The Master of Science in Nurse Anesthesia program is offered by the Graduate School of Health and Human Services of Saint Mary's University of Minnesota. This program is for qualified Registered Nurses who wish to earn a Master of Science degree while pursuing education as a Certified Registered Nurse Anesthetist. The objective of the program is to prepare nurses for positions of leadership on the health care team.

Saint Mary’s University believes in building and developing on the baccalaureate base with emphasis on a strong scientific and technical background. Graduates will be prepared to practice in a wide variety of settings and in diverse methods of administering a safe anesthetic. The graduate is eligible to write the certification examination as offered by the Council on Certification of Nurse Anesthetists. Successful completion of the examination entitles the graduate to be known as a Certified Registered Nurse Anesthetist.

**Program Outcomes**

1. Demonstrate the ability to provide safe and competent care throughout the perianesthetic continuum.
2. Demonstrate critical thinking skills.
3. Communicate effectively.
4. Demonstrate professional behavior.
5. Continue to learn throughout their careers.

**Clinical Outcome Objectives**

1. Be vigilant in the delivery of patient care.
2. Protect patients from iatrogenic complications.
3. Participate in the positioning of patients to prevent injury.
4. Conduct a comprehensive and appropriate equipment check.
5. Utilize standard precautions and appropriate infection control measures.

**Individualized perianesthetic management is demonstrated by the ability of the student to:**

1. Provide care throughout the perianesthetic continuum.
2. Use a variety of current anesthesia techniques, agents, adjunctive drugs, and equipment while providing anesthesia.
3. Administer general anesthesia to patients of all ages and physical conditions for a variety of surgical and medically related procedures.
4. Provide anesthesia services to all patients, including trauma and emergency cases.
5. Administer and manage a variety of regional anesthetics.
6. Function as a resource person for airway and ventilatory management of patients.
7. Possess current advanced cardiac life support (ACLS) recognition.
8. Possess current pediatric advanced life support (PALS) recognition.
9. Deliver culturally competent perianesthetic care throughout the anesthesia experience.

**Critical thinking is demonstrated by the student’s ability to:**

1. Apply theory to practice in decision-making and problem solving.
2. Provide nurse anesthesia care based on sound principles and research evidence.
3. Perform a preanesthetic assessment and formulate an anesthesia care plan for patients to whom they are assigned to administer anesthesia.
4. Identify and take appropriate action when confronted with anesthetic equipment-related malfunctions.
5. Interpret and utilize data obtained from noninvasive and invasive monitoring modalities.
6. Calculate, initiate, and manage fluid and blood component therapy.
7. Recognize and appropriately respond to anesthetic complications that occur during the perianesthetic period.
Communication skills are demonstrated by the student’s ability to:

1. Effectively communicate with all individuals influencing patient care.
2. Interact competently with a diverse population.
3. Utilize appropriate verbal, nonverbal, and written communication in the delivery of perianesthetic care.
4. Communicate effectively through case records, written reports and professional papers.

Professional role is demonstrated by the student’s ability to:

1. Demonstrate ethical behavior when interacting with patients, affiliated health care associations and members of the medical community.
2. Participate in activities that improve anesthesia care.
3. Function within appropriate legal requirements as a registered professional nurse, accepting responsibility and accountability for his or her practice.
4. Interact on a professional level with integrity.
5. Teach others.
6. Participate in continuing education activities to acquire new knowledge and improve his or her practice.

Program Philosophy

The Master of Science program in Nurse Anesthesia originated in response to the request of leaders in health care for graduate level education in the field of Nurse Anesthesia. With this need in mind, Saint Mary’s University of Minnesota developed this program in affiliation with Abbott Northwestern Hospital. With a focus on meeting the needs of adult learners, the program’s goal is to provide a positive and supportive learning environment, preparing the professional nurse in the art and science of anesthesia, meeting the societal need for safe and competent anesthesia care.

The program provides the student with a curriculum that includes formal and informal instruction in scientific principles, clinical practice, and professional growth opportunities. Core values upheld by all members of this community include academic excellence, professionalism and personal integrity, responsibility and compassion. A shared sense of responsibility exists between the faculty and the student to reach the goal of becoming a nurse anesthetist.

Program Accreditation

The Nurse Anesthesia Program enjoys full accreditation from the Council on Accreditation of Nurse Anesthesia Educational Programs. The Council is recognized by the United States Department of Education and the Council for Higher Education Accreditation. (http://www.aana.com)

Faculty

The faculty members for the Master of Science in Nurse Anesthesia program have earned doctorates or master’s degrees. Faculty members are selected for their educational and professional experience and expertise.

