

Translation of Regulations on national guidelines for nurse anesthetist education/training

English

§1. Scope and purpose

The regulation applies to universities and university colleges that provide nurse anesthetist education which are accredited in accordance with the Act on universities and university colleges §1-2 and §3-1.

The regulations apply to nurse anesthetist education of 90 and 120 European Credit Transfer System points (ECTS) respectively.

The regulations must ensure a nationally equivalent professional level, so that graduated candidates have a common final qualification, independent of the educational institution.

§ 2. Purpose of the educational program

The educational program is based on a bachelor's degree in nursing or equivalent, Norwegian authorization as a nurse, and must be conducted in-line with the national and international nurse anesthesia standards.

A completed educational program of 120 ECTS leads to a master's degree in nurse anesthesia, and qualifies for work as a nurse anesthetist with operational competence to contribute to development and to research activities, as well as to develop knowledge-based practice within the professional's scope of responsibility. A completed master's degree will provide competence in research, development and quality improvement initiatives within healthcare in general, and within clinical work in patients needing anesthesia in particular.

Students finishing the educational program at 90 ECTS, have completed a post-bachelor education in anesthesia nursing, and qualify to work as a nurse anesthetist, as well as to contribute to the development of knowledge-based practice within their own scope of responsibility.

The educational program should ensure that the quality of nurse anesthesia is provided to patients of all ages as well as at different healthcare service levels both in inpatient and outpatient settings. The educational program emphasizes the practice of nurse anesthesia and anesthesiology activities in and outside the operation department(s), where the nurse anesthetist must be able to independently administer general anesthesia for minor operations on otherwise healthy patients (classified as ASA I and II), and together with an anesthesiologist and/or other professionals for more complex patient cases and major operations.

The educational program should give the candidate competence in pre-anesthetic assessments, planning, facilitation and administration of general anesthesia, regional anesthesia and non-conscious sedation, as well as observation with anesthesia readiness and surveillance. Furthermore, the educational program should provide competence in the care of acute and critically ill patients in the different contexts such as analgesia, prehospital work, transport medicine, newborn-resuscitation, cardiac arrest and trauma teams, in disasters and in emergency situations; and working in an inter-professional team environment.

The educational program should provide theoretical, practical and research-evidence based knowledge within nurse anesthesia in-line with societal requirements. The candidate should become independent through developing competence with situational awareness, observation, assessment and decision-making, as well as skills to handle planned, complex and unpredictable patient situations.

The educational program should lay the foundation for lifelong learning, and motivate the candidate to acquire new competence throughout their working career.

After graduation, the candidate will be able to contribute to the sustainable development of healthcare services in line with both demographical and technological changes. The candidate

should contribute to innovation, change and work improvement and user participation at both an individual and systems level.

The educational program should ensure competence and attitudes that form the basis for equal service to all societal groups, including the Sami's status as indigenous people, and their rights to linguistic and culturally fitted services.

§ 3. Competence areas

The nurse anesthesia education must provide learning outcomes in-line with the requirements in chapter 2 - 8 for education of 120 ECTs, and chapter 2 - 7 for education including 90 ECTs, within the following competence areas:

- Nurse anesthesia as a subject and profession
- Clinical anesthesia practice, observation, assessment, decision-making and implementation skills
- Digital competence and medical equipment
- Professional management and collaboration
- Quality and patient safety
- Scientific theory, research methods and knowledge-based practices
- Research, quality of work and dissemination

Chapter 2

Learning outcomes for the area of expertise in nurse anesthesia as a subject and profession

§ 4 Nurse anesthesia as subject and a profession- knowledge

The candidate

- a. has in-depth knowledge about the nurse anesthetists' professional identity formation, uniqueness, the subject history, tradition and place in society
- b. has in-depth knowledge about the nurse anesthetists' functions and responsibilities, in-line with national and international anesthesia standards
- c. has in-depth knowledge about the health and care service organization, the professions' ethical guidelines, relevant laws and regulations, including requirements for documentation of anesthesia

§ 5 Nurse anesthesia as a subject and a profession- skills

The candidate

- a. can analyze the competence area of the nurse anesthetist and independently applies relevant knowledge within the subject area
- b. can critically analyze and apply own competence and situational awareness to provide care in accordance with laws, regulations, guidelines and frameworks for professional practice
- c. can use relevant tools to document the course of anesthesia and nurse anesthesia
- d. can independently use recognized pedagogical principles to guide and teach

§6 Nurse anesthesia as a subject and a profession- general competence

The candidate

- a. can analyze clinical issues in line with the profession's ethical guidelines
- b. can analyze and critically assess the importance of national and international guidelines for the subject, and place it in a context for a nurse anesthetist's role in healthcare services

