluated at the end of the academic year by surveying students, final-year students, professors and managers of educational groups. The program is evaluated systematically and continuously, in cooperation with the Education Development Center of the relevant university. This program is evaluated formatively and summatively, as follows.

Formative evaluation: During every academic year of the course, from all stakeholders, including learners, professors, managers, educational groups and clinical instructors, evaluation is carried out on the following items:

- Satisfaction with the educational content
- Satisfaction with the methods used in teaching
- Satisfaction with the examination methods
- Satisfaction with educational facilities

Summative evaluation: At the end of the educational course, from stakeholders, evaluation is carried out on the following items:

- Satisfaction with the educational content, methods and examinations
- Appropriateness of the knowledge, attitude and performance of learners for the future
- Comparison of the goals acquired by learners with the desired future goals
- Review of the problems and challenges reported regarding the program

Conditions for final evaluation of the program

This program will be evaluated under the following conditions:

- 1 – Passage of 4 years from implementation of the program
- 2 – Major technological changes that necessitate a revision of the program
- 3 – A decision by the main policy makers related to the program

(The following page of the original repeats this list with the conditions numbered 4 to 6: "4 – Passage of at least 5 years from implementation of the program; 5 – Major technological changes that necessitate a revision of the program; 6 – A decision by the main policy makers related to the program.")

Program evaluation indicators

Indicator	Criterion
Degree of satisfaction of learners with the program	85 percent
Degree of satisfaction of faculty members with the program	80 percent
Degree of satisfaction of health system managers with the results of the program	70 percent
Degree to which health needs and problems are met and solved by learners of the field	According to the evaluators' opinion
Quantity and quality of intellectual and research products by learners of the field	According to the evaluators' opinion

Method of program evaluation

- Surveying the faculty members involved in the program, assistants and students with questionnaires prior to revision.
- Use of the questionnaires available in the evaluation and accreditation unit of the Secretariat.

Person responsible for program evaluation

Responsibility for program evaluation lies with the Expansion Council of the universities of medical sciences, in cooperation with the group that compiled or is revising the program, other educational secretariats, and other faculty members.

How the program is revised

The stages of revising this program are, in order, as follows:

- Collecting information obtained from surveys, applied and field research, and the suggestions and views of stakeholders.
- Requesting the Secretariat to form a committee for revising the program.
- Presenting the information collected to the revision committee.
- Revising the sections that need it and submitting the revised draft of the educational program to the Secretariat of the Higher Council for Medical Sciences Planning.