

# 2008 Candidate Handbook



115th Certification  
Examination for  
Nurse Anesthetists

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**Council on Certification of  
Nurse Anesthetists  
Candidate Handbook — 2008**

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This handbook contains information about the Certification Examination administered by the Council on Certification of Nurse Anesthetists (CCNA). It is essential that candidates keep it readily available for reference until they are notified of their performance on the examination. **Candidates are responsible for knowing the contents of this Handbook.**

The CCNA does not discriminate on the basis of race, color, religion, marital status, age, gender, ancestry, physical or mental disability, medical condition or sexual orientation.

All correspondence and requests for information concerning the Certification Examination should be faxed to the Council at **(847) 692-7082** or mailed to:

Council on Certification of Nurse Anesthetists  
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## Introduction — NBCRNA

The National Board on Certification and Recertification of Nurse Anesthetists (NBCRNA) is a not-for-profit corporation organized under the laws of the state of Illinois. It consists of two councils — the Council on Certification of Nurse Anesthetists and the Council on Recertification of Nurse Anesthetists — who have autonomous authority to carry out their respective credentialing functions.

### Vision

The NBCRNA is the recognized leader in nurse anesthesia credentialing.

### Mission

The NBCRNA offers certification and recertification programs that are tailored to specific professional standards of nurse anesthesia practice and promote patient safety.

## Introduction — CCNA

**Mission.** The Council on Certification of Nurse Anesthetists (CCNA) is charged with protecting and serving the public by assuring that individuals who are credentialed have met predetermined qualifications or standards for providing nurse anesthesia services.

**Purpose.** The purposes of the CCNA are to:

1. Formulate and adopt requirements for eligibility for admission to the Certification Examination and for certification of registered nurse anesthetists;
2. Formulate, adopt and administer the Certification Examination to those registered nurse anesthetists who have met all requirements for examination and have been found eligible by the CCNA;
3. Evaluate candidates' performance on the Certification Examination; and
4. Grant initial certification to those candidates who pass the Certification Examination and fulfill all other requirements for certification.

### Council on Certification of Nurse Anesthetists (CCNA)

The certification program for nurse anesthetists was introduced by the American Association of Nurse Anesthetists (AANA) in 1945. It was initially administered by the Credentials Committee of the AANA. In 1975, the AANA approved the establishment of Councils for the accreditation and certification processes and the CCNA assumed the responsibility for the Certification Examination. By this action, the profession recognized that credentialing mechanisms, which include examination and certification, function to protect and benefit the public. It is accepted that the profession, with broad input from the community of interest, has the expertise to set standards.

Credentialing provides assurances to the public that certified individuals have met objective, predetermined qualifications for providing nurse anesthesia services. While state licensure provides the legal credential for the practice of professional nursing, private voluntary certification indicates compliance with the professional standards for practice in this clinical nursing specialty. The certification credential for nurse anesthetists has been institutionalized in many position descriptions as a practice requirement or as the standard for demonstrating equivalency. It has been recognized through malpractice litigation, state nurse practice acts, and state rules and regulations.

The CCNA is an autonomous, multidisciplinary body existing under the corporate structure of the NBCRNA. The CCNA is responsible

for the certification of registered nurse anesthetists who have fulfilled educational and other criteria for the practice of nurse anesthesia.

CCNA membership consists of ten representatives selected by the CCNA: seven certified registered nurse anesthetists (three practitioners and four educators), two anesthesiologists, one public member.

### NCCA Accreditation

The certification program of the CCNA is accredited by the National Commission for Certifying Agencies (NCCA) a private not-for-profit organization. The NCCA is the accrediting branch of the National Organization for Competency Assurance (NOCA) which is the national standard setting organization for credentialing groups including certification boards, licensing boards and associations. The CCNA has been continuously accredited since 1980.

NCCA accreditation means that the CCNA certification program meets the highest national voluntary standards for private certification. It indicates that the program has been reviewed by an impartial commission and deemed to have met the nationally accepted criteria and guidelines of the NCCA.

### ABNS Recognition

The American Board of Nursing Specialties (ABNS), established in 1991, is a national peer review program for specialty nursing certification bodies. ABNS serves as the national umbrella organization for nursing specialty certification boards authorized and recognized to certify nurse specialists in the United States.

It promotes the highest quality of specialty nursing practice through the establishment of standards of professional specialty nursing certification. The CCNA certification program was one of the first national certification bodies to be recognized and approved by the ABNS.

## General Information

### Eligibility Requirements for Admission to the Certification Examination

In order to be eligible to apply to take the Certification Examination for registered nurse anesthetists and receive an eligibility card, a candidate must:

1. Comply with all state requirements for current and unrestricted licensure as a registered professional nurse;
2. Complete a nurse anesthesia educational program accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs ("accredited program") within the previous two (2) calendar years;
3. Submit:
  - a. A complete and accurate examination application form that has been signed by the candidate that includes the Waiver of Liability and Agreement of Authorization, Confidentiality, and Nondisclosure;
  - b. An official non-handwritten notarized transcript of the candidate's record of performance in an accredited program, on a transcript form prescribed by the Council, signed by the Program Director and by the candidate, which accurately documents the candidate's academic and clinical experiences, and his or her completion of the accredited program;

If transcripts are submitted prior to completion of the program, a Program Completion Verification Form verifying

that the candidate has in fact completed the program must be signed and submitted by the candidate's program director after the program has been completed;

- c. A photocopy of the candidate's valid license to practice as a registered professional nurse current on the candidate's requested examination date in at least one state. If the state board of nursing issues a paper license or wallet card, then a copy of that RN license must be submitted. If state law prohibits the copying of a nursing license, the candidate must submit a written statement from the state nursing board verifying current licensure and providing the license number and date of expiration. **If the state board of nursing no longer issues a paper license or wallet card, a web verification will be accepted only if the web page clearly shows the name, address, and state seal of the board of nursing along with an expiration date of the license;**
  - d. A cashier's check or money order made payable to the "Council on Certification of Nurse Anesthetists" for the current application fee and any other applicable fees;
  - e. A signed, notarized Authentication of Applicant Identity Form with a passport photo or digitalized photo taken within the previous 6 months attached;
4. Make the following eligibility certifications:
    - a. that his or her license has never been revoked, restricted, suspended or limited by any state, has never been surrendered, and is not the subject of a pending action or investigation;
    - b. that he or she does not currently suffer from a mental or physical condition which might interfere with the practice of nurse anesthesia;
    - c. that he or she does not currently suffer from drug or alcohol addiction or abuse;
    - d. that he or she has not been convicted of and is not currently under indictment for any felony;
    - e. that, except for incidents occurring during the nurse anesthesia educational program which were thereafter satisfactorily resolved, he or she has not been the subject of any documented allegations of misconduct, incompetent practice, or unethical behavior;
    - f. that he or she has never been dismissed from a nurse anesthesia educational program for unethical behavior, questions of academic integrity or documented evidence of cheating;

If the candidate does not so certify, he or she must provide full documentation of the reasons therefore with sufficient specificity to allow the CCNA to evaluate the possible impact of the problem on the candidate's current ability to practice nurse anesthesia and to resolve the issue to the CCNA's satisfaction; and
  5. Sign the *Waiver of Liability and Agreement of Authorization, Confidentiality, and Nondisclosure* that states that the individual has read, understands, and intends to be legally bound by the following statements:
    - a. that he or she understands that the content of the Certification Examination, and each of its items, is proprietary, is copyrighted and strictly confidential, and that the unauthorized retention, possession, copying, distribution, disclosure, discussion, or receipt of any examination question, in whole or in part, by written, electronic, oral or

other form of communication, including but not limited to e-mailing, copying or printing of electronic files, and reconstruction through memorization and/or dictation, before, during, or after an examination, is strictly prohibited, and that, in addition to constituting irregular behavior subject to disciplinary action such as denial of eligibility to take the Certification Examination now or in the future or revocation of certification, such activities violate the Council's proprietary rights, including copyrights, and may subject him or her to legal action resulting in monetary damages;

- b. that he or she understands that he or she can be disqualified from taking or continuing to sit for an examination, or from receiving examination scores, and may be required to retake an examination, if the Council on Certification of Nurse Anesthetists determines, at its discretion, through proctor observation, statistical analysis or any other means, that he or she was engaged in collaborative, disruptive, or other irregular behavior before, during the administration of, or following, the examination, or that the integrity or validity of the examination is in question;
- c. that he or she has not been the recipient of any Certification Examination questions, that he or she has not been involved in any disclosure, distribution or discussion of any Examination questions, and that, following this Examination, he or she will not disclose, distribute, or discuss any Examination questions;
- d. that he or she will inform the Council if he or she is aware of anyone who discloses any Certification Examination question(s) or asks them to disclose any Certification Examination question(s); and
- e. that he or she understands that evidence of unethical or inappropriate behavior may result in revocation or permanent denial of certification.

### Significance of Eligibility Status

A candidate who holds "Certification Eligible" status with the CCNA has successfully completed an accredited nurse anesthesia educational program and has been granted eligibility status to take the Certification Examination by the CCNA. The candidate with Certification Eligible status has **not** passed the Certification Examination required for Certified Registered Nurse Anesthetist (CRNA) status, is **not certified** by the CCNA, and may **not** use the designation "CRNA" after his or her name.

Candidates should be aware of state laws governing CRNA practice prior to certification. It is recommended that the Certification Examination be taken as soon after graduation as possible.

### Ineligibility to take the Certification Examination

Candidates will be found ineligible to take the Certification Examination for one or more of the following reasons:

1. If the transcript does not show that the minimum academic and clinical requirements were met and that the candidate completed an accredited program;
2. If the transcript is not on a transcript form prescribed by the Council, is not an original or is not completed accurately. The use of correction fluid, pencil corrections or erasures is prohibited;
3. Failure to make the required eligibility certifications and to provide sufficient documentation to resolve the issue to the CCNA's satisfaction; or

4. Failure to meet any of the other eligibility requirements.

### Conditional Eligibility

1. Grant of Conditional Eligibility

Candidates who hold a restricted license to practice as a registered professional nurse or who are required to participate in a recovery program or other non-disciplinary monitoring program, may be granted conditional eligibility to take the Certification Examination provided that all other certification eligibility requirements have been fulfilled.

