

## Specialized Nursing Postgraduate Diploma, Faculty of Nursing, University of Iceland, Reykjavik, Iceland

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### IFNA Accreditation effective October 2014 – October 2019

Anesthesia education programs holding Level 3: IFNA Accreditation have met eligibility and application requirements for IFNA Accreditation. Recognized programs have also undergone a successful self-study and on-site visit to demonstrate substantial compliance with "IFNA's Educational Standards for Preparing Nurse Anesthetists". Information about the curriculum is current at date of application.

### CURRICULUM

**Qualification awarded:** Diploma Certificate in Nurse Anesthesia, University of Iceland.

#### Courses

#### HJÚ030F Practicum in Nurse Anesthesia

##### Practicum

Clinical training in Diploma program in Nurse Anesthesia is 30 units and is 1700 hours. Clinical methods are thought and trained. Students are hired to the anesthetic departments in special student positions. The clinical training will mostly be in anesthetic departments of the hospitals but also in a simulator. Earlier experience in the field of anesthesia is evaluated in each case. Nurses with 2 years of experience or more in the field of ICU nursing will have to take 1600 hours in practicum

##### Learning Outcomes

- Performing preparation and preoperative evaluation of patients
- Take care of admission of patients in the OR
- Utilizing nursing knowledge and special skills in anesthesia nursing in solution of problems related to anesthesia care
- Position or supervise positioning of patients to assure optimal physiologic function and patient safety
- Prevent perioperative hypothermia
- Initiate and manage fluid and blood therapy within the plan of care
- Fulfill the role of nurse anesthetists in induction, maintenance, monitoring and recovery from general anesthesia, regional anesthesia, sedation and other forms of anesthesia care
- Taking care of airway management using utilizing different techniques, anesthesia equipment, anesthetics and adjunctive and accessory drugs used in general anesthesia, regional anesthesia, sedation and other forms of anesthesia care
- Resuscitation and management of emergencies
- Safety factors in anesthesia care
- Develop critical thinking to anticipate and solve problems, make decisions, and apply basic science knowledge to nurse anesthesia practice.
- Physical and mental assessment

**HJÚ122F Physical and mental assessment**

The purpose of the course is to increase the student's knowledge of and efficiency in assessing mental and physical health. Emphasis will be on assessing abnormality with emphasis on symptoms, causes, consequences as well as issues related to health education, promotion and prevention.

Teaching methods: Lectures, simulation and teaching at the bedside

**HJÚ136F Pharmacology**

A thorough study of the pharmacodynamics and pharmacokinetics of drugs commonly used in anesthesia practice. A concurrent drug therapy and their anesthetic implications will be discussed. The major function of the autonomic nervous system in coordinating and regulating the physiological function of the body will be dealt with and the pharmacology of important therapeutic agents that will affect the function of the autonomic nervous system

**HJÚ217F Safety and management**

This course is intended to view the organizational design according to, standards, safety factors and security patterns of specialized units. Consideration of physical design, traffic patterns, and ergonomics. Emphasis is placed on patient safety. Patients' rights and legal and ethical aspects are analyzed.

**Learning Outcomes**

The knowledge of what influences the patients and the staff safety in the operating departments.

The students will have the knowledge to explore and analyse safety factors and security patterns of specialized units.

The students understand the importance of good safety culture in the working environment.

**HJÚ218F Physics and Chemistry of Anaesthesia**

In this course the physics of gases and fluids will be introduced (the laws of vaporization, pressure and flow). Knowledge in this field is fundamental for further understanding of the function of anesthetic gasses, oxygen and nitrous oxide as well as for the understanding of the function of lungs and vascular system in health and sickness. Furthermore, the physics that vaporizers, gas analyzers, pulse oximeters, invasive pressure measurements etc. are based on will be introduced.

**HJÚ219F Nurse Anesthesia II**

We will continue to discuss the basic principles and practice of anesthesia techniques and their physiological effects on the patient. Specific surgical procedures will be addressed and different methods of anesthesia administration employed to these patient groups. Various patient populations will be stressed as well as the effects of co-existing diseases on the perioperative anesthetic process (pre-operative, intra operative, post-operative). A practice of demonstrating the anesthesia principles and skills in a human patient simulator will be a part of the clinical setting.

**Learning Outcomes**

Describe the technical aspect of the surgical procedures on the surgical schedule (fluid management, invasive monitoring etc.)

Discuss the level of intervention according to the surgical procedure and the patient condition

Ability to interpret quickly preoperative evaluation and preparation of the patient

Integrate the basic principles and practice of nurse anesthesia into the approach when changes occur in a specific patient from the original anesthetic care plan

### **HJÚ320F Nurse Anesthesia III**

The course is a continuation of Anesthesia and Nurse Anesthesia II. A systemic approach will be employed to discuss anesthesia and analgesia to a various types of surgical patients. The characteristics of these populations and the problems that may arise during the operation process will be addressed. We will discuss patients with special health problems and co-existing diseases that may challenge their care.

Teaching method: Lectures, seminars and assignment. A clinical practice in an anesthesia simulator laboratory.

