Doctor of Philosophy, Ph.D.

Degree Offered

- Doctor of Philosophy

Nature of the Program

The purpose of the Ph.D. program is to prepare nurse scholars/scientists for roles in research, teaching, and service. The program prepares graduates who will contribute to the body of nursing knowledge, educate the next generation, and assume collaborative leadership roles in shaping health policy, improving health, and reducing disparity.

The goals of the program are to prepare graduates who will:

1. Rigorously test, generate, and extend knowledge to inform nursing science, practice, and policy.
2. Contribute to the development of knowledge and interventions to address health disparity and promote or improve health.
3. Assume collaborative leadership roles in academia, health organizations, research teams, and scholarly networks.
4. Demonstrate expertise within an area of study that incorporates nursing and transdisciplinary perspectives.

Visit the School of Nursing website at https://nursing.hsc.wvu.edu/. Call the WVU school of Nursing Office of Student Services at 1-866-WVUNURS or (304) 293-1386. Write to WVU School of Nursing at PO Box 9600, Morgantown, WV 26506-9600

Admissions

CRITERIA

1. Submission of formal transcript of a nursing degree at the baccalaureate level or higher from a nationally accredited nursing program or equivalent.
2. Provide evidence of current license to practice nursing.
3. Official transcripts confirm an earned Master's degree in nursing from a regionally accredited college or university. A Master's degree in a health-related discipline will be considered.
4. Official transcripts reflect a grade of “B” or higher in graduate statistics and research methods courses.
5. Official transcripts indicate a cumulative GPA of 3.25 in Master's degree work.

Notes: To be considered, applicants must meet all WVU admission requirements (https://graduateadmissions.wvu.edu/how-to-apply/apply-for-2020-2021/first-time-graduate-applicant/#anchor-gpa) in addition to program specific admission criteria. Admission criteria are subject to change. Please see the School of Nursing website for the most up-to-date criteria at https://nursing.hsc.wvu.edu. Any student who has been dismissed from the West Virginia University School of Nursing will not be readmitted to the program.

APPLICATION PROCESS

The application process is on a rolling basis. The beginning sequence of courses in the PhD in nursing program starts in the Fall semester only. Class size and progression plans may be limited based on available faculty resources and space. Applicants to the PhD in nursing program need to complete the following steps in order to be considered for admission:

2. Request an official transcript of records from each college or university attended.
   a. It is preferred that official transcripts be sent via an online, secure service such as eScrip-Safe (https://escrip-safe.com/signup/), National Student Clearinghouse (https://studentclearinghouse.org/), or Parchment (https://www.parchment.com/) to graduateadmissions@mail.wvu.edu.
   b. Alternatively, sealed, unopened, physical official transcripts can be sent directly to WVU Graduate Admissions, P.O. Box 6510, Morgantown, WV 26506-6510.
   c. Applicants who completed prior education outside of the U.S. must have their transcripts evaluated by World Education Services (WES) (https://www.wes.org/evaluations-and-fees/education/graduate-admissions/). Please request a “course-by-course” International Credential Advantage Package (ICAP).
3. Submit a current curriculum vitae or resume.
4. Provide an example of graduate work (if available).
5. Essay: Read about the research (https://nursing.hsc.wvu.edu/research/) focus of our faculty. Select one or two faculty with whom you are interested in working based on their research focus and explain how your interest aligns with the faculty members’ area of research, referring to their relevant publications. Essay should be submitted in APA format and cover the following areas: preparation for doctoral work (background), why do you want a PhD (how does a PhD fit in your career plan), personal/academic strengths and weaknesses, research area of interest, and current/long term goals.
6. Interview to determine congruence between the applicant’s career goals and program objectives and between the applicants research interests and those of the faculty.
7. Applicants must also provide three letters of reference addressing the applicant’s likelihood for success in graduate work.

Note: Any student who has been dismissed from the West Virginia University School of Nursing will not be readmitted to the program.

Major Code: 8652

Degree Requirements

Core Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>NSG 727</td>
<td>Contemporary Nursing Science</td>
<td>3</td>
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<tr>
<td>NSG 737</td>
<td>Leadership</td>
<td>3</td>
</tr>
<tr>
<td>NSG 728</td>
<td>Nursing Science Theory/Philosophy</td>
<td>4</td>
</tr>
<tr>
<td>NSG 732</td>
<td>Seminar in Nursing Scholarship</td>
<td>2</td>
</tr>
<tr>
<td>NSG 735</td>
<td>Principles: Nursing Education</td>
<td>3</td>
</tr>
<tr>
<td>NSG 736</td>
<td>Advanced Health Policy and Ethics</td>
<td>3</td>
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</tbody>
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Cognate/Electives

Select two 3 credit courses. One course must be an advanced methodology course and at least one of the two courses must be taken outside the School of Nursing