Examples of conditions include requirements for supervision and requirements that a candidate remain in a drug or alcohol abuse or recovery program for a specified period of time. The conditional eligibility card will reflect any conditions imposed by the appropriate state licensure authority.

2. Conditional Eligibility Period

Conditional eligibility shall remain in effect for the eligibility period described below as long as the candidate complies with all terms of the conditions on his or her license. It shall be revoked for failure to comply.

### Expiration of Eligibility Status

Eligibility to sit for the Certification Examination lasts for a period of three months, or until the candidate takes the examination, whichever occurs first. Eligibility will expire three months from the date of issue of the certification eligibility card or on the date that the candidate fails the examination.

If a candidate does not take the Certification Examination within the three month eligibility period, or takes and fails the examination, he or she will be required to reapply for admission to the Examination and resubmit the full \$700 application fee.

### Revocation of Eligibility Status

The CCNA will automatically revoke a candidate's eligibility to take the Certification Examination in the following circumstances:

1. Failure of the candidate to maintain licensure as a registered nurse;
2. A school official withdraws his or her affirmation signature from the candidate's official transcript;
3. The candidate fails to complete an accredited program;
4. Adjudication by a court that the candidate is mentally incompetent;
5. Conviction of or pleading no contest to a felony that is, in the view of the Council, related to the practice of nursing or nurse anesthesia.

The CCNA may, at its discretion, after due and thorough deliberation, and upon a two-thirds vote of all CCNA members, deny, revoke, or suspend a candidate's eligibility status for any of the following reasons:

1. Circumstances change so as to render one of the eligibility certifications made by the candidate invalid;
2. Falsification of the Certification Examination application, or intentional misstatement of material fact or deliberate failure to provide relevant information on the examination application or to the CCNA at any time, or assisting another person to do any of the above;
3. Failure of the candidate to maintain current and unrestricted licensure as a registered professional nurse.

- Cheating or assisting another person to cheat on the Certification Examination, or otherwise engaging in dishonest or other improper behavior at any time in connection with the examination; or
- Documented evidence of gross incompetence, unethical conduct, or moral turpitude which, in the opinion of the CCNA, represents a significant threat to patient well being.

### Requirements for Certification

The CCNA has established the following requirements for certification. The candidate must:

- Fulfill all eligibility requirements for admission to the Certification Examination; and
- Pass the Certification Examination.

### Denial of Certification

The CCNA will automatically deny a candidate's certification for any of the following reasons:

- Failure of the candidate to maintain licensure as a registered nurse;
- Failure of the candidate to pass the Certification Examination; or
- Adjudication by a court that the candidate is mentally incompetent or has committed a felony.

The CCNA may, at its discretion, after due and thorough deliberation, and upon a two-thirds vote of all CCNA members, deny certification for any of the following reasons:

- Circumstances change so as to render one of the eligibility certifications made by the candidate invalid;
- Falsification of the Certification Examination application, or intentional misstatement of material fact or deliberate failure to provide relevant information on the examination application or to the CCNA at any time, or assisting another person to do any of the above;
- Failure of the candidate to maintain current and unrestricted licensure as a registered professional nurse.
- Cheating or assisting another person to cheat on the Certification Examination, or otherwise engaging in dishonest or other improper behavior at any time in connection with the examination; or
- Documented evidence of gross incompetence, unethical conduct, or moral turpitude which, in the opinion of the CCNA, represents a significant threat to patient well being.

### Conditional Certification

- Grant of Conditional Certification

Nurse anesthetists who have a restricted license to practice as a registered professional nurse and, where applicable, a nurse anesthetist, or who are required to participate in a recovery program or other non-disciplinary monitoring program, may be granted conditional certification provided that all other certification requirements have been fulfilled. The conditional certification will reflect any conditions imposed by the appropriate state licensure authority.

Examples of conditions include requirements for supervision and requirements that the anesthetist remain in a drug or alcohol abuse or recovery program for a stated period of time. The conditional certification card and certificate shall state that certification is conditioned on the anesthetist's compliance with the terms of his or her license conditions.

- Conditional Certification Period

Conditional certification shall remain in effect as long as the anesthetist complies with all terms of the conditions on his or her license. It shall be revoked for failure to comply. The anesthetist shall be responsible for providing the CCNA with adequate documentation that he or she has complied with all licensure conditions for the requisite period of time. A request to change Conditional Certification to Full Certification must be accompanied by written documentation sufficient to demonstrate to the CCNA that all conditions have been removed.

### Recognition of CCNA Certification

Each nurse anesthetist who passes the Certification Examination may use "CRNA" after his or her name. The term stands for Certified Registered Nurse Anesthetist. CRNA is not punctuated with periods.

Certified Registered Nurse Anesthetists receive an initial certification card and a wall certificate with the official notification of passing the Certification Examination.

A list of all Certified Registered Nurse Anesthetists who pass the Certification Examination is published periodically in the *AANA NewsBulletin*.

### Revocation of Certification

The CCNA may revoke a nurse anesthetist's certification, for one of the reasons set forth below, at any time after the anesthetist has been certified. Once the anesthetist has been recertified, the CCNA, at its discretion, may refer the matter for action by the Council on Recertification of Nurse Anesthetists.

The CCNA will automatically revoke an anesthetist's certification for any of the following reasons:

- Failure of the anesthetist to maintain current licensure as a registered nurse; or
- Adjudication by a court that the anesthetist is mentally incompetent or has committed a felony;
- Conviction of or pleading no contest to a felony that is, in the view of the Council, related to the practice of nursing or nurse anesthesia.

The CCNA may, at its discretion, after due and thorough deliberation, and upon a two-thirds vote of all CCNA members, revoke an anesthetist's certification for any of the following reasons:

- Circumstances change so as to render one of the eligibility certifications made by the anesthetist invalid;
- Falsification of the Certification Examination application, or intentional misstatement of material fact or deliberate failure to provide relevant information on the examination application or to the CCNA at any time, or assisting another person to do any of the above;
- Failure of the anesthetist to maintain current and unrestricted licensure as a registered professional nurse and, where applicable, authorization to practice nurse anesthesia, in all states in which the candidate practices. Anesthetists employed by the United States government must maintain licensure in one state or territory of the United States;
- Cheating or assisting another person to cheat on the Certification Examination, or otherwise engaging in dishonest or other improper behavior at any time in connection with any Certification Examination; or

5. Documented evidence of gross incompetence, unethical conduct, or moral turpitude which, in the opinion of the CCNA, represents a significant threat to patient well being.

### Reconsideration and Appeal Process for Adverse Decisions Affecting Certification

1. **Adverse Decisions.** The following adverse decisions affecting certification by the CCNA are subject to reconsideration and appeal:
  - a. Rejection of credentials for eligibility to sit for the Certification Examination;
  - b. Revocation of eligibility to sit for the Certification Examination; or
  - c. Denial, revocation, or limitation of certification; except as provided below.
2. **Exceptions to the right of reconsideration and appeal. No appeal may be taken from the following adverse decisions:**
  - a. Failure to pass the Certification Examination, or any adverse decision based thereon; or
  - b. Any adverse decision based on failure to maintain licensure as a registered nurse.
3. **Notice of Adverse Decision by the Council on Certification.** A nurse anesthetist who has received an adverse decision affecting certification that is subject to reconsideration and appeal shall be given prompt written notice of the decision by registered or certified mail.

The notice shall contain the following:

  - a. A brief statement of the reason for the CCNA's decision;
  - b. A statement that the nurse anesthetist has the right to seek reconsideration of the decision by submitting a written request for reconsideration to the CCNA;
  - c. A statement that the nurse anesthetist may reapply or request an alteration in eligibility or certification status when the situation underlying the adverse decision has been remedied; and
  - d. A statement that the nurse anesthetist may request a hearing.
4. **Request for Reconsideration by the Council on Certification.** A written request for reconsideration must be received by the CCNA or their representative within 30 days after receipt of the notice of the adverse decision. Submission of a request for reconsideration shall not stay the effect of the CCNA's decision. The request must contain a statement of why the nurse anesthetist believes that the adverse decision was improper and must include any supporting documentation that the nurse anesthetist wishes to have considered as part of the reconsideration process.
5. **Reconsideration Process.** The CCNA shall act upon a timely request for reconsideration as soon as practical. It may, at its discretion, take any of the following actions:
  - a. Grant or restore the eligibility or certification status requested;
  - b. Adhere to its initial decision;
  - c. Modify its initial decision;
  - d. Seek further information from the nurse anesthetist; or
  - e. Grant a hearing if the nurse anesthetist has timely requested one and the CCNA has determined that a hearing might be useful.

If a hearing is granted, it shall be held at the next regularly scheduled meeting of the CCNA occurring more than 30 days after the granting of the hearing, unless the CCNA, at its discretion, agrees to schedule an earlier hearing.

6. **Notice of Decision After Reconsideration.** The nurse anesthetist shall be given prompt written notice, by registered or certified mail, of the CCNA's action on a timely request for reconsideration. If the CCNA adheres to or modifies its initial decision, the notice shall include a brief statement of the CCNA's reason and shall indicate that the nurse anesthetist has a right to appeal to the Council for Public Interest in Anesthesia. If further information is sought, the notice shall specify the information and the date by which it must be submitted. If a hearing is granted, the notice shall specify the time and place of the hearing.
7. **Hearing Procedure.** The nurse anesthetist shall be present at any hearing before the Executive Committee of the CCNA and shall have the right to be represented by legal counsel. The anesthetist shall have the right to present any evidence and any other material that reasonably relates to the decision of the CCNA. All relevant, reliable and non-duplicative evidence shall be considered.