Affiliate Hospitals

- Abbott Northwestern Hospital, Minneapolis, MN
- Amery Regional Medical Center, Amery, WI
- Children’s Hospital and Clinics of MN, Minneapolis, MN
- Gillette Specialty Children’s Hospital, St. Paul, MN
- Glencoe Regional Health Center, Glencoe, MN
- Hayward Area Memorial Hospital, Hayward, WI
- Lake City Medical Center, Lake City, MN
- Mayo Health System, New Prague, MN
- Memorial Health Center, Medford, WI
- Memorial Medical Center, Neillsville, WI
- Mile Bluff Medical Center, Mauston, WI
- Miller Dwan Hospital, Duluth, MN
- Ministry Saint Mary’s Hospital, Rhinelander, WI
- Owatonna Hospital, Owatonna, MN
- Phillip's Eye Institute, Minneapolis, MN
- Region’s Hospital, St. Paul, MN
- Rice Memorial Hospital, Willmar, MN
- Ridgeview Medical Center, Waconia, MN
- River Falls Area Hospital, River Falls, WI
- Riverwood Health Care Center, Aitkin, MN
- Saint Cloud Hospital, St. Cloud, MN
- Saint Croix Falls Regional Medical Center, St. Croix Falls, WI
- Saint Elizabeth's Hospital, Wabasha, MN
- Saint Gabriel’s Hospital, Little Falls, MN
- Saint Joseph’s Hospital, Marshfield, WI
- Saint Luke’s Hospital, Duluth, MN
- Saint Mary’s Medical Center, Duluth, MN
- Winona Health System, Winona, MN
Degree Requirements

Students earn a minimum of 64 semester credits in a 28-month (seven semester) program by integrating clinical and academic experiences.

FIRST YEAR
Semester I (Summer)
NA630 Professional Aspects of Nurse Anesthesia 3 cr.
NA640 Chemistry & Physics 4 cr.
NA606 Research Design and Statistical Analysis 3 cr.
NA635 Professional Communication 3 cr.

Semester II (Fall)
NA615 Principles of Anesthesia Practice I 6 cr.
NA645 Anatomy & Physiology I 6 cr.
NA651 Pharmacology for Nurse Anesthetists 3 cr.

Semester III (Spring)
NA650 Anatomy & Physiology II 5 cr.
NA661 Pharmacology 3 cr.
NA620 Principles of Anesthesia Practice II 6 cr.
NA770 Clinical Practicum I (150 hrs) 2 cr.

SECOND YEAR
Semester IV (Summer)
NA781 Synthesis Paper Proposal 2 cr.
NA771 Clinical Practicum II (480 hrs) 2 cr.
NA780 Clinical Integration 3 cr.

Semester V (Fall)
NA632 Professional Aspects of Nurse Anesthesia Department Management 1 cr.
NA783 Synthesis Paper 2 cr.
NA772 Clinical Practicum III (480 hrs) 2 cr.

Semester VI (Spring)
NA782 Comprehensive Exams 1 cr.
NA773 Clinical Practicum IV (600 hrs) 3 cr.

THIRD YEAR
Semester VII (Summer)
NA784 Synthesis Paper Presentation 1 cr.
NA774 Clinical Practicum V (600 hrs) 3 cr.

TOTAL ......................................................................... 64 cr.

Course Descriptions

NA606 Research Design and Statistical Analysis (3 cr.)
Prerequisite: Concurrent enrollment in NA635
The course provides an overview of research methods commonly used in clinical anesthesia, nursing and medicine. Topics include research methodology, statistical analysis, probability, risk assessment, decision-making, use of computer software, data analysis, graphical techniques, and electronic communications. The course focuses on the interpretation and understanding of research and applied statistical procedures.

NA615 Principles of Anesthesia Practice I (6 cr.)
Prerequisites: NA640, NA635, concurrent enrollment in NA651
This course begins an in-depth study of the administration of anesthesia. Introductory principles of anesthesia equipment, monitoring, documentation, patient assessment, basic patient care, and infection control are examined. Detailed studies of anesthetic techniques for different surgical procedures and for patients with acute and chronic diseases are included. Concepts of perioperative and psychosocial assessment, care plans, and anesthesia techniques are explored in detail. Anesthesia principles are applied to clinical scenarios.

NA620 Principles of Anesthesia Practice II (6 cr.)
Prerequisite: NA615
This course is a continuance of Principles of Anesthesia Practice I. Differing patient populations, acute and chronic disease states are explored along with concepts of both anesthetic technique and advanced monitoring. Perioperative patient assessment, care plans general and regional anesthesia techniques are taught. Applications of principles to individual patients is stressed.