- c. can analyze and can take an independent position in ethical dilemmas and disseminate these opinions in professional discussions
- d. can analyze the impact of economical and organizational frameworks to ensure proper patient treatment
- e. can communicate and promote the nurse anesthetist's role and function in professional contexts and in the society at large
- f. can analyze and critically assess the interaction between the subject's historical traditions, society's needs and the development of the healthcare services

Chapter 3

Learning outcomes for the competence area of clinical anesthesia: practice, observation, assessment, decision-making and implementation skills

§ 7. Clinical anesthesia practice, observation, assessment, decision-making and implementation skills - knowledge

The candidate

- a. has advanced knowledge about communication, experiences, reactions and coping strategies with patients and relatives
- b. has in-depth knowledge of health skills, the importance of cultural and language background for understanding illness, patient participation and patient experiences with nurse anesthesia
- c. has advanced knowledge of different patient groups, from the premature child to the complex patient with multiple or compounded disorders
- d. has advanced knowledge with non-technical skills
- e. has advanced knowledge in physiology and pathophysiology that is relevant to the professional practice
- f. has advanced knowledge in anesthesiology
- g. has specialized insight into the pharmacology and medications used in anesthesia, advanced pain and/or palliative treatments
- h. has specialized insight into assessment and protection of the patient's airways and ventilation
- i. has specialized insight into vasoactive treatment(s), fluid treatment and transfusions
- j. has specialized insight into intravascular and intraosseous access
- k. has specialized insight into regional and central blocks
- l. has in-depth knowledge of medical emergency and intensive care conditions
- m. has in-depth knowledge of surgical methods and positioning of the patient under anesthesia
- n. has in-depth knowledge about relevant microbiology, infectious diseases, antibiotic treatment and resistance development both nationally and globally
- o. has in-depth knowledge about infection control and infection prevention measures
- p. has in-depth knowledge about the nurse anesthetist's role in pandemics, preparedness and crisis management in major accidents, terrorism and in war and disaster areas

§ 8. Clinical anesthesia practice, observation, assessment, decision-making and implementation skills- skills

The candidate

- a. can analyze and relate critically to knowledge about communication and coping strategies for attending to patients and relatives
- b. can use relevant methods for pre-anesthetic assessment, preparation and implementation of general anesthesia, regional, local anesthesia and sedation

- c. can use relevant methods in carrying out a systematic clinical examination and independently observe, monitor and assess the patient, as well as implement necessary anesthetic measures in situations where a nurse anesthetist is involved
- d. can use relevant methods to manage the effects and side-effects of anesthetics and relevant additional medications
- e. can analyze and assess the patient's situation to prevent, treat and relieve pain, discomfort and nausea
- f. can identify, analyze and assess the risk(s) for complications, prevent and implement the necessary measures during anesthesia treatment
- g. can analyze and independently assess the patient's consciousness and secure adequate ventilation and circulation during anesthesia
- h. has advanced technical skills in maintaining free airways and ventilation using mask/bag, supraglottic aids and tracheal intubation in children and adults, and using assistive aids/equipment for difficult airways
- i. can use relevant methods to establish intravascular and intraosseous access, including ultrasound-guided access
- j. can analyze, assess and independently take care of the patient's vital functions in acute situations in and outside of the hospital
- k. can apply relevant knowledge and current guidelines to prevent infections and contamination
- l. can use knowledge and skills to handle emergency and intensive care patients during pandemics and other emergency situations during disasters and major accidents

§ 9. Clinical anesthesia practice, observation, assessment, decision-making and implementation skills- general competence

The candidate

- a. can independently administer general anesthesia in otherwise healthy patients, and in collaboration with an anesthesiologist carry out anesthesia to patients with more complex medical conditions, and facilitate in treatment and surgery
- b. can independently administer and maintain regional and local anesthesia as well as sedation, and facilitate in treatment and surgery
- c. can apply knowledge and skills, to assist in pain management and palliation
- d. has developed a situational awareness and an ability to prioritize or reprioritize relevant measures in order to be at the forefront and to anticipate and prevent complications
- e. can apply knowledge and skills to prioritize appropriately in acute situations and act quickly and responsibly, such that the patient's vital functions are maintained or restored
- f. can analyze, assess and handle complex and critical situations in-line with health legislation and professional ethics
- g. can apply relevant methods to ensure proper patient treatment and to adjust communication and collaboration based on the patient's and relative's health competences and linguistic background

Chapter 4

Learning outcomes for the skill area of digital competence and medical equipment

§ 10. Digital competence and medical equipment- knowledge

The candidate

- a. has advanced knowledge about laws and regulations related to the use of medical equipment and digital tools that are relevant to the professional practice

- b. has specialized insight into the function, control, application and maintenance of advanced medical equipment within nurse anesthesia and emergency medicine in order to handle deviations and ensure patient safety