A tape recording of the hearing shall be made and transcribed unless the anesthetist elects to have the hearing memorialized stenographically. All expenses of the nurse anesthetist incurred in connection with the hearing, including the expenses of a stenographer if elected, shall be borne by the anesthetist.
8. **Notice of Decision After Hearing.** As soon as practical after a hearing or after receiving further information that it has requested, the CCNA shall determine whether to grant or restore the eligibility or certification status requested or to adhere to or modify its initial decision. The nurse anesthetist shall be given prompt written notice of the CCNA's determination by registered or certified mail. If the CCNA adheres to or modifies its initial decision, the notice shall include a brief statement of the CCNA's reason and shall indicate that the nurse anesthetist has a right to appeal to the Council for Public Interest in Anesthesia.
9. **Appeal to the Council for Public Interest in Anesthesia.** A determination to adhere to or modify a decision not to grant or restore eligibility or certification as requested shall be deemed final action by the CCNA. Such action may be appealed to the Council for Public Interest in Anesthesia by submitting a written notice of appeal to the Council for Public Interest in Anesthesia with a copy to the CCNA within 30 days of the date of the final action.
  - a. A decision of the CCNA may not be appealed unless the anesthetist has requested reconsideration and the CCNA has adhered to or modified its initial decision.
  - b. An appeal to the Council for Public Interest in Anesthesia shall be limited to a determination of the following:
    - (1) Whether the review process through which the CCNA reached its decision was conducted in accordance with policies and procedures assuring fair and objective review and decision-making; and
    - (2) Whether the nurse anesthetist can rebut the specific grounds on which the adverse decision was based.

The expenses of conducting an appeal shall be borne by the nurse anesthetist requesting the appeal. Under no circumstances can the Council for Public Interest in Anesthesia restore eligibility for the examination or grant certification.

## Recertification

Graduates of nurse anesthesia educational programs accredited by the Council on Accreditation of Nurse Anesthesia Programs who achieve a passing score on the Certification Examination are granted initial certification by the Council on Certification of Nurse Anesthetists. A new certified registered nurse anesthetist is eligible to apply for recertification two years after initial certification. Eligibility for recertification is based on the date of initial certification as illustrated by the table that follows. The table also shows the period during which new Certified Registered Nurse Anesthetist must earn the 40 CE credits required for recertification. Continuing education credits earned at any time outside of the periods indicated in the table will not be considered to meet the recertification requirements. Certified Registered Nurse Anesthetists also must be substantially engaged in the practice of nurse anesthesia during the two-year initial certification period, and must meet other requirements for recertification as specified in the Council on Recertification of Nurse Anesthetists' Criteria for Recertification.

<b>Date of Initial Certification</b>	<b>Application is due for Recertification</b>	<b>Period in which CE Credits may be earned</b>
January 1 – July 31, 2008	July 31, 2010	August 1, 2008 to July 31, 2010
August 1 – Dec. 31, 2008	July 31, 2010	Date of Initial Certification to July 31, 2010

## Examination Information

### Purpose of Certification Examination

The CCNA administers the Certification Examination to measure the knowledge, skills and abilities necessary for entry-level nurse anesthesia practitioners.

### Description of the Certification Examination

The Certification Examination for nurse anesthetists is a variable length, computerized adaptive, multiple-choice test. The examination is for entry into nurse anesthesia practice. Each candidate will take a minimum of 100 test questions; 70 questions representing the Certification Examination content outline and 30 pretest questions. The maximum number of questions is 170 questions, which includes 30 pretest questions. A maximum of three hours is allowed for the test period.

Three Certified Registered Nurse Anesthetists and one anesthesiologist from the CCNA, and an elected representative group of Certified Registered Nurse Anesthetists serve on the Examination Committees. These committees meet annually to write and review test questions for the approved item bank and update the item bank each year. Performance statistics for questions are continuously monitored by the CCNA and Pearson VUE.

### Computerized Adaptive Testing

The Certification Examination is administered by computer using a methodology called computerized adaptive testing (CAT). CAT is a method of administering tests that uses current technology and is based on the psychometric framework of Item Response Theory (IRT). With CAT, each candidate's test is individualized; it is assembled interactively as the candidate is tested. Test questions are stored in a large item bank and classified by content category and level of difficulty. After the candidate answers a question, the computer calculates an estimate of competence and chooses a next question of appropriate content and difficulty. This process is repeated for each question, thus creating an examination that is

both tailored to each individual's knowledge and skills, and fulfills the CCNA test plan requirements.

Each test conforms to the content outline which assures inclusion of test questions in all of the major content areas. All questions are chosen from the same item bank. The passing point is identical for all candidates, assuring that the difficulty level to pass the Certification Examination is consistent for all candidates. All candidates have the opportunity to demonstrate their ability level, as the Certification Examination will not end until a pass or fail decision is determined.

Questions on the Certification Examination are all multiple choice, with a stem and four distractors. The questions are presented one at a time on a computer screen. Each question may be viewed as long as the candidate wishes, but the candidate cannot go back to previous questions once an answer choice has been recorded; nor can the candidate leave a question unanswered. An important principle of test construction is that only questions that demonstrate acceptable performance should be used to compute examinee scores. Questions that have never been used before have unknown performance characteristics and it would be unfair to use such questions in computing examinees scores. Therefore, it is necessary to pretest these questions and evaluate their performance. There are 30 such questions on the certification examination. They appear throughout the examination and are not necessarily the first 30 or last 30 questions. Those questions that survive the complex evaluation process are retained for use on future examinations. The pretest questions are not used to score the examination.

### Administration

The CCNA has contracted with Pearson VUE to provide psychometric guidance for the testing program. The Certification Examination is administered by Pearson VUE at test centers located in major cities throughout the United States.

### Examination Content

The CCNA maintains responsibility for the examination content outline and test specifications, maintains an item bank of approved test questions, and sets the passing score. In addition, the CCNA determines individual eligibility for admission to the examination.

Content validity for the Certification Examination has been documented through a job analysis performed by the CCNA in 1987, a professional practice analysis (PPA) in 1992 in collaboration with American College Testing (ACT), repeated in collaboration with Computer Adaptive Technologies, Inc., in 1996, and in collaboration with Promissor in 2001 and 2006. The PPA ensures that the Certification Examination reflects the knowledge of an entry-level nurse anesthesia practitioner. Content validation is provided by linkages between the PPA, knowledge and skill statements, and the test items. The job analysis is essential to the continued accreditation of the certification program and validation that the certification examination is fair, job-related, and legally defensible.

The following outline developed based on the responses to the 2006 PPA and following review by the CCNA is provided to assist candidates in preparing for the Certification Examination. The test content outline is only a guide which suggests topics and topical areas to generate and categorize examination questions. It is not all-inclusive, with some elements applying to more than one area. The CCNA reserves the right to determine examination content, to classify examination questions, and to determine the percentage of test questions from each topical area. The approximate percentages of questions in each major content area are provided below:

## Content Outline

Percentage  
of  
Questions  
25%

I. **Basic Sciences**

**A. Anatomy, physiology and pathophysiology**

1. Cardiovascular
  - a. Dysrhythmias
  - b. Ischemic heart disease/angina
  - c. Myocardial infarction
  - d. Hypertension
  - e. Congestive heart failure
  - f. Endocarditis
  - g. Valvular heart disease
  - h. Cardiomyopathy
  - i. Peripheral vascular disease
  - j. Congenital heart disease
  - k. Pacemaker
  - l. AICD
2. Respiratory
  - a. Bronchitis
  - b. COPD/emphysema
  - c. Asthma
  - d. Pneumonia
  - e. Tuberculosis
  - f. Pulmonary embolism
  - g. COR pulmonale
  - h. Pulmonary hypertension
  - i. Upper respiratory tract infection
  - j. Acidosis
  - k. Adult respiratory distress syndrome
  - l. Epiglottitis
3. Central nervous system
  - a. Seizures
  - b. CVA
  - c. Hydrocephalus
  - d. Parkinson's
  - e. Multiple sclerosis
  - f. Myasthenia gravis
  - g. Alzheimer's/dementia
  - h. Huntington's chorea
  - i. Demyelinating disease
  - j. Intracranial hypertension
  - k. Intracranial tumor
  - l. Intracranial aneurysm
  - m. Autonomic hyperreflexia
  - n. Neuropathy/myopathy
  - o. Psychiatric disorders
  - p. Cerebral palsy
  - q. Spinal cord injury
4. Musculoskeletal
  - a. Fractures
  - b. Rheumatoid arthritis
  - c. Lupus erythematosus
  - d. Muscular dystrophy
  - e. Scoliosis
  - f. Malignant hyperthermia

25%

5. Endocrine
  - a. Diabetes mellitus
  - b. Diabetes insipidus
  - c. Hypo/hyperthyroidism
  - d. Cushing's disease
  - e. Addison's disease
  - f. Pituitary dysfunction
  - g. Parathyroid dysfunction
  - h. Pheochromocytoma
  - i. Insulinoma
  - j. Acromegaly
  - k. Hypo/hyperaldosteronism
  - l. Thymus
6. Hepatic
  - a. Hepatitis
  - b. Cirrhosis
  - c. Hepatic failure
  - d. Porphyria
7. Renal
  - a. Kidney stones
  - b. Acute renal failure
  - c. Chronic renal failure
  - d. Uremia
  - e. Nephritis
8. Hematologic
  - a. Anemia
  - b. Sickle cell/hemoglobinopathies
  - c. Polycythemia
  - d. AIDS/HIV
  - e. Platelet disorders
  - f. Hemophilia
  - g. von Willebrand's disease
  - h. Disseminated intravascular coagulation
9. Gastrointestinal
  - a. Peptic ulcer disease
  - b. Ulcerative colitis
  - c. Diaphragmatic hernia
  - d. Hiatal hernia
  - e. Gastroesophageal reflux disorder (GERD)
  - f. Gallstones/gall bladder disease
  - g. Pancreatitis
  - h. Splenic disorders
  - i. Morbid obesity
  - j. Carcinoid syndrome
  - k. Pyloric stenosis
  - l. Bowel obstruction
10. Other conditions
  - a. Abnormal lab tests
    - (1) Electrolytes
    - (2) Calcium
    - (3) Coagulation profile
    - (4) Blood glucose
    - (5) DIC
    - (6) Urinalysis
    - (7) Renal function studies
    - (8) Endocrine function studies
    - (9) Arterial blood gases

- (10) Liver function studies
- (11) Hemoglobin/hematocrit
- b. Cancer
- c. Glaucoma
- d. Hypothermia
- e. Trauma
- f. Shock
- g. Prematurity
- h. Substance abuse
  - (1) Alcohol
  - (2) Tobacco
  - (3) Other
- i. Airway difficulties
- j. Congenital anomalies
- k. Sepsis
- l. Diagnostic data
  - (1) Chest x-ray
  - (2) Pulmonary function tests
  - (3) Echocardiogram
  - (4) Cardiac catheterization
  - (5) CAT/MRI
  - (6) Electrocardiogram
  - (7) Arteriogram/vessel studies
  - (8) Stress tests
- m. Immunosuppression
- n. Latex allergy
- o. Burns
- p. Fluid volume disorders