#### **Learning Outcomes**

Define unique characteristics of the different surgical patient populations

Interpret preoperative evaluation from the patient chart and formulate an individual anesthetic care plan

Identify appropriate level of intervention according to the patient's needs and surgical procedure

Use systemic anesthesia approach and problem solving when dealing with a deviation from the original anesthesia care plan in the specific surgical patients

Advanced resuscitation and anesthesia in emergencies and of the critically ill patient

### **HJÚ333F Advanced resuscitation and anesthesia in emergencies and of the critically ill patient**

The goal of this course is to bring knowledge and competence in anesthesia of patients with life threatening problems, emergency anesthesia and resuscitation of adults and children.

The course is based on lectures, work in small groups, skill stations and simulation training.

Topics covered in this course:

Resuscitation of new born, children, adults

Arrhythmias, ECG

Blood gas analysis

Resuscitation in the anesthesia/OR perspective

Nurse anesthesia in hyperbaric chamber

Nurse anesthesia of the critically ill patient incl. Burn victims, multiple trauma neuro/thorax/abdominal/vascular/obstetric emergencies.

Intoxication of local anesthetics, anaphylaxis, Malignant Hyperthermia

Advanced airway management – airway algorithms – the difficult airway

Inline stabilization and airway management in trauma

Evaluation of the trauma patient and utilization of backboards and immobilization of the neck

Treatment with vasoactive drugs

Hemorrhage and transfusions.

Crisis Resource management

Emergencies in the OR because of fire and failure of equipment

This course is provided with the support of Bradaskolinn sf which provides equipment and a number of lectures. The course is based on lectures, skill stations, case training, and simulation

#### **Learning Outcomes**

Knowledge and competence in advanced resuscitation of the new born, pediatrics and adults

Knowledge and competence in utilization of systematic approach in evaluating the critically ill by using the ABCDE method (examination and evaluation during the course)

Competence in reading ECGs and blood gas analysis

Students recognize various types of tachy- arrhythmia and brady- arrhythmia and how to treat those

Competence in anesthesia of critically ill patients in simulator, incl. first therapy of burn patients, anesthesia of patients with multi trauma, head injury, ruptured aneurism and acute cesarean

Competence in recognizing and treating anaphylaxis, MH and intoxication from local anesthetics

Competence in crush induction as well as using difficult airway algorithms and using equipment in advanced airway management incl. Glide scope, Fast-trach and trans-tracheal jet ventilation

Competence in airway management of patients with suspected neck injury using in-line stabilization

Competence in trauma assessment

Competence in using immobilization of the trauma patient with backboards and cervical collars

Understanding of safety issues regarding anesthesia of patients in hyperbaric chamber.

Knowledge and competence in using vasoactive drugs

Student knows and is able to utilize formulas in fluid and blood transfusions, can calculate EBV and allowed bleeding for all ages

Knowledge of different types of shock and the physiological difference between them. Can calculate fluid needs of children and fluid therapy for children in compensated and decompensated shock.

Can utilize equipment and knows how to administer fluids and drugs using the intraosseous route.

### **HJÚ244F Critical care nursing I**

To increase nurses' knowledge and understanding of causes and treatment of acute serious illness. The course will cover acute medical problems related to the cardiovascular, nervous and endocrine systems, lungs and kidneys.

#### **Subjects covered**

Acute coronary syndrome, heart failure, arrhythmia, malignant hypertension, acute aortic diseases, acute respiratory failure, pulmonary embolism, acute kidney failure and acute situations in chronic kidney disease, cerebral haemorrhage/stroke, status epilepticus, endocrinological conditions and electrolyte and fluid imbalance.

Emphasizes will be put on systematic evaluation of the patient condition, diagnosis and treatment, as well as clinical guidelines when applicable.

#### **Learning Outcomes**

The student will be able to demonstrate specialized knowledge in assessing and treating patients with cardiovascular, respiratory, kidney and endocrine problems.

The student will be able to explain clinical importance of diagnostic tests used in assessing and treating patients with acute cardiovascular, respiratory, kidney and endocrine diseases.

The student will know the physiologic effects of acute cardiovascular, respiratory, kidney and endocrine diseases.

The student will be able to participate actively in clinical discussions on clinical methods used in assessing and treating patients with cardiovascular, respiratory, kidney and endocrine problems.

### **HJÚ332F Critical care nursing II**

The aim of this course is to increase nurses' knowledge and understanding of causes and treatment of acute serious illness. The course will cover acute medical problems related to severe infections, significant hemorrhage, gastrointestinal problems and severe trauma.

The following are exemplar of the main subjects covered: Sepsis, meningitis and other CNS infections. Life threatening hemorrhage with and without anticoagulation, multi trauma and acute intraabdominal problems.

**Learning Outcomes**

The student will be able to demonstrate specialized knowledge in assessing and treating patients with acute infectious diseases, haemorrhaging patients, multitrauma and acute abdominal problems

The student will be able to explain clinical importance of diagnostic tests used in assessing and treating patients with acute infectious diseases, haemorrhaging patients, multitrauma and acute abdominal problems

The student will know the physiologic effects of acute acute infectious diseases, haemorrhaging patients, multitrauma and acute abdominal problems

The student will be able to participate actively in clinical discussions on clinical methods used in assessing and treating patients with acute infectious diseases, hemorrhaging patients, multitrauma and acute abdominal problems