§ 11. Digital competence and medical equipment – skills

The candidate

- a. can use relevant methods to prepare, control and use anesthetic equipment, monitors, relevant medical equipment and digital tools
- b. can analyze, understand and interpret digital parameters against clinical findings
- c. can apply relevant methods to attend to the needs of the patients and relatives in a complex high-technological environment
- d. can use digital skills, contribute in the development of and use of appropriate technology at the individual and system levels

§ 12. Digital competence and medical equipment- general competence

The candidate

- a. can contribute with new thinking and independently assess the need for and use of medical equipment and digital technology to individual patients, as well as understand and deal critically with opportunities and limitations
- b. can contribute to new thinking in the development and utilization of new technology, based on different aspects such as service development, innovation and information security
- c. can contribute to that implementation and utilization of digital tools and medical equipment that are professionally appropriate

Chapter 5

Learning outcomes for the competence area of professional management and collaboration

§ 13. Professional management and collaboration- knowledge

The candidate

- a. has in-depth knowledge of management within own professional area
- b. has in-depth knowledge and understanding about collaboration and communication skills
- c. has in-depth knowledge about the importance of professional and interprofessional collaboration and communication at the individual, group and organizational levels
- d. has in-depth knowledge of the physical and psychosocial work environment, stress reactions and coping strategies, and how the workload(s) may be prevented and/or reduced
- e. has advanced knowledge about the pedagogical principles in education and guidance of colleagues and students

§ 14. Professional management and collaboration - skills

The candidate

- a. can use collaboration and communication skills to ensure optimal patient treatment and patient engagement
- b. can analyze and assess professional and overlapping functions to facilitate collaboration between professionals
- c. can use relevant methods to manage and organize own work
- d. can use pedagogical principles and methods to guide and educate students and colleagues

§ 15. Professional management and collaboration- general competence

The candidate

- a. can analyze and assess own level of competence and consult relevant personnel when needed
- b. can recognize and respect the competence of other team members and colleagues, and actively work with them and their expertise in a team environment both in and outside the regular workplace

Chapter 6

Learning outcomes for quality and patient safety competences

§ 16. Quality and patient safety- knowledge

The candidate

- a. has in-depth knowledge about patient safety theory, quality and improvement methodology, and innovation within nurse anesthesia
- b. has in-depth knowledge about the culture with patient safety and working environment
- c. has in-depth knowledge about the importance of language and culture competence, in order to contribute to increased quality and patient safety, in the practice of nurse anesthesia

§ 17. Quality and patient safety-skills

The candidate

- a. can use relevant patient safety theory and improvement methods in clinical practice to maintain a high quality of nurse anesthesia
- b. can analyze and critically identify with new thinking, development and innovation
- c. can analyze adverse events and contribute to systematic learning from them

§ 18. Quality and patient safety- general competence

The candidate

- a. can contribute to quality work, new thinking and in innovation processes in clinical practice
- b. can contribute to good patient safety culture and a good work environment when collaborating with patients, relatives and colleagues in the event of that an adverse event occurs
- c. can apply and convey professional knowledge, relevant use of patient safety theory and improvement methodologies in order to prevent patient injuries, which supports the professional and ethical standards of nurse anesthesia practice

Chapter 7

Learning outcomes for the competence with scientific theory, research methods and knowledge-based practice

§ 19. Scientific theory, research methods and knowledge-based practice- knowledge

The candidate

- a. has in-depth understanding about scientific theoretical perspectives, research methods, various steps of the research process and research ethics related to anesthetic nursing
- b. has in-depth understanding about knowledge-based practice and quality work within nurse anesthesia

§ 20. Scientific theory, research methods and knowledge-based practice-skills

The candidate

- a. can analyze and critically apply theory and different sources of information, and use these sources to structure and formulate professional reasoning within nurse anesthesia
- b. can apply methods to plan a controlled research or quality project using applicable theories and methods in-line with research ethic norms
- c. can differentiate professional issues and explain the need for research and quality projects

§ 21. Scientific theory, research method and knowledge-based practice- general competence

The candidate

- a. can analyze and critically apply knowledge-based practice, in order to contribute to development of best practice
- b. can convey and communicate about research-based knowledge in meetings with patients, relatives, healthcare personnel and the general public

Chapter 8

Learning outcomes for competence with research, quality work and dissemination

§ 22. Research, quality work and dissemination-knowledge

The candidate

- a. has advanced knowledge about scientific theories and perspectives, research methods, the research process, quality measures and research ethics, including privacy regulations and requirements for collecting and handling sensitive data relevant for nurse anesthesia
- b. has specialized insight into the methodological approaches chosen with the current research or quality project(s)
- c. has advanced knowledge and specialized insight in a specific to the performance of nurse anesthesia