## B. Pharmacology

1. General principles
  - a. Pharmacodynamics
  - b. Pharmacokinetics
  - c. Anaphylaxis
  - d. Drug interactions
2. Inhalation anesthetics
  - a. Nitrous oxide
  - b. Isoflurane
  - c. Desflurane
  - d. Sevoflurane
3. Intravenous anesthetics
  - a. Barbiturates
    - (1) Thiopental
    - (2) Methohexital
  - b. Opioid agonists
    - (1) Morphine
    - (2) Fentanyl
    - (3) Alfentanil
    - (4) Sufentanil
    - (5) Meperidine
    - (6) Remifentanil
    - (7) Hydromorphone
  - c. Opioid agonist-antagonists
    - (1) Nalbuphine
    - (2) Butorphanol
  - d. Benzodiazepines
    - (1) Diazepam
    - (2) Midazolam
    - (3) Lorazepam

- e. Other sedative/hypnotics
  - (1) Propofol
  - (2) Ketamine
  - (3) Etomidate
4. Local anesthetics
  - a. Procaine
  - b. Chlorprocaine
  - c. Tetracaine
  - d. Cocaine
  - e. Benzocaine
  - f. EMLA
  - g. Bupivacaine
  - h. Lidocaine
  - i. Etidocaine
  - j. Mepivacaine
  - k. Ropivacaine
  - l. Levobupivacaine
5. Muscle relaxants
  - a. Succinylcholine
  - b. Pancuronium
  - c. Vecuronium
  - d. Atracurium
  - e. Rocuronium
  - f. Cisatracurium
6. Antagonists
  - a. Edrophonium
  - b. Neostigmine
  - c. Naloxone
  - d. Flumazenil
  - e. Pyridostigmine
  - f. Physostigmine
7. Neuraxial analgesics
  - a. Opioids
  - b. Clonidine
8. Other interventional medications
  - a. Anticholinergics
  - b. Cholinergic agonists
9. Cyclooxygenase inhibitors
  - a. Acetylsalicylic acid
  - b. Acetaminophen
10. Sympathomimetics
11. Digitalis and related drugs
12. Alpha and beta receptor antagonists
13. Antihypertensives
  - a. Sympatholytics
    - (1) Dexmedetomidine
  - b. ACE inhibitors
  - c. Angiotensin II receptor inhibitors
  - d. Nitrovasodilators
  - e. Nitric oxide
14. Antidysrhythmics
15. Calcium channel blockers
16. Bronchodilators
17. Psychopharmacologic therapy
  - a. Selective serotonin reuptake inhibitors
  - b. Tricyclic antidepressants
  - c. MAO inhibitors
  - d. Lithium

18. Prostaglandins
19. Histamine receptor antagonists
20. Serotonin antagonists
21. Plasma kinins
  - a. Aprotinin
22. Insulin
23. Oral hypoglycemics
24. Diuretics
25. Antacids
26. Gastrointestinal prokinetic medications
  - a. Metoclopramide
27. Anticoagulants
  - a. Heparin
  - b. Heparin reversal (Protamine)
  - c. Low molecular weight heparins
  - d. Oral anticoagulants
  - e. Oral anticoagulant reversal
  - f. Thrombolytics
  - g. Thrombin inhibitors
28. Antimicrobials
29. Chemotherapeutics
30. Antiepileptic drugs
31. Antiparkinsonian drugs
32. Drugs used to treat lipid disorders
33. Herbal remedies and dietary supplements
34. Minerals and electrolytes
35. Dantrolene
36. Corticosteroids
37. Tocolytics
38. Uterotonics

**C. Chemistry, biochemistry, physics**

**10% II. Equipment, instrumentation, and technology**

**A. Anesthetic delivery systems**

1. High/low pressure gas sources
2. Regulators/manifolds
3. Flowmeters, valves, floats
4. Vaporizers
5. Proportioning systems
6. Pressure failure safety devices
7. "Fail-safe" devices
8. Ventilator
9. Carbon dioxide absorbent
10. Anesthetic circuits
  - a. Rebreathing, circle system
  - b. Non-rebreathing
  - c. Modified non-rebreathing
11. Pneumatic and electronic alarm devices

**B. Airway Devices**

1. Face masks
2. Laryngoscope
  - a. Rigid
  - b. Flexible/Fiberoptic
  - c. Other
3. Endotracheal tube
4. Endobronchial tube
5. Airways
  - a. Oral
  - b. Nasal

6. Tracheostomy tubes
7. Laryngeal mask airway
8. Intubating laryngeal mask airway
9. Jet ventilation
10. Lighted stylet

**C. Monitoring devices**

1. Central nervous system
  - a. Electroencephalogram
  - b. Evoked potential
  - c. Intracranial pressure
  - d. Modified EEG monitor (e.g BIS, etc.)
2. Cardiovascular
  - a. Electrocardiogram
  - b. Arterial pressure monitoring
  - c. Noninvasive blood pressure monitoring
  - d. Transesophageal echocardiography
  - e. Central venous pressure monitoring
  - f. Pulmonary artery pressure monitoring/SVO<sub>2</sub>
  - g. Cardiac output
  - h. Precordial/esophageal stethoscope/doppler
3. Pulmonary/airway monitoring
  - a. Capnography
  - c. Airway gas analysis
  - d. Pulse oximetry
  - e. Airway pressure
  - f. Blood gas analysis
4. Peripheral nerve stimulator
5. Urinary output monitoring
6. Temperature monitoring
7. Maternal/fetal monitoring devices
8. Others
  - a. Fluid/blood warmers
  - b. Forced air warming blanket
  - c. Heat and moisture exchanger (HME)
  - d. Blood salvage (cell saver)

**30% III. Basic principles of anesthesia**

**A. Preoperative assessment**

**B. Preparation of patient**

**C. Fluid/blood replacement**

1. Fluid therapy
2. Hemotherapy
  - a. Blood component therapy
  - b. Blood substitutes
  - c. Colloids

**D. Positioning**

1. Technique
2. Physiologic alterations
3. Complications
4. Prone
5. Supine
6. Lithotomy
7. Lateral
8. Sitting
9. Beach chair

- 10. Trendelenburg
  - 11. Reverse trendelenburg
- E. Interpretation of data**
- 1. Lab tests
  - 2. Diagnostic data
  - 3. Intraoperative monitoring data

**F. Airway management**

- 1. Mask
- 2. Intubation
- 3. Cricothyrotomy
- 4. Fiberoptics

**G. Local/regional anesthesia**

- 1. Infiltration
- 2. Topical
- 3. Regional blocks
  - a. Subarachnoid block
  - b. Epidural block
  - c. Combined spinal/epidural
  - d. Caudal block
  - e. Brachial plexus block
  - f. Airway blocks
  - g. IV regional block (Bier)
  - h. Retrobulbar/peribulbar block
  - i. Ankle block
  - j. Digital block
  - k. Wrist block
  - l. Sciatic block
  - m. Femoral block
  - n. Popliteal block

**H. Monitored anesthesia care/conscious sedation**

**I. Pain management**

- 1. Epidural analgesia
- 2. Infiltration nerve blocks
- 3. Intrathecal narcotics
- 4. PCA management
- 5. Epidural steroids
- 6. Chronic pain

**J. Others**

- 1. Hypotensive
- 2. Hypothermia

**K. Postanesthesia care/respiratory therapy**

30%

**IV. Advanced principles of anesthesia**

**A. Surgical procedures and procedures related to organ systems**

- 1. Intra-abdominal
  - a. Gall bladder
  - b. Liver
  - c. Pancreas
  - d. Spleen
  - e. Stomach
  - f. Renal
  - g. Diaphragm
  - h. Intestine
  - i. Herniorrhaphy
  - j. Bladder
  - k. Abdominal/gyn
  - l. Prostatectomy

- m. Laparoscopy
  - n. Bariatrics
- 2. Extrathoracic
    - a. Breast biopsy
    - b. Mastectomy
    - c. Plastic and/or reconstructive
  - 3. Extremities
    - a. Lower
    - b. Upper
    - c. Total joint replacements
    - d. Vein stripping
    - e. Hemipelvectomy
    - f. Pelvic exoneration
  - 4. Genital and urologic
    - a. Transurethral resection
    - b. Cystoscopy
    - c. D and C
    - d. Hysterectomy
    - e. Hysteroscopy
    - f. Anal/rectal
    - g. Penis/testes
  - 5. Head
    - a. Extracranial
      - (1) Cranioplasty
      - (2) Rhizotomy
      - (3) Ear
      - (4) Eye
      - (5) Face
      - (6) Nose
    - b. Intracranial
      - (1) Decompression (burr holes)
      - (2) Space-occupying lesion
      - (3) Vascular
      - (4) Transsphenoidal hypophysectomy
      - (5) Transorbital approach
      - (6) Stereotatic procedures
    - c. Oropharyngeal
      - (1) Esophagoscopy/gastroscopy
      - (2) Bronchoscopy
      - (3) Fractures
      - (4) Reconstructive
      - (5) T&A
      - (6) Orthodontic/dental
      - (7) Pharynx
      - (8) Reconstructive and/or plastic surgery
      - (9) Rigid laryngoscopy
  - 6. Intrathoracic
    - a. Heart
    - b. Lung
    - c. Thymus
    - d. Diaphragm
    - e. Esophagus
    - f. Thoraco-abdominal
  - 7. Neck
    - a. Larynx/trachea
    - b. Parathyroid/thyroid
    - c. Radical neck