NA630 Professional Aspects of Anesthesia Practice (3 cr.)
This course presents material concerning issues surrounding the discipline of Nurse Anesthesia as a profession. Topics include the qualifications and capabilities of the Nurse Anesthetist, professional roles and responsibilities, committing to professional involvement, the American Association of Nurse Anesthetists as a professional organization, the governmental and non-governmental regulation of Nurse Anesthesia practice, Standards of Care, professional reimbursement, health care marketplace trends, influencing health care policy, assessing and selecting CRNA practice settings, the American Legal System and its impact on CRNA practice, the anatomy of malpractice litigation, clinical competency, continuous quality improvement, cultural competency, ethical issues and decision making.
NA632
Professional Aspects of Nurse Anesthesia Department Management (1 cr.)
Prerequisites: NA630
The management section of Professional Aspects provides an overview of Anesthesia Department management from the perspective of the CRNA manager. The management role and responsibilities will be described and real-life case studies will be used to develop a pragmatic approach to department management.

NA635
Professional Communication (3 cr.)
Prerequisite: Concurrent enrollment in NA606
This course introduces the student to the expectations and conventions of graduate writing and research in the medical field. Topics include: modes of professional communication, AMA standards and conventions, essential elements of medically related reports such as clinical case studies, insurance and quality assurance reports; professional correspondence, integrative and systematic reviews, library research tools and methods, and meta-analysis. The ethical and legal ramifications of professional communication are addressed.

NA640
Chemistry and Physics (4 cr.)
Aspects of inorganic and organic chemistry, biochemistry and physics, which are applicable to the science and practice of anesthesia, are presented. Topics include: the chemistry and physics of anesthetic agents, accessory drugs, therapeutic agents, explosion hazards and electrical safety.

NA645
Anatomy and Physiology I (6 cr.)
Prerequisite: NA640
This course is the first in a series of two courses. The course will concentrate on the anatomy and physiology of cells, muscles, the central and peripheral nervous systems, and the cardiovascular system.

NA650
Anatomy and Physiology II (5 cr.)
Prerequisite: NA645
This course is a continuation of Anatomy and Physiology I. The focus is on the anatomy and physiology of the respiratory, renal, gastrointestinal, and endocrine systems. Concepts in immunology are also addressed.

NA651
Pharmacology for Nurse Anesthetists (3 cr.)
Prerequisite: NA640
This course introduces basic principles of pharmacology and focuses on those drugs most often used in the practice of anesthesia. The course provides an overview of drug actions, interactions, metabolism, methods of administration, dosages, side effects, precautions, and contraindications.

NA661
Pharmacology (3 cr.)
Prerequisite: NA651
This course focuses on the pharmacokinetics and pharmacodynamics of major drug classifications. Their interactions with anesthetic agents are discussed.

NA780
Clinical Integration (3 cr.)
Prerequisites: NA635 and concurrent enrollment in NA771
In this course, the student integrates theory with practice by analyzing the anesthetic management of selected cases. Patient care plans are reviewed, compared and contrasted in light of actual or anticipated outcomes. Current research is used to support patient care decisions. In addition, students have the opportunity to explore current topics and trends in anesthesia, facilitated by guest lecturers.

NA781
Synthesis Paper Proposal (2 cr.)
Prerequisites: NA630, NA635, NA661, NA620
This course prepares students to critically analyze and develop their synthesis paper. Emphasis is placed on reviewing and analyzing the current literature, developing a relevant and timely research question, obtaining relevant references and formulating the proposal for the completion of the synthesis paper. References are analyzed in terms impacting the existing body of knowledge, applicability to the research question, interpretation of data, identification of variables and applicability to the body of current anesthesia literature.

NA782
Program Comprehensive Exams (1 cr.)
Prerequisites: All formal didactic coursework.
The student's mastery of their anesthesia knowledge base is assessed via a series of comprehensive examinations. Examination topics include basic and advanced principles of anesthesia practice, basic sciences (anatomy, physiology, biochemistry, chemistry and physics), professional aspects of anesthesia practice, pharmacology, advanced monitoring, technology and equipment. There are five examinations in this series.

NA783
Synthesis Paper (2 cr.)
Course prerequisite: NA781
Students demonstrate their understanding of applicable concepts by submitting a paper to be presented to communities of interest at a later time. Concepts from the student's coursework, experiences and related fields are represented.
Synthesis Paper Presentation (1 cr.)
*Course prerequisites: NA783*
Students demonstrate their understanding of applicable concepts by presenting their synthesis paper to communities of interest. Concepts from the student’s coursework, experiences and related fields are represented.