Research

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>NSG 724</td>
<td>Health Research Statistics 1</td>
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<tr>
<td>NSG 725</td>
<td>Health Research Statistics 2</td>
<td>3</td>
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<tr>
<td>NSG 731</td>
<td>Qualitative Research Methods</td>
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<tr>
<td>NSG 729</td>
<td>Quantitative Methods</td>
<td>3</td>
</tr>
<tr>
<td>NSG 781</td>
<td>Research Mentorship</td>
<td>3</td>
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<tr>
<td>NSG 733</td>
<td>Research Grant Development</td>
<td>2</td>
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<tr>
<td>NSG 734</td>
<td>Use of Data</td>
<td>3</td>
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<tr>
<td>NSG 795</td>
<td>Independent Study</td>
<td>1</td>
</tr>
<tr>
<td>NSG 783</td>
<td>Dissertation Seminar</td>
<td>1</td>
</tr>
<tr>
<td>NSG 797</td>
<td>Research</td>
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</tbody>
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Qualifying Examination ¹

Scholarly Events ²

Total Hours

55

¹ Successfully complete the qualifying examination prior to beginning the dissertation.
² Meet the residency requirement of the university prior to taking the qualifying examination.

Suggested Plan of Study

Students are required to be on campus for the six-week Summer sessions, once in the Fall for two days, and once in the Spring for two days. During residency, students are provided with an opportunity to participate with nurse researchers and peers in the ongoing development of a scholarly community.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hours</th>
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<tbody>
<tr>
<td>First</td>
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<tr>
<td>NSG 724</td>
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<td>NSG 735</td>
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<td>Second</td>
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<td>NSG 725</td>
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<td>NSG 732</td>
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<td>Third</td>
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<tr>
<td>NSG 728</td>
<td>4</td>
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<tr>
<td>NSG 729</td>
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7
Fourth Semester
NSG 727  3  
NSG 731  3  

Fifth Semester
NSG 734  3  
NSG 737  3  
NSG 781  1  

Sixth Semester
NSG 781  2  
NSG 733  2  
NSG 736  3  

Seventh Semester
Cognate  3  
NSG 795 (Qualifying Exam)  1  

Eighth Semester
NSG 783  1  
NSG 797  1  
Cognate  3  

Ninth Semester
NSG 797 (Variable credits over multiple semesters)  8  

Total credit hours: 55

Major Learning Outcomes

DOCTOR OF PHILOSOPHY

The PhD in Nursing at WVU is a blended program composed of on-campus classroom and distance learning components. For part-time students it will require three years of coursework, delivered online during fall and spring semesters with both synchronous and asynchronous components. Students are not required to come to campus for fall and spring semesters for regular nursing course work. Summer courses for the first two summers will include limited time on campus. Once a student successfully passes the written and oral components of the qualifying examination, they must complete the research and dissertation phase, culminating in a written and oral dissertation defense. The purpose of the PhD program is to educate nurse scholar-scientists for roles in research, teaching, and service. The program prepares graduates who will contribute to the body of nursing knowledge; educate the next generation; and assume collaborative leadership roles in shaping health policy, improving health, and reducing disparity. The goals of the program are to:

• Rigorously test, generate, and extend knowledge to inform nursing science, practice, and policy.
• Contribute to the development of knowledge and interventions to address health disparity and promote or improve health.
• Assume collaborative leadership roles in academia, healthcare organizations, research teams, and scholarly networks.
• Demonstrate expertise within an area of study that incorporates nursing and trans-disciplinary perspectives.

Academic Progression Standards

To progress in the PhD program, a student must:

1. Take nursing courses in the sequence stated in the WVU School of Nursing PhD Progression Plan (Appendix B). All prerequisites from preceding semesters must be completed prior to registration for new courses. Courses are only applicable for graduation credit if they have been taken within the last eight years.

   Note: Students must be continuously enrolled in order to maintain active status. See the Leave of Absence and Withdrawal Policies in the PhD Student Handbook.
2. Achieve an overall academic GPA of 3.0 in all course work. The following guidelines apply to grades in the PhD program:

• Grades of C. Students may carry forward one C grade in any course. However, a second C will result in dismissal from the program.
• Grades of F. Students with a grade of F in any course will be dismissed from the program.
• Withdrawals. Students can only have one “W” (class withdraw) while in the PhD program.
• Unsatisfactory Grade. If students earn an unsatisfactory or “U” in NSG 797 Research, the chair and student must devise a plan to rectify deficiencies in the next semester. If the student receives another “U”, they will be dismissed from the program.
• Incomplete Grades. The PhD program follows the West Virginia University Policy for grades of Incomplete (I). The policy states that a grade of I (Incomplete) is a temporary grade assignment used when unforeseen, non-academic circumstances arise that prohibit students from completing the last course assignments or examinations at the end of the semester. The grade of Incomplete is typically assigned because of an excused absence from the final examination, or because assignments are unavoidably incomplete, as determined by the instructor. Generally, the student will have been active in the course up until the last day of the 13th week of classes and earned at least a D- to be eligible to request an incomplete.
  • An instructor may not assign a grade of I without the student’s agreement and an “Incomplete Contract” (https://undergraduate.wvu.edu/strategies/academic-policy-committee/forms/). If a student has not requested an Incomplete, or the request for an incomplete grade has been denied, the instructor should assign the grade earned in the course.
  • Within the Incomplete Contract, the instructor is required to indicate a grade earned for the course assuming no additional work will be completed. Should the signed contract not be fulfilled, the instructor must either submit a grade of F or the grade indicated in the contract.
  • If the student is unable to complete the work during the following term for non-academic reasons, the term of the contract may be extended with permission of the Dean. Additionally, the term of the contract can be extended if the instructor is not available for a portion of the course, for some legitimate reason, and the course cannot be completed within the original time frame.
  • An Incomplete grade not changed by the end of the next regular term, (fall and spring semesters) will be replaced with a grade of IF, and the class must be retaken to satisfy degree requirements as necessary. Under legitimate, extraordinary circumstances, with supporting documentation and the approval of the Dean, an instructor can submit a grade change for an IF within five years of when the course was taken.
  • All grades of I must either be resolved or replaced with an IF in order to graduate from West Virginia University.