- d. Neck tumors
- e. Cervical spine (anterior and posterior approach)
- f. Lymph node biopsies
- g. Tracheotomy
- 8. Neuroskeletal
  - a. Laminectomy
  - b. Fusions
  - c. Spinal cord procedures
  - d. Surgical sympathectomy
  - e. Vertebroplasty
- 9. Vascular
  - a. Carotid
  - b. Thoracic
  - c. Abdominal
  - d. Upper extremity
  - e. Lower extremity
  - f. Porto-systemic shunts
  - g. Renal artery
  - h. Aortic stents
  - i. Vena cava filter
  - j. Endovascular procedures
- 10. Diagnostic/therapeutic
  - a. Venous/arterial catheterization
  - b. Cardioversion
  - c. CAT scan
  - d. MRI
  - e. Electroconvulsive therapy
  - f. Interventional radiology
  - g. Electrophysiology
  - h. Steroid therapy
  - i. Radiation therapy
  - j. Endoscopy
- 11. Management of complications
  - a. Anesthetic
  - b. Surgical
- 12. Other
  - a. Trauma
  - b. Burns
  - c. Resuscitation
  - d. Pacemakers
  - e. Lithotripsy
  - f. Organ transplants
  - g. Organ harvest
    - (1) Living donor
    - (2) Cadaver
  - h. Laser
- B. Pediatrics**
  - 1. Anatomy, physiology, pathophysiology
  - 2. Pharmacology
  - 3. Anesthesia techniques/procedures
  - 4. Management of complications
- C. Obstetrics**
  - 1. Anatomy, physiology, pathophysiology
  - 2. Pharmacology
  - 3. Anesthesia techniques/procedures
    - a. Caesarean section
    - b. Vaginal delivery

- c. Labor epidurals
  - d. Intrathecal
  - e. Postpartum tubal ligation
  - f. Vaginal birth after caesarean section
  - g. High risk
  - h. Non-obstetric surgery in the parturient
  - 4. Management of complications
  - D. Geriatrics**
    - 1. Anatomy, physiology, pathophysiology
    - 2. Pharmacology
    - 3. Anesthesia techniques/procedures
    - 4. Management of complications
- 5%**
- V. Professional issues**
    - A. Legal**
    - B. Quality improvement**
    - C. Professional practice standards**
    - D. Patient safety**

Sample questions appear on pages 33-35 of this *Candidate Handbook*.

### References for Review

The principal anesthesia textbooks used in nurse anesthesia educational programs should provide information related to all the major content areas on the Certification Examination. Research articles and review books are not used as references. The CCNA does not sponsor or endorse any review courses, review manuals or particular texts that can be used in preparation for the Certification Examination. The CCNA does not make old tests or retired questions available to anyone.

## Registration Information

### Examination Dates

The Certification Examination may be taken after the candidate has been deemed eligible by the CCNA and has scheduled an appointment with Pearson VUE to take the test. Candidates should be aware that not all test centers are open 7 days a week or operate on the same schedule. It might take up to 3-4 weeks for Pearson VUE to schedule an appointment depending on availability of seats at the test center. Immediate scheduling is not guaranteed by either CCNA or Pearson VUE. In addition, during the Christmas holidays, scheduling of examinations may present problems due to some testing center closures and decrease in personnel at the CCNA office.

### Fees

Fees must be paid by money order or cashier's check and must be made payable to the "Council on Certification of Nurse Anesthetists." All fees must accompany the application form. Applications with personal checks or with incorrect or missing fees will not be processed until corrected payment is received.

Application Fee (Includes CERT Exam Fee and	\$700.00
Federal Express fee for mailing results)	

**Do not staple cashier's checks, money orders, or other documents to the application or transcript.** Cashier's checks drawn on banks other than those in the United States must state "Payable in U.S. Funds." The money order or cashier's check must display the candidate's name. The CCNA does not directly invoice individuals or institutions for payment of any examination fees.

## Application Process

For an applicant to be considered for eligibility to take the Certification Examination, all of the following materials must be submitted to the Council on Certification of Nurse Anesthetists, 222 S. Prospect Ave., Park Ridge, IL 60068, by the director of the nurse anesthesia educational program:

1. A signed, completed application typed or word processed.
  - All candidates must sign the “Waiver of Liability and Agreement of Authorization, Confidentiality, and Nondisclosure” on the application form.
2. A cashier’s check or money order for the examination fee payable to: “Council on Certification of Nurse Anesthetists.” Checks drawn on bank other than those in the United States must state “Payable in U.S. Funds.”
3. A copy of the candidate’s valid license to practice as a registered professional nurse. The license must be current on the date the candidate takes the examination. Copies of web verification of licensure are accepted only if the state board of nursing no longer issues paper licenses and if the verification page includes the state seal, an expiration date and the date that the verification page is printed.
  - a. If state law prohibits the copying of a registered nurse license, the candidate must submit a written statement from the state nursing board verifying current licensure and providing the license number and date of expiration.
  - b. If the nursing license expires between the date the candidate officially completes the nurse anesthesia educational program and the date the examination is taken, the candidate will be found eligible, provided all of the other requirements for eligibility have been met. However, examination results will NOT be released until the CCNA has received a copy of the nursing license that was current on the date of the examination, or a written statement from the state nursing board attesting to the candidate’s valid licensure on that date.
4. An original official student transcript record that is not handwritten or hand-printed which documents the candidate’s educational and clinical experiences. The transcript, which must be submitted directly by the program director, must:
  - a. be signed by both the program director and the candidate; (Program directors must submit all student transcripts within 30 days following completion of the program.)
  - b. accurately show that all the minimum requirements have been met, and that the candidate completed the program; and
  - c. have the official seal of the program affixed or be properly notarized.If the candidate attended more than one nurse anesthesia educational program, one transcript only must be submitted which clearly shows the academic and clinical information from both programs.
5. A sealed or notarized Authentication of Applicant Identity Form signed by both the program director and applicant which includes a passport photo or digitalized photo of the applicant taken within the previous 6 months.
6. Written requests for special services if applicable.

Overnight mail should be used to confirm that the examination materials were received in the CCNA office. Confirmation by phone is not available.

- The CCNA will send all examination results by Federal Express. A street address must be provided (no PO Box) for receipt of results, because Federal Express does not deliver to a PO Box. Candidates will receive their results as quickly as Federal Express has service to their area. For most metropolitan areas, the service is overnight. In some areas, the service may be two-day. If their results are processed on a Friday, candidates should receive them on the following Monday.

## Application Procedure — Program Directors

The program director must send all the necessary materials, including the original transcript, to the CCNA office. The transcripts and materials may be submitted in two ways: (a) up to 4 weeks prior to the official completion date of the nurse anesthesia program; or (b) upon official completion of the program. The completion date is the date that the student has completely finished the anesthesia program and degree requirements, i.e., there are no make up days, hours, classes, comprehensive exams, thesis, etc., for which the student is responsible.

The decision when to submit completed transcripts is at the discretion of the Program Director. Regardless of when the transcript is submitted, it must document that the candidate has met the minimum academic and clinical requirements necessary to complete an accredited program. The completion date is the date that the student has completely finished the anesthesia program and degree requirements. That is, there are no make-up days, hours, classes, comprehensive exams, or thesis, etc., for which the student is responsible.

These requirements are set by the Council on Accreditation of Nurse Anesthesia Educational Programs and published in the Council on Accreditation’s Standards and Guidelines.

If the transcripts have been submitted prior to the program completion date, the program director must sign and submit, **on or after** the students’ official completion date, a Program Completion Verification Form verifying that the candidate has in fact completed the program. Eligibility letters, cards, and notifications will not be sent until the Program Completion Verification Form is received in the CCNA office. Program Completion Verification Forms are available through the CCNA.

## Application Procedure — Candidates

Candidates should read the directions that accompany the application form carefully before filling it out. An application that is incomplete, incorrectly filled out, or without the correct fee and a copy of a current RN license valid within 90 days of completion of the anesthesia program will not be processed. All application materials must be submitted directly by the program director. **Any application materials received directly from the applicant will be returned.**

The CCNA office will process the applications and, where appropriate, grant Certification Eligible status and send a letter and Certification Eligible card to the applicant. Eligibility materials, including the candidate’s Test Taker ID and Password, will be sent in writing by first class mail. This information will not be given by phone, fax or e-mail under any circumstances.

Upon receipt of written notification of eligibility from the CCNA, the candidate must contact Pearson VUE to schedule an appointment to take the Certification Examination. **All scheduling must be done by the candidate directly with Pearson VUE either via their website at or by calling the Candidate Call Center.** The toll-free telephone number for Pearson VUE’s Candidate Call Center will be included in the candidate’s eligibility notification.

## Notification of Eligibility

Written notification of eligibility or ineligibility is sent to candidates after their application has been reviewed and verification of completion of a program has been received. **Under no circumstances will eligibility information be released by telephone, fax, or e-mail.** This process should be completed **within 4 weeks** after receipt of the official notification of program completion at the CCNA office.

The eligible candidate will receive a letter, a copy of the completed verification letter or state board of nursing form (if it was provided with the application) and a Certification Eligible card. The information on the card is used to schedule an appointment with Pearson VUE, either on their website or with their Candidate Call Center, to take the examination. The eligibility card must be presented at the Pearson VUE test center for admittance. The Certification Eligible card expires three (3) months from the date of issue and this date appears on the eligibility card.

## Requests for Confirmation of Eligibility

The CCNA does not automatically notify state boards of nursing of candidates' eligibility to take the Certification Examination. Any requests candidates may have, such as verification letters to state boards of nursing and potential employers, must be submitted in writing and with the application. **Candidates should not make commitments to prospective employers that depend on immediate verification of eligibility because the CCNA is not able to provide the necessary documentation upon demand.**

Candidates can expect all requests for letters of eligibility and forms for state boards and employers to be processed within 4 weeks from the time the official verification of completion of a program has been received in the CCNA office. However, if the official completed transcript has to be returned to the program director for corrections, this time may be longer.

The candidate is expected to be familiar with the state board of nursing requirements for licensure to practice as a Certified Registered Nurse Anesthetist in the state where he or she intends to practice. Therefore, candidates are responsible for submitting the correct forms or requests for verification to the CCNA so they can be completed at the time the application for the certification examination is processed.

## Acknowledgment of Receipt of Materials or Confirmation of Eligibility

Because of the large volume of mail the CCNA receives, e-mail and telephone confirmation of receipt of transcripts, eligibility status, and when letters to state boards of nursing and potential employers regarding eligibility status were sent cannot be acknowledged. Program directors should note that if verification of receipt of materials in the CCNA office is needed, overnight or certified mail service should be used. This will provide a record that the materials were delivered to the CCNA office.

Applicants are requested to send faxes if there are questions beyond the 4 week deadlines for mailing of materials.

## Change of Name and Address

Candidates will not be able to request a name change after the eligibility materials to take the Certification Examination have been mailed. The name that the candidate used on the official CCNA application form is the name that is submitted to Pearson VUE on the eligibility file.