**Nurse Anesthesia Clinical Practicum**

**NA770**
Clinical Practicum I (2 cr., 150 clock hours)
*Prerequisite: NA620*
Clinical Practicum I provides the student with opportunities to apply the didactic principles of anesthesia to patient care. Students must master the basic skills and routines associated with anesthesia practice and spend time observing anesthesia and surgery in an urban medical center.

**NA771**
Clinical Practicum, Summer Semester (2 cr., 480 clock hours)
*Prerequisite: NA770, (See course description below.)*

**NA772**
Clinical Practicum, Fall Semester (2 cr., 480 clock hours)
Prerequisite: NA771, (See course description below.)

**NA773**
Clinical Practicum, Winter Semester (3 cr., 600 clock hours)
*Prerequisite: NA772, (See course description below.)*

**NA774**
Clinical Practicum, Summer Semester (3 cr., 600 clock hours)
*Prerequisite: NA773, (See course description below.)*

**Course Description**
Clinical practicum provides the student with the opportunity to apply the principles of anesthesia to direct patient care. Students provide supervised care in a variety of settings, and specialty rotations to demonstrate proficiency in advanced anesthetic techniques.

**Admission Requirements**
Applicants seeking admission to this program must meet the admission requirements for Saint Mary’s University of Minnesota Schools of Graduate and Professional Programs and for the Master of Science in Nurse Anesthesia Program. Applicants must have:

1. Completed an appropriate baccalaureate degree from a regionally accredited institution. Degrees must be completed and final transcripts must be submitted by the April 1st deadline. Appropriate degrees include the areas of nursing, biophysical, biological or behavioral sciences.
2. An overall GPA of 2.75 on a 4.0 scale or higher.
3. Current unencumbered licensure as a Professional Registered Nurse in the State of Minnesota, or eligible for reciprocity.
4. A minimum of one year of experience in a critical care setting.
5. Three completed professional reference statements - two professional references and one from a current work supervisor.
6. A completed applicant file submitted by the application deadline.
7. A completed supplemental application form for the MS in Nurse Anesthesia program.
8. Successful completion of a personal interview.

All students are required to have a physical examination prior to starting the program. Documented immunity to communicable disease is also required prior to the student’s involvement in hospital activities. Serum titters that are required include rubella, rubella, varicella, hepatitis B, pertussis, tetanus, diptheria, and mumps. Vaccination will be required in non-immune students.

A 2-step TB test is also required each year. Students must have a negative TB test or have evidence that she/he has received treatment for a positive test.

These requirements meet or exceed the Standards and Guidelines set by the Council on Accreditation of Nurse Anesthesia Educational Programs.
Selection Criteria

Since the class size is limited, candidates who meet the minimum admission requirement may not be selected. The admissions committee will select the most qualified applicants based on the following criteria:

1. The completed application and supporting material.
2. Previous academic performance.
3. Demonstrated success as a professional Registered Nurse in a critical care area.
4. The ability to perform all anticipated tasks relevant to the practice of Nurse Anesthesia.
5. Successful completion of the interview process demonstrating personal traits indicative of success in the program.

Note: Applicants will be screened and the most qualified individuals will be invited for an interview.

Application Process

Applicants must submit:

1. A completed application and the non-refundable $25 application fee (fee not required for alumni or students seeking readmission or veterans and active military personnel)
2. An official transcript issued to Saint Mary's University of Minnesota from the institution posting the applicant’s completed bachelor degree and other relevant transcripts documenting program prerequisites and potential transfer credits
3. A personal statement
4. Three letters of recommendation
5. A current résumé

Fees and Expenses

Application fee $25 (nonrefundable)

Tuition

($510 per credit, 64 credits total) $32,640
Registration fee $1000 (nonrefundable, payable upon acceptance to the program)
Graduation fee $190
Clinical fee $150 per clinical semester

Other expenses: (estimated)
Books and supplies $1,600
Certification Exam $750

Application Criteria for Students with International Transcripts

Additional application information may be required:

- English language proficiency exam (TOEFL, IELTS, or MELAB accepted)
- Course-by-course academic credential evaluation through World Education Services (www.wes.org) or Educational Credential Evaluators (www.ece.org)

Please see international student section of the Saint Mary’s University website (www.smumn.edu) for additional information.

Additional application materials and/or interview may be required. Please see program website or contact the Office of Admission for specific requirements.

Please Note:
Application materials should be sent to the attention of the Office of Admission on the Twin Cities campus.