3. Successfully complete the QE prior to beginning the dissertation. The QE may be repeated once as outlined in the QE section, pages 10-11. If the student passes the 5 year limit and has not successfully completed the QE, they will be removed from the PhD program and their status changed to non-degree at the university level.

4. Within the first semester, complete an individualized plan to meet the university residency requirements for doctoral education. Doctoral education involves many learning experiences that take place outside the formal classroom setting. These involve observing and participating in activities conducted by the graduate faculty, using departmental and University libraries, attending lectures presented by visiting scholars, informally debating other students, and similar activities. To ensure that graduate students experience this kind of informal learning, doctoral programs at WVU generally require at least two semesters in residence on campus. However, an individual student or graduate committee may propose an alternative plan by which the student can gain equivalent educational experience. This plan must be submitted in writing, approved by the college or school dean or designee, and placed in the student’s program file. http://catalog.wvu.edu/graduate/advisingcoursesdegrees/degree_regulations/#requirementstext

5. Meet with his or her advisor at least once a year to review and submit documentation of progression. Following spring advisement, student will complete an online mentor evaluation survey. Complete and submit an individualized development plan for program success to the advisor within one year of entering the program.

6. Generate a syllabus each time they are enrolled in research mentorship (NSG 781), independent study course (NSG 795), and/or a research course (NSG 797) is taken. Working with the chair or instructor, the student will identify course learning outcomes. Before the course is released for enrollment, the syllabus must be signed by both the student and chair and a copy provided to the PhD Program Director.

COURSES

NSG 593. Special Topics. 1-6 Hours.
A study of contemporary topics selected from recent developments in the field.

NSG 600. Financial Management in Healthcare Organizations. 3 Hours.
This course introduces concepts of economics and financial management for health care professionals. Course content includes principles of economics, fundamentals of managed care and health reform, budgets and budget preparation, financial analysis, preparation of business plans and health program grant proposals, and issues relevant to international settings and future trends.

NSG 611. System Based Decision Making. 2 Hours.
PR: NSG 616. Decision making grounded in an understanding of the organization as an open living system.

NSG 616. Role Seminar for Leadership MSN. 2 Hours.
Exploration, analysis, and evaluation of the role of the master’s prepared nurse in leadership positions as guided by concepts, theories, and research.
NSG 617. Leadership Practicum 1. 3 Hours.
Supervised practicum designed to apply healthcare leadership principles to practice. Students participate in nursing leadership and administrative activities in a selected healthcare setting.

NSG 618. Leadership Practicum 2. 3 Hours.
PR: NSG 617. Supervised practicum designed to build on initial application of healthcare leadership principles. Students participate in leadership and administrative activities in a selected healthcare setting.

NSG 622. Theory and Disciplined Reasoning. 3 Hours.
Introduction to the theoretical foundations of the discipline of nursing as a basis for applying disciplined reasoning to advanced practice.

NSG 623. Advanced Practice Role & Interprofessional Collaboration. 3 Hours.
Exploration of the concepts, theories, and research that guide the advanced practice nursing role. This foundational course introduces students to the knowledge, skill, and behavioral expectations of the nurse in an advanced practice role, including interprofessional collaboration.

NSG 625. Statistics. 3 Hours.
This course provides an introduction to the collection and analysis of nursing and health sciences data. Topics include sampling, data presentation, summary measures, probability, confidence interval, hypothesis testing, t-test and ANOVA, correlation analysis, simple/multiple linear regression, chi-square test, power and sample size calculation.

NSG 626. Lifespan Health Promotion. 3 Hours.
PR or CONC: NSG 622 and NSG 623. An in-depth study of theoretical foundations, epidemiological principles, and advance practice strategies for the promotion of health and prevention of disease across the life-span.

NSG 627. Evidence Based Practice. 3 Hours.
PR or CONC: NSG 625. An analysis of the application of research to guide the advanced practice nurse in evidence-based nursing practice.

NSG 628. Leadership/Policy/Ethics. 3 Hours.
PR: NSG 627. An exploration of the concept of leadership in the advanced practice role and application of these leadership behaviors to health care policy and ethical decision making.

NSG 691. Advanced Topics. 1-6 Hours.
PR: Consent. Investigation of advanced topics not covered in regularly scheduled courses.