Therefore, when the candidate appears at the test center, *the name on the original CCNA Certification Eligible card and two pieces of*

*identification (both must bear a signature and one must bear a photo) must all match.* Candidates will not be allowed to test if their I.D. does not bear the same first and last name as their eligibility file.

Name or address changes are not accepted at testing centers. If a candidate changes his or her name and/or address after the eligibility materials have been mailed, the CCNA should be notified by fax or mail of the change.

## Special Services — Persons With Documented Disabilities

A candidate with a documented disability may request a reasonable accommodation for the examination by submitting his or her request and supporting documentation in writing to the CCNA with his or her completed application, or as soon thereafter as the candidate learns of the need for the accommodation.

The CCNA will work directly with the candidate and Pearson VUE to attempt to make reasonable modifications in the testing environment and procedures to make it possible for a candidate with a documented disability to take the examination under conditions which will accurately reflect the candidate's aptitude or achievement level. Such modifications may include providing auxiliary aids and services to a candidate with a documented disability.

The inability to read English is not considered a disability and does not make a candidate eligible for special services.

## Scheduling Information

When a candidate has been determined eligible to take the examination, he or she will receive a letter and a Certification Eligible card. The letter contains detailed information about scheduling an appointment to take the test with Pearson VUE. The certification eligible card is important because it shows the identification information that is needed in order to schedule an appointment with Pearson VUE, it shows the expiration date of the candidate's eligibility for certification, and it must be presented at the test center.

Candidates may schedule an appointment to take the Certification Examination on any day that space is available at a testing center. Not all test centers are open 7 days a week, operate on the same schedule, or have the same seating capacity. It is strongly recommended that candidates contact Pearson VUE to make an appointment for the examination as soon as possible after receipt of the notice of eligibility. Pearson VUE may need as long as 3-4 weeks to schedule an appointment so candidates should not expect to get an appointment immediately. Scheduling appointments to take the examination is between the candidate and Pearson VUE directly; the CCNA will not intervene in these arrangements.

If the candidate does not take the examination within the three-month eligibility period, or takes the examination and fails it, he or she will have to reapply, pay the full application fee and complete the registration process.

## Cancellations, Candidates Who Do Not Appear and Refunds

If a candidate cancels or reschedules his or her scheduled appointment by noon, two business days before the examination, a 50% refund of the application fee can be returned. Requests for refunds due to cancellations must be submitted in writing to the CCNA. Cancellations of appointments must be made with directly with Pearson VUE.

A candidate who fails to appear for the scheduled test, arrives more than fifteen (15) minutes after the scheduled start time for taking the test, or changes or cancels a test within 2 business days before the scheduled appointment will not receive any refund of his or her application fee, nor can the fee be applied to another examination.

The candidate will have to reapply to the Council to take the examination and will have to submit the full fee.

## Examination Administration

### Materials to bring to the Examination Center

Candidates arriving at the examination center must present to the proctor: (a) the original CCNA Certification Eligible card; and (b) two separate forms of **current** valid I.D., both must bear a signature and one must bear a photo (e.g., driver's license). Both pieces of I.D. must have the same first and last name that appears on their Certification Eligible card. Copies of the CCNA Certification Eligible card will not be accepted at the test center. Candidates who appear without the specified identification will **not** be permitted to take the examination and will be required to reapply and pay the full application fee.

Cell phones, PDAs, reference books, notes, or other study materials may not be brought into the test center. Examination questions do not include calculations that require a calculator. Scratch paper is provided by the Testing Center. Personal belongings must be stored in designated areas at the testing center.

### Test Center Environment

It is likely that a certification candidate will not be the only person taking an examination in the test room. Individuals taking other examinations may be present. Some examinations may require full use of the computer keyboard and there will be accompanying keyboard noise. In addition, Pearson VUE personnel and other individuals may leave and enter the test room during the certification candidate's test period.

Testing centers will make every effort to keep movement of personnel and noise levels to a minimum during examination administrations. However, if a certification candidate believes that noise may be a distraction, he or she should consider bringing earplugs to use during the examination. Individual test rooms are not available at test centers.

Candidates with a documented disability shown to require special testing services should refer to the section in this Handbook on "Special Services - Persons With Documented Disabilities."

### Taking the Test

At the beginning of the examination, candidates must verify that their identification information (Test Taker ID and Password) and examination are correct as shown on the computer screen.

Next, the Statement of Confidentiality and Nondisclosure Agreement will appear that candidates must read, acknowledge and agree to before directions for entering responses will appear. Candidates should read these directions carefully before beginning the test.

**There is no tutorial and there are no practice questions.** The examination begins with the appearance of the first exam question. There is a "help" screen which may be referred to at any time during the examination to refresh the candidate's memory as to how to enter responses. At any time, before or during the examination, candidates may request help regarding the use of the computer.

Questions are presented one at a time on the computer screen. Each question must be answered as it is presented. The question on the screen must be answered before the candidate can move on to the next screen. Candidates should consider each answer carefully and make their best choice.

Once the candidate confirms the answer and goes on to the next question, he or she is not allowed to go back to any previous

questions. Psychometric research has shown that, in general, candidates do not significantly improve their scores by reviewing and changing answers.

### Examination Length

All candidates must answer a minimum of 100 questions. As the candidate takes the examination, questions are selected based on his or her responses to previous questions. Once 100 questions have been answered, the test will continue if necessary until the candidate's performance is estimated as being either above or below the passing standard with a predetermined level of certainty. Thus, different candidates will have to answer varying numbers of questions and use varying amounts of time. The maximum number of questions is 170 during a three-hour maximum testing period.

### Improper Behavior in Connection with the Examination

When the candidate signs the Nondisclosure Agreement on the application to take the Certification Examination (which is also affirmed prior to beginning the examination on the computer), they stipulate to the following:

1. the candidate understands that the content of the Certification Examination, and each individual Certification Examination item, is the property of the CCNA, is copyrighted and is strictly confidential information.
2. the candidate understands that the unauthorized retention, possession, copying, distribution, disclosure, discussion, or receipt of any examination question, in whole or in part, by written, electronic, oral or other form of communication, including, but not limited to e-mailing, copying or printing of electronic files, and reconstruction through memorization and/or dictation, before, during, or after an examination, is strictly prohibited. They further understand that, in addition to constituting irregular behavior subject to disciplinary action such as revocation of certification, such activities violate the Council's proprietary rights, including copyrights, and may subject the candidate to legal action resulting in monetary damages.
3. the candidate will inform the Council if they are aware of anyone who discloses any Certification Examination question(s) or asks them to disclose any Certification Examination question(s).

The consequences of breaking this agreement may include, but are not limited to the following:

- a. loss of eligibility to take the Certification Examination now and in the future;
- b. invalidation of the Certification Examination results;
- c. revocation of certification;
- d. assessment of monetary damages.

During the examination, the performance of all candidates will be monitored. Any candidate who gives or receives assistance, or otherwise engages in dishonest or improper behavior during the examination, will be required to cease taking the examination and leave the test center. The test center personnel will notify the CCNA office of any improper behavior during the examination.

After reviewing a reported incident, the CCNA will determine whether there is reason to believe that a candidate has engaged in cheating or other improper behavior, or has otherwise violated the security of the examination. If the CCNA determines that there is reason to so believe, it may, at its discretion, after due and thorough deliberation, and upon a two-thirds vote of all CCNA members take any of the following actions:

1. order the candidate to retake the Certification Examination at a time and place to be determined by the CCNA;
2. refuse to release the test results of the candidate and, thereby, deny his or her current application for certification;
3. require the candidate to wait a specified period of time before reapplying to take the Certification Examination;
4. revoke the candidate's eligibility to sit for future Certification Examinations; or
5. take a combination of any of the above actions or such other action that the CCNA may deem appropriate in the particular circumstances before it.

## Post Examination

### Improper Behavior After the Examination

Any individual who removes or attempts to remove materials from the test center, or who receives, discusses, discloses, reproduces, distributes, displays or otherwise misuses a test question or any part of a test question from a Certification Examination by written, electronic, oral or other form of communication, including, but not limited to e-mailing, copying or printing of electronic files, and reconstruction through memorization and/or dictation will be subject to legal action and monetary damages. Any nurse anesthetist who engages in such improper behavior also may face denial or revocation of eligibility for certification or denial or revocation of certification.

### Problems with Test Centers

Candidates will have access to a proctor at the test center. As a rule, if a problem occurs with the computer and the candidate has to restart his or her test on the scheduled test day, it will be resumed at the point of interruption since the questions and answers are saved. However, if the test cannot be resumed on the same day and the candidate has to reschedule his or her test, a new test will be administered. There will be no charge to the candidate for rescheduling a test if the problem was caused by circumstances at the Pearson VUE Testing Center.

Problems related to admission or administration of the examination should be documented as soon as possible by fax to the CCNA office. Any other problems relating to conditions at a test center must be reported in writing to the Council no later than three (3) days after the examination date.

Reports should include the candidate's full name, address and signature, as well as a description of the conditions that caused a problem at the test center. After reviewing a report of a problem at a test center, the CCNA may, at its discretion, determine whether a new Certification Examination should be administered or other action should be taken. Reports submitted from a program director will be considered only if they are accompanied by the candidate's report. The Council will not consider notice of test administration problems that are received after test results have been mailed.

### Report of Examination Results

The NCE is scored based on candidate performance in the form of a correct/incorrect response to each question and the difficulty of the questions that an examinee is administered. A numerical estimate of the taker's ability is determined using Item Response Theory (IRT). A candidate's ability estimate is calculated after each item and is used to determine when the NCE will stop and the pass/fail decision for the candidate. A candidate must obtain a minimum ability estimate, determined by the Council, in order to

pass the examination. A pass/fail decision is made when ONE of the following conditions has been met:

1. The candidate has clearly demonstrated competence. This decision may be reached at any point between 100 and 170 items.
2. The candidate has clearly demonstrated incompetence. This decision may be reached at any point between 100 and 170 items.
3. The maximum number of questions (170) have been administered. The pass/fail decision is based on whether the candidate's ability level is above or below the pass/fail point. This procedure is analogous to the decision made for the paper and pencil Certification Examination.
4. The maximum amount of time (3 hours) is reached. A fail decision is made if the candidate has not completed 100 questions. If the candidate has completed more than 100 questions, the pass/fail decision is based on whether the candidate's ability level is above or below the pass/fail point.