§ 23. Research, quality work and dissemination- skills

The candidate

- a. can analyze and apply theory and methods to formulate and structure professional and theoretical issues within nurse anesthesia
- b. can analyze and critically identify research, user and experimental knowledge that contributes to development of best practice
- c. can conduct an independent, defined research or quality project within nurse anesthesia under supervision and in-line with the research and ethical principles

§24. Research, quality work and dissemination- general competence

The candidate

- a. can apply and convey research or quality work in order to contribute to the development of professional nurse anesthesia and health care services
- b. can analyze, conclude and convey professional issues within nurse anesthesia
- c. can analyze relevant research ethical issues within nurse anesthesia

Chapter 9

The structure of the program and practical studies

§25. The educational program structure

The educational program must ensure that the academic content, the pedagogical methods and the clinical practice(s) are integrated so that the learning outcomes are achieved. The program arranges for the candidates to complete their educational program after 90 ECTs. The educational institutions must collaborate with the healthcare services/sectors on how to appropriately organize and execute at the individual educational institution.

The educational program must have a structure such that the different competence areas build upon each other and contribute to development and integration of clinical and scientific competence.

The educational program must provide sufficient scientific and anesthesiology knowledge foundation to ensure the candidate's final competencies are achieved. Central areas of the educational program must include the nurse anesthetist's operational competence, independent function and performance with an interdisciplinary team.

The educational program must be organized to facilitate continuous exchange and integration into both theoretical immersion and competence development in the clinical field. Throughout the program, learning methods are used such that the student integrates research-based, educational and clinical experiences and patient experience-based knowledge.

§ 26. Clinical practice

Quality in the clinical practice studies and how this, combined with teaching at the educational institution, is essential for the overall quality of the program.

Clinical practice must encompass at least 30 weeks and with at least 30 hours per week on average of direct patient contact. In addition, the course must include at least 10 days of simulation and skills training. This is to prepare students for practical clinical applications, and ensure that the learning outcomes are achieved when either complex, life-threatening and/or rare conditions situations arise. The clinical practice must be linked to the achievement of the learning outcomes in chapters 2-7.

Clinical practice must facilitate the development of functional ability and implementation skills within anesthesia nursing. The organization of the educational program must facilitate continuous inclusion of both the theoretical specialization and competence development in the clinical field. Clinical practice is organized in a way to allow the student to get experience with and develop competence in anesthesia nursing through frequently occurring disease conditions, delivery of common forms of treatment as well as different patient situations. Clinical practice experiences should be included throughout the educational program.

Clinical practice must be organized so the student may achieve the defined learning outcomes. As a minimum, the candidates are required to experience different forms of anesthesia, such as total intravenous anesthesia, inhalation anesthesia; and regional and local anesthesia. The student must gain also experiences with anesthesiologic challenges regarding different surgical methods such as major soft tissue, orthopedic, obstetric, ear/nose/throat surgery, as well as anesthesia in different examinations and treatments both inside and out of the operating ward. The student must also gain experience with pediatric anesthesia and acute/emergency surgery, as well as the handling of critically ill patients within and outside the hospital.

When selecting clinical practice providers, the educational institutions must ensure that relevant learning situations, knowledge-based services and competent supervisors are offered.

The educational institution is responsible for following up on the students with their clinical practice providers, must be updated on the relevant concerns/issues and assist in educational

matters such as the planning of learning activities, methods of supervision and evaluation. The clinical practice provider is responsible for the daily supervision and follow-up with the students; and must ensure that the supervisor is a nurse anesthetist, preferably with a master's degree. As a general rule, the supervisor must have formal supervisory competence as well. Supervision must be provided by a guidance team consisting of professionals from the educational institution and practice field. The educational institution must offer supervisory training, and the stakeholders must collaborate on a plan for implementing such training.

The educational institutions must enter into cooperative agreements with the clinical practice/internship provider. The agreements must regulate the responsibilities, roles, capacity for practice placements, competences and collaborative opportunities at all relevant levels, and can also regulate research, development and innovation collaborations.

Chapter 10

Entry into workforce and transitional arrangements

§27. Entry into workforce and transitional arrangements

The regulations came into effect January 1, 2022. Institutions that offer nurse anesthesia education may decide on whether to follow these regulations from the Fall 2022. From 2023, all institutions offering nurse anesthesia education must follow the regulations.

Students, who are following the previous work plan, have a right to graduate/take the exam according to this regulation until July 1, 2025. After this date, the work plan «regulation 1 December 2005, no. 1388 for the work plan on further education nurse anesthetist education (forskrift 1. desember 2005 nr. 1388 til rammeplan for videreutdanning i anestesisykepleie) is repealed.

Universities and university colleges offering the education, can still offer the exam according to the aforementioned work plan until December 31, 2027.