NSG 693. Special Topics. 1-6 Hours.
A study of contemporary topics selected from recent developments in the field.

NSG 695. Independent Study. 1-9 Hours.
Faculty supervised study of topics not available through regular course offerings.

NSG 700. Advanced Pharmacology Pediatric Focus. 3 Hours.
PR: NSG 706. Examination of the relationship between pharmacologic principles and the selection of pharmacologic agents in altered health states across the lifespan. This course lays the foundation for subsequent courses in diagnosis, management, and therapeutic interventions.

NSG 701. Advanced Pharmacotherapeutics. 3 Hours.
PR: NSG 706. Examination of the relationship between pharmacologic principles and the selection of pharmacologic agents in altered health states across the lifespan. This course lays the foundation of subsequent courses in diagnosis, management, and therapeutic interventions.

NSG 702. Population Health Promotion. 3 Hours.
In depth study and analysis of clinical prevention and population health for individuals, aggregates, and populations utilizing advanced nursing practice and program evaluation strategies for the promotion of health and prevention of disease across populations.

NSG 703. Theoretical Foundations of Nursing Practice. 3 Hours.
Elaboration and integration of theories from nursing, the sciences, and the humanities to build a foundation for the highest level of nursing practice.

NSG 704. Health Care Leadership. 3 Hours.
Critical analysis of leadership in an organizational setting, with development of skills needed to enact the leadership role.

NSG 705. Advanced Lifespan Assessment: FNP Focus. 3 Hours.
PR: NSG 706. The focus of this course is the advanced health assessment of individuals across the lifespan. Skilled interviewing and clinical reasoning are emphasized as students collect and analyze data from the patient history, physical examination, and diagnostic procedures.

NSG 706. Advanced Pathophysiology. 3 Hours.
Theoretical basis of pathophysiological changes in acute and chronic illnesses confronted in primary care across the lifespan is presented. The course serves as the foundation for clinical assessment, decision making, and management.

NSG 707. Evidence Based Practice Methods. 3 Hours.
PR: NSG 724. This course provides an overview of research methods, evidence, and epidemiologic measures for understanding the translation of research into practice and the design of interventions to promote change in a variety of settings.
NSG 709. Health Care Informatics. 3 Hours.
Explore information technologies used in point-of-care inpatient and outpatient health settings and describe methods of utilization of technology for practice improvement, quality, and safety.

NSG 710. Health Care Issues, Policy, and Ethics. 3 Hours.
A foundation for leadership in health policy development, implementation, and evaluation, with a focus on advocacy for nursing, leadership, ethics, finance, and policy/program implementation.

NSG 712. Primary Care of Families 1. 3 Hours.
PR: NSG 701 and NSG 702 and NSG 705 and NSG 707 and NSG 708. An introduction to the knowledge and skills basic to the health maintenance, diagnosis, treatment, evaluation, and revision of care of individuals as members of family units in the primary care setting.

NSG 714. Primary Care of Families 2. 3 Hours.
PR: NSG 712. Further acquisition of knowledge and skills basic to the health maintenance, diagnosis, treatment, evaluation, and revision of care of individuals as members of family units in the primary care setting. The change in course hours reflects change in content.

NSG 717. Organization and Leadership. 3 Hours.
Provides a foundation for developing organizational and systems leadership skills critical to clinical care and health outcomes. Knowledge will help students to promote patient safety and excellence in health care organizations.

NSG 719. Health Care Policy. 3 Hours.
Provides a foundation for influencing, developing, implementing, and evaluating health care policies and legislation pertinent to issues in health care such as ethics, safety, costs, access, and quality.

NSG 720. Family Practicum 1. 5 Hours.
PR: NSG 712 and NSG 714. Supervised practicum designed to facilitate the student's competency at the advanced practice level in the delivery of primary health care across the lifespan.

NSG 721. Family Practicum 2. 5 Hours.
PR: NSG 720. Supervised practicum that builds upon Family Practicum 1 and applies theory and evidence to the advanced practice of nursing. Further role and competency development at the advanced practice level of lifespan primary health care.

NSG 722. Topics in Global Health: Honduras. 2 Hours.
PR or CONC: NSG 720 or 721. Students are introduced to global health concepts through immersion in the culture of Honduras and utilize disciplined reasoning in the application of therapeutics and evidence-based advanced nursing practice in service learning experiences.

NSG 724. Health Research Statistics 1. 3 Hours.
This course provides development of statistical knowledge and skills needed for quantitative health research. Topics include descriptive statistics, probability, hypothesis testing, analysis of variance, chi square and regression techniques.

NSG 725. Health Research Statistics 2. 3 Hours.
This course continues the development of statistical knowledge and skills needed for quantitative health research using SPSS, including nonparametric testing, advanced regression topics and diagnostics, ANCOVA, SPSS syntax, classification, and factor, survival and power analyses.

NSG 727. Contemporary Nursing Science. 3 Hours.
PR: NSG 728 and PR or CONC: NSG 729. Focus is on an analysis of the state of the science for a phenomenon for study. Emphasis is placed on the application of the particular phenomenon to a population of interest.