### Notification of Examination Results

Candidates. Candidates will receive a pass/fail report by Federal Express within 4 weeks after the examination. **Under no circumstances will examination results be released by telephone, fax or e-mail.** The pass/fail test results will be sent to the name and address on the candidate's eligibility letter unless the candidate has notified the CCNA, within 2 business days after taking the test, of a different name or address.

Passing candidates will receive notification only of passing the examination; they will not receive score information. Pass score data is not available to candidates because that information is often misused by employers and other parties to distinguish between applicants.

Failing candidates will receive notification of failing the examination; they also will receive their total scaled score and diagnostic scaled scores for the five content areas of the examination. The total score reported to failing candidates is a scaled score, not the actual number of questions answered correctly. The total scaled score reflects the candidate's performance with respect to the content standard (passing score) that has been established by CCNA. The content area scores reflect relative performance compared to other content areas.

The only information available to candidates regarding the results of the examination will be the information provided on the test results report. Because of the need to maintain test security, test questions cannot be made available for review. CCNA and Pearson VUE do not provide a list of the questions.

Score results are not reported on-line at the test center because of test security, the need for verification of results by the testing agency, and final verification of candidate records. Not everyone who tests on the same day at the same center will receive their results at the same time because the information is not transmitted to the CCNA in that manner.

Any candidate who does not receive the pass/fail test results within 4 weeks after taking the examination should contact the CCNA by fax at (847) 692-7082.

*Program Directors.* Reports of candidates test results are prepared and released to the program director of the candidate's nurse anesthesia educational program twice a year. Results will not be released to any other persons without written authorization from the candidate.

*State Boards of Nursing.* State boards of nursing verification forms and verification letters are routinely processed with the candidate results. If the candidate supplied a form for a state board of nursing, a copy of the completed form is included in the notification packet sent to them when they pass the examination.

### Confidentiality

Except as provided above, any information or material that is received or generated by the CCNA in connection with the certification of a candidate will be kept confidential and will not be released except as provided above or where release is authorized by the candidate or required by law. However, the following information may be disclosed: the nurse anesthesia program attended, dates of attendance, completion date, certification eligible status, and certification status.

### Verification of Examination Results

Because of the sophistication of computerized on-line scoring and extensive quality control procedures, errors in scoring are virtually nonexistent. However, candidates who receive a failing score may request that their examination results be verified.

Requests for verification of examination results must be made in writing within six months after the test date and must include the following information: candidate's name, AANA associate member number, social security number, date of birth, test date, and signature.

Requests should be sent to: Council on Certification of Nurse Anesthetists, 222 S. Prospect Avenue, Park Ridge, IL 60068.

### Reapplication Procedures

The Certification Examination for Nurse Anesthetists must be taken and passed within 2 calendar years of official completion of the nurse anesthesia educational program as documented on the transcript submitted by the program director. It may be repeated up to four times within each calendar year. The full \$700 application fee will be required each time a candidate reapplies for the examination.

Candidates who fail the examination must reapply for eligibility to take the examination. The following materials must be submitted to retake the examination: (a) the application to retake the examination; (b) **proof of current licensure**; (c) the current application fee (cashier's check or money order only) made payable to the "Council on Certification of Nurse Anesthetists"; and (d) a signed notarized Authentication of Applicant Identity Form with a passport or digitalized photo taken within the previous 6 months attached.

Candidates granted eligibility will receive a new eligibility notice and Certification Eligible card which must be used to schedule an appointment with Pearson VUE to take the test.

Candidates who do not take and pass the Certification Examination within two calendar years of completion of the nurse anesthesia educational program will not be eligible to apply to take the Certification Examination unless they enter and complete another unabridged accredited nurse anesthesia program.

## Sample Questions

The following questions are examples of the type of questions that appear on the Certification Examination. An answer key is provided on page 35.

1. What is the most common position related injury when using the fracture table?
  - a. Lower extremity compartment syndrome.
  - b. Brachial plexus injury.
  - c. Pudendal nerve injury.
  - d. Obturator nerve injury.
2. The release of vasopressin from the posterior pituitary is stimulated by:
  - a. decreased blood osmolarity.
  - b. carotid chemoreceptors.
  - c. increased atrial volume.
  - d. increased carbon dioxide.
3. Renal autoregulation is primarily mediated by the:
  - a. afferent arteriole.
  - b. intralobular arteries.
  - c. juxtaglomerular apparatus.
  - d. peritubular capillaries.
4. Dexmedetomidine hydrochloride may result in what cardiovascular response when administered in a bolus dose of 2mcg/kg?
  - a. Hypotension and tachycardia.
  - b. Hypertension and tachycardia.
  - c. Hypertension and bradycardia.
  - d. Hypotension and bradycardia.
5. A pulmonary artery catheter positioned in Zone 2 of the lung will most accurately measure:
  - a. left ventricular filling pressure.
  - b. pulmonary alveolar pressure.
  - c. pulmonary artery diastolic pressure.
  - d. pulmonary venous pressure.
6. A preoperative PT/PTT would be indicated if a patient presented with:
  - a. renal insufficiency.
  - b. systemic lupus erythematosus.
  - c. coronary artery disease.
  - d. pre-eclampsia.
7. Normal plasma cholinesterase is expressed by a dibucaine number of:
  - a. 16-30.
  - b. 50-60.
  - c. 70-80.
  - d. 90-100.
8. In the patient undergoing laparoscopic surgery, the appearance of decreased ETCO<sub>2</sub>, decreased SaO<sub>2</sub> and hypotension most likely signals:
  - a. capnothorax.
  - b. CO<sub>2</sub> embolus.
  - c. endobronchial intubation.
  - d. subcutaneous emphysema.
9. The patient who undergoes laparoscopic surgery is at highest risk for serious complications:
  - a. shortly after arrival in the PACU.
  - b. during release of the pneumoperitoneum.
  - c. when the nasogastric tube is inserted.
  - d. while initiating the pneumoperitoneum.

10. During regional anesthesia above T-4, renal blood flow and filtration are dependent on:
  - a. autoregulation.
  - b. renal prostaglandins.
  - c. redistribution to the inner cortex.
  - d. perfusion pressure.
11. Three hours into a thyroidectomy, the patient develops tachycardia, hypotension and hyperpyrexia. The most appropriate initial intervention is to administer:
  - a. dantrolene 2.5 mg/kg IVP.
  - b. esmolol 100 to 300 mcg/kg/min.
  - c. hextend 500 ml bolus.
  - d. propylthiouracil 200mg IVP.
12. Blood pressure during carotid endarterectomy should be maintained:
  - a. at patient's awake, resting pressure.
  - b. at patient's highest recorded pressure.
  - c. 20% higher than highest awake pressure.
  - d. 50% higher than highest awake pressure.
13. Maintaining systemic vascular resistance and myocardial compensation following aortic cross-clamping may be facilitated by administration of:
  - a. isoflurane.
  - b. sodium nitroprusside.
  - c. nitroglycerine.
  - d. hydralazine.
14. Maternal hyperglycemia at delivery predisposes the newborn infant to:
  - a. hypocalcemia.
  - b. hypoglycemia.
  - c. hypothermia.
  - d. hypoxemia.
15. Which group of drugs readily cross the placenta to the fetus?
  - a. High lipid solubility.
  - b. Low lipid solubility.
  - c. High molecular weight.
  - d. Highly ionized.
16. Radiofrequency ablation of aberrant conduction pathways in a pediatric patient usually requires a general anesthetic because:
  - a. neuromuscular blockade is required.
  - b. unexpected movement must be avoided.
  - c. of large variations in procedure length.
  - d. circulating catecholamines must be suppressed.
17. What cardiovascular parameter increases in the elderly?
  - a. Ejection fraction.
  - b. Cardiac output.
  - c. Early diastolic filling rate.
  - d. Systolic arterial pressure.
18. What would you expect when administering thiopental to a geriatric patient?
  - a. Increased brain sensitivity.
  - b. Decreased volume of distribution.
  - c. Increased beta elimination.
  - d. Decreased plasma protein binding.
19. In the elderly patient, the altered effect of Beta agonists is due to:
  - a. enhanced adenyl cyclase activity.
  - b. increased cell membrane fluidity.
  - c. receptor proliferation.
  - d. reduced receptor affinity.

20. The most common intraoperative cause of myoglobin-induced renal failure is:
  - a. malignant hyperthermia.
  - b. traumatic crush injury.
  - c. muscle ischemia-induced rhabdomyolysis.
  - d. myxedema.

1. (c) 2. (d) 3. (a) 4. (c) 5. (b) 6. (b) 7. (c) 8. (b) 9. (d) 10. (d) 11. (b) 12. (c) 13. (c) 14. (b) 15. (a) 16. (b) 17. (d) 18. (b) 19. (b) 20. (c)