NSG 728. Nursing Science Theory/Philosophy. 4 Hours.
This course builds on philosophical basis of nursing. Discovery and verification of scientific knowledge are addressed by focusing on theory development. Methodologies include concept analysis and evaluation of middle-range theories of nursing and related sciences.

NSG 729. Quantitative Methods. 3 Hours.
PR: (NSG 724 and NSG 725) with a minimum grade of B-. Quantitative methods and measurement relevant to conducting research in nursing are studied.

NSG 731. Qualitative Research Methods. 3 Hours.
PR: NSG 728. An exploration of the philosophical foundation and methods of qualitative inquiry. Research designs, ethical issues, rigor, integrity, data collection, interpretation, and representation are studied in depth.

NSG 732. Seminar in Nursing Scholarship. 2 Hours.
PR: Admission to the PhD program. Exploration of the dimensions of scholarship in preparation for future roles as nurse scholars/scientists.

NSG 733. Research Grant Development. 2 Hours.
PR: NSG 729 and NSG 731. Analysis of the grant-writing process, including current federal application formats, provides students with the background to complete a submittable grant proposal in their own area of research.

NSG 734. Use of Data. 3 Hours.
PR: NSG 724 and NSG 725 and NSG 729. This course focuses on use of the following data bases: clinical, financial, health services, nursing, local, state, and national. The uses of existing data in clinical and policy decisions and in research will be explored.
NSG 735. Principles: Nursing Education. 3 Hours.
This course examines the research base of educational strategies in nursing education in classroom and clinical settings. The course also examines external determinants on nursing curriculum, accreditation issues, and evaluation of nursing programs.

NSG 736. Advanced Health Policy and Ethics. 3 Hours.
PR: NSG 732. Examination of ethical issues of research and current health policy.

NSG 737. Leadership. 3 Hours.
PR: NSG 734. Through exploration of contemporary leadership theory and application to self, an authentic personal leadership style will be developed to enable the student to enact a leadership role in health care and/or education.

NSG 739. Scientific Underpinnings of the DNP Role. 3 Hours.
Integration of theories from nursing, the sciences, and the humanities to build a foundation for preparation of students to fulfill the role of the advanced practice nurse at the highest level of nursing practice.

NSG 740A. Standards of Practice, Professionalism, and Overview of the Nurse Anesthesia Role. 2 Hours.
This course provides information and perspectives on the Doctor of Nursing Practice (DNP) Essentials, history of the nurse anesthesia profession, informatics, professional roles, wellness and the effects of substance use disorder, curricular standards, scope of practice, and regulatory authorities pertinent to nurse anesthetists.

NSG 740B. Professional Issues in Nurse Anesthesia. 2 Hours.
PR: NSG 740A with a minimum grade of C-. This course builds upon themes related to the role of the nurse anesthetist, which were presented in NSG 740A. Topics include safety, professional interactions, added value of a nurse anesthetist in a variety of arenas, legal issues, and future trends as related to the role of the CRNA.

NSG 741. Genetics, Chemistry, and Physics of Anesthesia. 3 Hours.
PR: NSG 706 with a minimum grade of C-. The student will examine science-based principles of genetics, chemistry, and physics that relate to the mechanisms and effects of anesthesia. Mathematics concepts such as converting systems of measurement and calculating drug infusion rates will be explored. Components and functions of the anesthesia gas machine will be introduced.

NSG 742A. Foundations of Anesthesia 1: Basic Principles of Safe Anesthesia Care. 3 Hours.
PR: NSG 741 and PR or CONC: NSG 743 and NSG 752A with a minimum grade of B- in each. Core anesthesia principles of preoperative assessment, monitoring, positioning, basic airway and fluid management, and administration and documentation of basic and safe anesthetics for adults are discussed in this course. Students will have the knowledge to prepare for workshops associated with NSG 743 and for clinical practicum, NSG 752A.

NSG 742B. Foundations of Anesthesia 2: Regional Anesthesia and Considerations for Common Procedures. 2 Hours.
PR: NSG 742A with a minimum grade of B-. This course addresses basic anesthesia principles for safe administration of regional anesthesia. Students are introduced to anesthesia considerations for patients across the lifespan, including pediatric and geriatric patients, and will examine management fundamentals for common surgical subspecialty procedures.

NSG 743. Foundations of Anesthesia Lab. 1 Hour.
PR or CONC: NSG 742A and NSG 752A with a minimum grade of B- in each. This course develops the necessary psychomotor and critical thinking skills to provide safe anesthesia care in clinical settings. Workshops include conducting a preanesthetic assessment, preparing the anesthesia workspace and gas machine, managing the airway, obtaining vascular access, monitoring, positioning, preparing anesthetic medications, and managing complications that arise during anesthetic inductions.

NSG 744A. Advanced Anatomy, Physiology, and Pathophysiology 1: Cardiac, Pulmonary, and CNS. 3 Hours.
PR: NSG 742A with a minimum grade of B-. The focus of this course is to address advanced concepts in anatomy, physiology, and pathophysiology, incorporating the effects of anesthesia, and discussing management principles for disorders associated with the cardiovascular, pulmonary, and central nervous systems.

NSG 744B. Advanced Anatomy, Physiology, and Pathophysiology 2: Hepatic, Renal, and Related Systems. 2 Hours.
PR: NSG 744A with a minimum grade of B-. The focus of this course is to continue addressing advanced concepts presented in NSG 744A. Anatomy, physiology, and pathophysiology are presented, incorporating the effects of anesthesia, and discussing management principles for disorders associated with the hepatic, renal, endocrine, gastrointestinal, immune, and related systems.

NSG 745. Clinical Immersion. 1-8 Hours.
PR: NSG 711. Provides for the mastery of clinical skills relative to the state of the science in a particular area of clinical practice.

NSG 746. Advanced Pharmacology for Nurse Anesthetists. 3 Hours.
PR: NSG 701 with a minimum grade of C- and NSG 742A with a minimum grade of B-. This course applies principles of pharmacology to anesthesia practice. Pharmacologic properties of anesthetic agents and common adjunctive drugs are discussed to enable the student to develop advanced plans for anesthetic management.

NSG 747. Perioperative Assessment and Care. 1 Hour.
PR: NSG 705 with a minimum grade of C- and NSG 742B with a minimum grade of B-. Students in this lab course apply principles of advanced assessment to nurse anesthesia practice. Comprehensive health history, in-depth physical exam techniques, and evidence-based diagnostic skills are expanded to emphasize critical thinking and decision-making in the perioperative environment. Students will demonstrate use of advanced airway devices and ultrasound to improve patient care.
NSG 748A. Advanced Principles of Anesthesia 1: Cardiothoracic, Vascular, and Neuroanesthesia. 3 Hours.
PR: NSG 742B and NSG 744A with a minimum grade of B- in each. Advanced principles of anesthesia management for cardiac, thoracic, vascular, and neurosurgical procedures are presented in this course. Students examine techniques to administer anesthesia to patients undergoing procedures including coronary bypass grafting, lung resections, endovascular aortic repairs, and intracranial tumor resections.

NSG 748B. Advanced Principles of Anesthesia 2: Management Across the Lifespan. 3 Hours.
PR: NSG 748A with a minimum grade of B-. Advanced principles of anesthesia including obstetric and pediatric specialties are presented. Students examine anatomy, physiology, pathophysiology, and anesthetic management unique to the obstetric and pediatric populations. Simulations of induction and management for pediatric patients, aged from neonate to 18 years, and all levels of acuity will be conducted to reinforce didactic concepts.

NSG 748C. Advanced Principles of Anesthesia 3: Management of Special Populations. 2 Hours.
PR: NSG 748B with a minimum grade of B-. Advanced principles of anesthetic management including patients of trauma, abdominal transplant, burns, and pain management populations are presented in this course. Students will examine and apply techniques of difficult airway management, blood volume resuscitation, hemodynamic control, and acute and chronic pain management in this course.

NSG 749. Business, Management, and Finance in Nurse Anesthesia Practice. 3 Hours.
PR: NSG 704 with a minimum grade of C- and NSG 740B with a minimum grade of B-. Principles of business, management, and finance are applied to nurse anesthesia in this course. Students will analyze reimbursement and billing models, develop plans for business, and evaluate contracts for independent and hospital employment. Management relationships with staff, human resources, and other departments in a health organization will be evaluated. Health care and personal finance will be discussed.

NSG 751. Evidence-Based Anesthesia Review. 3 Hours.
PR: NSG 749 and NSG 810 with a minimum grade of B- in each. An evidence-based update and review of the body of knowledge necessary to enter nurse anesthesia practice is the focus of this course. Students will revisit basic sciences, basic and advanced principles of anesthesiology, pharmacology, and age and procedure-related management concepts. Students will write a summative Comprehensive Exam and participate in an objective structured clinical exam based on the entire curriculum.

NSG 752A. Foundations Clinical Practicum 1. 1 Hour.
PR or CONC: NSG 742A and NSG 743 with a minimum grade of B- in each. This initial clinical practicum course is designed to integrate basic anesthesia principles into practice. The student will be introduced to anesthesia monitoring, procedures, technology, equipment, medications, and the perioperative clinical environment.

NSG 752B. Foundations Clinical Practicum 2. 2 Hours.
PR: NSG 752A and PR or CONC: NSG 742B with a minimum grade of B- in each. This second clinical practicum course is designed to increase the integration of basic anesthesia principles into clinical practice. The student will continue to develop skill with anesthesia monitoring, use of equipment, administration of medications, and gain greater experience in anesthesia management of uncomplicated surgical procedures and regional anesthesia in the perioperative clinical environment.

NSG 753A. Advanced Clinical Practicum 1. 2 Hours.
PR: NSG 752B and PR or CONC: NSG 748A with a minimum grade of B- in each. This third clinical practicum integrates advanced anesthesia principles into clinical practice. The student will continue to develop competency with monitoring, use of equipment, administration of medications, and gain greater experience in anesthesia management of increasingly complex cardiac, thoracic, vascular, and neurosurgical procedures.