## Answers to Sample Questions

## School List and Codes

Code	School	City	State
3304	Nurse Anesthesia Program, University of Alabama at Birmingham	Birmingham	AL
3307	Ida V. Moffett School of Nursing/ Samford University Nurse Anesthesia Program	Birmingham	AL
2900	Midwestern University Nurse Anesthesia Program	Glendale	AZ
3200	Arkansas State University College of Nursing and Health Professions	State University	AR
0502	US Army Graduate Program in Anesthesia Nursing/ David Grant USAF Med Center	Travis AFB	CA
0503	Kaiser Permanente School of Anesthesia/ CA State University Fullerton, Department of Nursing	Pasadena	CA
0504	Univ of Southern California (USC) Program of Nurse Anesthesia	Los Angeles	CA
0506	Samuel Merritt College Program of Nurse Anesthesia	Oakland	CA
0701	Fairfield Univ and Bridgeport Hospital Nurse Anesthesia Program	Bridgeport	CT
0702	New Britain School of Nurse Anesthesia	New Britain	CT
0703	Hospital of St. Raphael School of Nurse Anesthesia	New Haven	CT
0902	Georgetown Univ School of Nursing Nurse Anesthesia Program	Washington	DC
1002	Gooding Institute of Nurse Anesthesia/Bay Medical Center	Panama City	FL
1004	Barry University, Master of Science Program in Anesthesiology	Miami Shores	FL
1006	Florida Intl University School of Nursing Anesthesiology Nursing Program	Miami	FL
1007	Wolford College Nurse Anesthesia Program	Naples	FL
1008	Univ of Miami School of Nursing and Health Studies Nurse Anesthesia Program	Coral Gables	FL
1009	Univ of North Florida Nurse Anesthetist Program	Jacksonville	FL
1010	Univ of South Florida Nurse Anesthesia Program	Tampa	FL
1011	Florida Gulf Coast University School of Nursing Nurse Anesthesia Program	Fort Myers	FL
1012	Florida Hospital College of Health Sciences	Orlando	FL
1104	Medical College of Georgia Nursing Anesthesia Program	Augusta	GA
1107	Mercer Univ School of Medicine Program in Nurse Anesthesia	Macon	GA
1234	US Army Graduate Program in Anesthesia Nursing/Dwight David Eisenhower AMC	Fort Gordon	GA
1201	US Army Graduate Program in Anesthesia Nursing/Tripler AMC	Honolulu	HI
1602	The Univ of Iowa College of Nursing Anesthesia Nursing Program	Iowa City	IA
1400	Rosalind Franklin Univ of Medicine and Science Nurse Anesthesia Program	Chicago	IL
1401	Evanston Northwestern Healthcare School of Anesthesia/DePaul University	Evanston	IL
1402	Decatur Memorial Hospital's Nurse Anesthesia Program/ Bradley University	Decatur	IL
1403	Rush University, College of Nursing, Nurse Anesthesia Program	Chicago	IL
1415	Southern Illinois University Edwardsville, School of Nursing, Anesthesia Nursing Specialization	Edwardsville	IL
1701	University of Kansas Medical Center Program of Nurse Anesthesia Education	Kansas City	KS
1707	Newman University Nurse Anesthesia Program	Wichita	KS

Code	School	City	State
1052	Trover Health System/Murray State University Program of Anesthesia	Madisonville	KY
1901	Louisiana State University Health Sciences Center School of Nursing, Nurse Anesthesia Option	New Orleans	LA
1905	Our Lady of the Lake College, Nurse Anesthesia Program	Baton Rouge	LA
0202	Northeastern University Bouve College of Health Sciences School of Nursing, Nurse Anesthesia Program	Boston	MA
0209	Boston College, William F. Connell School of Nursing, Nurse Anesthesia Program	Chestnut Hill	MA
2003	University of New England School of Nurse Anesthesia	Portland	ME
0002	Navy Nurse Corps Anesthesia Program	Bethesda	MD
2104	Uniformed Services Univ of the Health Sciences Graduate School of Nursing, Nurse Anesthesia Program	Bethesda	MD
2105	Univ of Maryland School of Nursing Graduate Program in Nurse Anesthesia	Baltimore	MD
2301	Wayne State University College of Pharmacy and Health Sciences	Detroit	MI
2304	University of Detroit Mercy Graduate Program of Nurse Anesthesiology	Pontiac	MI
2306	Oakland University-Beaumont Graduate Program of Nurse Anesthesia	Royal Oak	MI
2310	The University of Michigan-Flint/Hurley Medical Center Master of Science in Anesthesia Program	Flint	MI
2311	Michigan State Univ Nurse Anesthesia Program	East Lansing	MI
2403	Mayo Clinic College of Medicine, School of Health Sciences Master of Nurse Anesthesia Program	Rochester	MN
2405	University of Minnesota School of Nursing Nurse Anesthesia Area of Study	Minneapolis	MN
2406	Saint Mary's Univ of Minnesota Graduate Program in Nurse Anesthesia	Minneapolis	MN
2407	Minneapolis School of Anesthesia	St. Louis Park	MN
2602	St. John's School of Nurse Anesthesia	Springfield	MO
2603	At Missouri State University	Kansas City	MO
2605	Truman Medical Center School of Nurse Anesthesia	St. Louis	MO
2606	Webster University Nurse Anesthesia Program	St. Louis	MO
3400	Barnes/Jewish College of Nursing Nurse Anesthesia Program	St. Louis	MO
3400	Western Carolina Univ Nurse Anesthesia Program	Candler	NC
3402	Carolinas HealthCare System Nurse Anesthesia Program/UNCC	Charlotte	NC
3403	Wake Forest University Baptist Medical Center UNC at Greensboro Nurse Anesthesia Program	Winston-Salem	NC
3404	Raleigh School of Nurse Anesthesia/UNC at Greensboro	Raleigh	NC
3409	Duke University Nurse Anesthesia Program	Durham	NC
3410	East Carolina University School of Nursing Nurse Anesthesia Program	Greenville	NC
3411	US Army Graduate Program of Anesthesia Nursing/Womack AMC	Fort Bragg	NC
3504	University of North Dakota, Nurse Anesthesia Specialization	Grand Forks	ND
2801	Bryan LGH Medical Center, School of Nurse Anesthesia	Lincoln	NE
3102	Our Lady of Lourdes Medical Center, Nurse Anesthesia Program	Camden	NJ
3109	Univ of Medicine and Denistry of NJ, School of Nursing, University Hosp Nurse Anesthesia Program	Newark	NJ
0101	Albany Medical College Nurse Anesthesiology Program	Albany	NY
0105	University at Buffalo, SUNY Nurse Anesthetist Program	Buffalo	NY
0106	Columbia Univ School of Nursing Program in Nurse Anesthesia	New York	NY
0107	SUNY Health Science Center at Brooklyn Nurse Anesthesia Program With Kings County Hospital Center with Harlem Hospital Center	Brooklyn	NY
3601	University of Cincinnati, College of Nursing, Masters Program Nurse Anesthesia Major	Cincinnati	OH
3604	St. Elizabeth Health Center School for Nurse Anesthetists, Inc.	Youngstown	OH
3605	The University of Akron College of Nursing, Graduate Anesthesia Program	Akron	OH
3606	Cleveland Clinic Foundation/Frances Payne Bolton School of Nursing/Case Western Reserve Univ, School of Nurse Anesthesia	Cleveland	OH
3608	Frances Payne Bolton School of Nursing, Program of Nurse Anesthesia/Case Western Reserve University	Cleveland	OH
3800	Oregon Health & Science Univ School of Nursing, Nurse Anesthesia Program	Portland	OR

Code	School	City	State
3902	Excelsa Health School of Anesthesia	Latrobe	PA
3903	Frank J. Tornetta School of Anesthesia at Montgomery Hospital/LaSalle Univ. Nurse Anesthesia Program	Norristown	PA
3904	Nazareth Hospital School of Nurse Anesthesiology	Philadelphia	PA
3909	Crozer Chester Medical Center/Villanova Univ Nurse Anesthesia Program	Upland	PA
3911	University of Pittsburgh School of Nursing, Nurse Anesthesia Program	Pittsburgh	PA
3913	Wyoming Valley Health Care System/University of Scranton School of Nurse Anesthesia	Wilkes-Barre	PA
3915	Hamot Medical Center School of Anesthesia/Gannon University	Erie	PA
3916	Allegheny Valley Hospital/LaRoche College School of Nurse Anesthesia	Natrona Hts.	PA
3923	Drexel University, Nurse Anesthesia Program	Philadelphia	PA
3931	York College of Pennsylvania/WellSpan Health Nurse Anesthetist Program	York	PA
3942	Thomas Jefferson Univ, Jefferson School of Nursing Nurse Anesthesia Program	Philadelphia	PA
3959	Univ of Pennsylvania, School of Nursing, Nurse Anesthesia Program	Philadelphia	PA
1800	Univ of Puerto Rico, School of Nursing, Medical Sciences Campus (Accredited through 8/31/08)	San Juan	PR
1801	InterAmerican University of Puerto Rico Master of Science in Anesthesia	Arecibo	PR
4001	St. Joseph Hospital School of Anesthesia for Nurses	N. Providence	RI
4002	Memorial Hospital of Rhode Island School of Nurse Anesthesia	Pawtucket	RI
4101	USC/PRMH Graduate Program in Nurse Anesthesia	Columbia	SC
4102	Medical Univ of South Carolina Anesthesia for Nurses Program	Charleston	SC
4202	Mount Marty College Graduate Program in Nurse Anesthesiology	Sioux Falls	SD
4301	The Univ of Tennessee at Chattanooga/ Erlanger Health System Nurse Anesthesia Concentration	Chattanooga	TN
4302	The Univ of Tennessee, Health Science Center College of Nursing, Nurse Anesthesia Option	Memphis	TN
4303	Middle Tennessee School of Anesthesia	Madison	TN
4309	The University of Tennessee, College of Nursing, Nurse Anesthesia Concentration	Knoxville	TN
4310	Union Univ School of Nursing, Nurse Anesthesia Track	Jackson	TN
4401	Univ of TX-Houston Health Science Center, School of Nursing, Nurse Anesthesia Division	Houston	TX
4402	Texas Christian University, School of Nurse Anesthesia	Fort Worth	TX
4403	US Army Graduate Program in Anesthesia Nursing/William Beaumont AMC	El Paso	TX
4404	US Army Graduate Program in Anesthesia Nursing/Darnall ACH	Fort Hood	TX
4406	Texas Wesleyan University, Graduate Program of Nurse Anesthesia	Fort Worth	TX
4407	Baylor College of Medicine Graduate Program in Nurse Anesthesia	Houston	TX
4411	US Army Graduate Program in Anesthesia Nursing, Brooke AMC	Ft. Sam Houston	TX
4417	US Army Graduate Program in Anesthesia Nursing	Ft. Sam Houston	TX
5101	Westminster College School of Nursing Masters of Science in Nurse Anesthesia	Salt Lake City	UT
0005	Old Dominion University, School of Nursing, Nurse Anesthesia Program	Norfolk	VA
0006	Virginia Commonwealth Univ Department of Nurse Anesthesia	Richmond	VA
4801	US Army Graduate Program in Anesthesia Nursing/Madigan AMC	Tacoma	WA
4802	Sacred Heart Medical Center/Gonzaga University Master of Anesthesiology Education Program	Spokane	WA
5001	Franciscan Skemp Healthcare School of Anesthesia	La Crosse	WI
4901	Charleston Area Medical Center School of Nurse Anesthesia	Charleston	WV
4904	Mountain State Univ Nurse Anesthesia	Beckley	WV



**Council on Certification of  
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