NSG 753B. Advanced Clinical Practicum 2. 2 Hours.
PR: NSG 753A and PR or CONC: NSG 748B with a minimum grade of B- in each. This fourth clinical practicum continues the integration of advanced anesthesia principles into practice. The student will continue to develop competency with monitoring, use of equipment, administration of medications, and gain experience in anesthesia management including obstetric and pediatric patients.

NSG 753C. Advanced Clinical Practicum 3. 2 Hours.
PR: NSG 753B and PR or CONC: NSG 748C with a minimum grade of B- in each. This fifth clinical practicum is designed to integrate advanced anesthesia principles with preparation for clinical immersion. The student will continue to manage general and specialty anesthetic techniques for patients with complex comorbidities and broaden experience in care of special populations.

NSG 754. Transforming Health Care Through Information Technology. 3 Hours.
Utilization of information systems and technology to improve quality, safety, and system outcomes for the improvement and transformation of health care.

NSG 755. Acute Care Professional Role Development. 1 Hour.
This course is designed to explore, analyze, and compare and contrast the role of the previously certified primary care advance practice registered nurse who seeks to gain additional knowledge and skills related to the care of adult-gerontology acutely ill patients.

NSG 757. Acute Care Practicum. 1-10 Hours.
PR: NSG 755 and NSG 758 and PR or CONC: NSG 759. This supervised practicum is designed to facilitate the student’s competency in the delivery of acute care to adult and geriatric patients.

NSG 758. Acute Care 1. 5 Hours.
PR: NSG 755. This course is designed for the previously certified primary care advance practice registered nurse who seeks to gain additional knowledge and skills related to the care of adult-gerontology acutely ill patients.
NSG 758. Acute Care 2. 5 Hours.
PR: NSG 755 and NSG 758. This course builds upon the knowledge and concepts presented in Acute Care 1. It is designed for the previously certified primary care advance practice registered nurse who seeks to gain additional knowledge and skills related to the care of adult-gerontology acutely ill patients.

NSG 763. DNP Project. 1-6 Hours.
PR or CONC: NSG 760. Implementation of a capstone project using leadership skills to create and evaluate change relative to a practice problem. Analysis of the relationship of the project to practice and policy.

NSG 767. Advanced Lifespan Assessment: PNP Focus. 3 Hours.
PR: NSG 706. Advanced health assessment of individuals across the lifespan with focus on pediatric populations. Skilled interviewing and clinical reasoning are emphasized as students collect and analyze data from the patient history, physical examination and diagnostic procedures.

NSG 768. Prospectus Development. 1-6 Hours.
Supervised experiences in planning the dissertation research project, developing the chapters for the prospectus, and preparing the proposal document for review by committee members.

NSG 770. Pediatric Primary Care 1. 3 Hours.
PR or CONC: NSG 771. An introduction to the knowledge and skills basic to the health maintenance, diagnosis, treatment, evaluation and revision of care of children in the primary care setting.

NSG 771. Pediatric Primary Care 2. 3 Hours.
PR: NSG 770. Further acquisition of knowledge and skills central to the assessment of health status, diagnosis, treatment and evaluation of children in the primary care setting.

NSG 772. Pediatric Practicum 1. 5 Hours.
PR or CONC: NSG 771. Supervised practicum designed to facilitate the student's competency in the delivery of primary health care to children.

NSG 773. Pediatric Practicum 2. 5 Hours.
PR: NSG 772. Supervised practicum that builds on NSG 772 [Pediatric Practicum 1] and applies theory and evidence to the advanced practice of nursing. Further role and competency development at the advanced practice level for the delivery of primary health care to pediatric populations.

NSG 774. Neuro-Psychopharmacology. 3 Hours.
PR: Admission to the PMHN Program. Students will focus on principles of neurobiology including neurodevelopment, neuroanatomy, neurophysiology, neurochemistry, and advanced theories in the neuroscience of psychiatric illnesses. Psychopharmacologic agents, their clinical uses in psychiatric illness, pharmacodynamics, and pharmacogenomics will be reviewed in depth. Students will learn to synthesize information through a case-based method related to psychopharmacological treatment of mental disorders across the lifespan.

NSG 775. PMHN Role and Foundations. 3 Hours.
PR or CONC: NSG 774. The focus of this course is on the scope and standards of practice and prescriptive authority for the PMHN. Students will obtain an overview of the classification system in the DSM-5, an introduction of psychiatric disorders, and levels and standards of the PMHN role, including the Standards of Practice Performance for the PMHN.

NSG 776. Psychotherapy Modalities. 3 Hours.
PR or CONC: NSG 774 and NSG 775. This course will provide students with a comprehensive exploration of selected evidence-based psychotherapeutic concepts, modalities, and interventions for individuals, families, and groups across the lifespan. Students will learn to integrate various psychotherapeutic approaches into a model that will guide their practice. The clinical practicum allows the student to integrate assessment skills and psychotherapeutic interventions into the clinical environment.

NSG 777. PMHN Management of Adults. 3 Hours.
PR: NSG 774 and PR or CONC: NSG 775 and NSG 776. This course focuses on the knowledge, skills, and attitudes required to perform advanced clinical differential diagnoses and management of adults and geriatrics with mental health disorders utilizing the diagnostic criteria of the DSM-5. Students will learn to apply the principles of psychopharmacology and psychotherapies to the care of adults of all ages.

NSG 778. PMHN Clinical Practicum 1. 3-5 Hours.
PR: NSG 774 and NSG 775 and NSG 776 and PR or CONC: NSG 777. This clinical course allows students to practice the knowledge, skills, and attitudes attained in foundational PMHN courses. It focuses on the application of neuro-psychopharmacology, assessment, and psychotherapeutic treatment. Students perform advanced clinical differential diagnoses and management of adults with mental health disorders utilizing the diagnostic criteria of the DSM-5.

NSG 779. PMHN Management of Child/Adolescent. 3 Hours.
PR: NSG 777. This course focuses on the knowledge, skills, and attitudes required to perform advanced clinical differential diagnoses and management of children and adolescents with mental health disorders evolving from the diagnostic criteria of the DSM-5. Students will also learn to apply principles of psychopharmacology and psychotherapies to the care of children and adolescents.

NSG 780. PMHN Clinical Practicum 2. 3-5 Hours.
PR: NSG 777 and NSG 778 and PR or CONC: NSG 779. This clinical course allows students to practice the knowledge, skills, and attitudes attained in foundational PMHN courses. It focuses on the application of neuro-psychopharmacology, assessment, and psychotherapeutic treatments. Students perform advanced clinical differential diagnoses and management of patients across the lifespan with mental health disorders, utilizing the DSM-5 diagnostic criteria. Students will develop treatment plans that incorporate evidence-based interventions.
NSG 781. Research Mentorship. 1-3 Hours.
PR: NSG 729 and NSG 731. In this guided practicum, the student's research skills are developed and cultivated through participation in the mentorship process with an experienced researcher (the chairperson or his/her designee).

NSG 783. Dissertation Seminar. 1 Hour.
PR: NSG 729 and NSG 731. This seminar provides an opportunity for continued knowledge synthesis related to the selected topic of research. Students will participate in proposal presentation and critique. The expectation is a National Research Service Award Predoctoral Fellowship Application.

NSG 791. Advanced Topics. 1-6 Hours.
PR: Consent. Investigation of advanced topics not covered in regularly scheduled courses.

NSG 792. Directed Study. 1-6 Hours.
Directed study, reading, and/or research.

NSG 793. Special Topics. 1-6 Hours.
A study of contemporary topics selected from recent developments in the field.

NSG 795. Independent Study. 1-9 Hours.
Faculty supervised study of topics not available through regular course offerings.

NSG 796. Graduate Seminar. 1-3 Hours.
PR: Consent. Each graduate student will present at least one seminar to the assembled faculty and graduate student body of his or her program.

NSG 797. Research. 1-9 Hours.
PR: Consent. Research activities leading to thesis, problem report, research paper, or equivalent scholarly project, or a dissertation. (Grading will be S/U).

NSG 810. Nurse Anesthesia Clinical Immersion 1. 3 Hours.
PR: NSG 753C with a minimum grade of B-. This sixth clinical practicum is designed to immerse the student in advanced professional practice as a nurse anesthetist. Students develop clinical leadership skills in experiences ranging from a team-oriented academic trauma center to a community hospital with nurse anesthetists in independent practice.

NSG 812. Nurse Anesthesia Clinical Immersion 2. 3 Hours.
PR: NSG 810 with a minimum grade of B-. This seventh clinical practicum is designed to conclude the student's clinical immersion and marks the transition from student to advanced professional practice as a nurse anesthetist. Clinical experiences range from team-oriented, academic trauma centers to community hospitals with independent CRNA practitioners.

NSG 830. Doctor of Nursing Practice Project Development. 2 Hours.
PR: NSG 724 and PR or CONC; NSG 707. This course provides the Doctor of Nursing Practice (DNP) student with a framework for developing an evidence-based DNP Project. Types of projects include quality improvement, policy analysis, demonstration, clinical inquiry, translation of evidence-based practice, and program evaluation. The student applies principles of business, finance, economics, and health policy to address the identified problem.

NSG 831. Doctor of Nursing Practice Project Implementation. 1,2 Hour.
PR: NSG 830. This course provides the Doctor of Nursing Practice (DNP) student with a framework for implementing and evaluating the outcomes of a proposed DNP project. The student will present a project proposal, apply for institutional approval, implement an initiative, and collect and analyze data in preparation for the DNP Project presentation.

NSG 832. Doctor of Nursing Practice Project Presentation. 2 Hours.
PR: NSG 830 (for 2 credits) and NSG 831 (at least 2 credits). This course requires the Doctor of Nursing Practice (DNP) student to present the DNP project. The student will demonstrate mastery of the DNP Essentials and DNP program outcomes through a portfolio, a presentation of the project, and a manuscript describing the project.