

APS DISTRICT HIGH SCHOOL SCIENCE CURRICULUM FRAMEWORK

Course Title: Nursing Science III Course Number: SEE BELOW

Department: Science/Health and Human Services ADS Number: 1505724

Prerequisites: Successful completion of Nursing Science I and II

Length of Course: One Year Credit/PRI Area: .5 Sci Elective per Sem and 1.0 PA credit per Sem Grade Level(s): 12

Course and ADS Numbers:

Nursing Science III 448C1
Nursing Science III 826C2

***Important Notes:** A course that provides 1.5 credits per semester allows the student additional opportunities for in-depth study and application of the course content. The student must be able to lift 50 pounds. Upon successful completion of this course, the student is eligible to take the national licensing exam for practical nurses.*

COURSE DESCRIPTION: Nursing Science III continues to build on the foundation of knowledge the student attained in Nursing Science I and II. The emphasis of the course is on disease and disease treatment from the infant to the adult including all aspects of management of diseases and disorders. Literacy strategies are integrated throughout the curriculum.

References in parentheses following each performance standard refer to and are aligned with the State of New Mexico Science Standards (NM), the State of New Mexico Career Readiness Standards (CR), the Albuquerque Public Schools (APS) Mathematics Standards (APS – MA), and the APS Language Arts Standards (APS – LA).

STRATEGIES:

The “Illustrations” column in the *Program of Studies* provides exemplars of the performance standards, strategies, and best practices suggested by nursing teachers in the Albuquerque Public Schools (APS).

ASSESSMENTS:

Assessments may include the following: authentic and performance-based assessment, cooperative learning, teacher observations, checklists, tests and exams, formal and informal writing, small group and full class discussions, oral and multimedia presentations, projects, demonstrations, and portfolios. Assessments are based on appropriate rubrics.

SUGGESTED TEXTBOOKS AND INSTRUCTIONAL MATERIALS:

- *Introductory Medical-Surgical Nursing* (8th edition) Barbara K. Timby and Nancy E. Smith, Lippincott, Williams & Wilkins, Philadelphia, PA, 2003.
- *Davis Drug Guide for Nurses* (9th edition) Judith Hopfer Deglin and April Hazard Vallerand, F.A. Davis, Philadelphia, PA, 2003.
- *Introductory Pediatric Nursing* (6th edition) Nancy T. Hatfield, Lippincott, Williams & Wilkins, Philadelphia, PA, 2003.
- *Diagnostic and Laboratory Test Reference* (5th edition) by Kathleen D PhD, RN and Timothy J. Pagana MD, FACS; Mosby Inc. St. Louis, 2001.
- *Clinical Companion to Medical Surgical Nursing* (2nd edition) by Dirksen, S. R., Lewis, S.M. & Heitkemper, M. M.; Mosby Inc. St Louis, 2000.
- *Nursing Diagnosis Reference Manual* (5th edition). Sparks, S.M. & Taylor, C.M.; Springhouse Corp. Pennsylvania, 2001.
- *Taber’s Cyclopedic Medical Dictionary* (19th edition) Donald Venes, MD MSJ Editor. F.A. Davis Co. Philadelphia, 2001.
- *Memmler’s Structure and Function of the Human Body* (7th edition) by Barbara J. Cohen and Dena L. Wood. Lippincott Williams and Wilkins, Philadelphia (2000).

SUGGESTED TITLES/AUTHORS WEB SITES:

Approved by HSCA: March 17, 2005

STRAND I: SCIENTIFIC THINKING AND PRACTICE**CONTENT STANDARD:** The student understands the processes of scientific investigations and uses inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.

- BENCHMARKS:**
- A. The student uses accepted scientific methods to collect, analyze and interpret data and observations, and design and conduct scientific investigations and communication results.
 - B. The student understands that scientific processes produce scientific knowledge that is continually evaluated, validated, revised or rejected.
 - C. The student uses mathematical concepts, principles and expressions to analyze data, develop models, understand patterns and relationships, evaluate findings and draw conclusions.

GRADE 12	PERFORMANCE STANDARDS	ILLUSTRATIONS
	<ol style="list-style-type: none"> 1. Uses appropriate technologies to collect, analyze, and communicate scientific data (e.g., computers, calculators, balances, microscopes) (NM – I.I.I.3). 2. Conveys results of investigations using scientific concepts, methodologies, and expressions, including (NM – I.I.I.4; APS - MA IV.5E): <ul style="list-style-type: none"> • scientific language and symbols, • diagrams, charts, and other data displays, • mathematical expressions and processes, • clear, logical, and concise communication, and • reasoned arguments. 	<p>NOTE: Illustrations include suggested activities for attaining each performance standard. A check (√) refers to a key feature to look for while assessing student performance.</p> <ol style="list-style-type: none"> 1. The student uses the computer to gather and analyze patient data; document patient data (when available); calculate IV rates, medications in both theory and the clinical arena; and to use scales to obtain patient weights. <ul style="list-style-type: none"> √ technological skills √ appropriate data collection √ interpretation of data 2. The student applies scientific concepts in the nursing process in a variety of ways to convey investigative results. He/She: <ul style="list-style-type: none"> • consistently forms the appropriate nursing diagnosis, • uses medical language (vocabulary and symbols) to document in patient chart, • consistently refers to Taber’s Medical dictionary to facilitate knowledge of scientific language, • uses patient charts to gather specific patient information, • interprets readings on growth and development charts, • charts vital signs, • uses diagrams to interpret scientific data, • uses ratio/proportions to calculate medication dosages, • uses methods to calculate infusion rate, • uses therapeutic communication in the patient/nurse relationship, • completes a four week clinical rotation of communication, • completes communication assignments, and • consistently demonstrates professionalism when communicating with instructor, and staff

GRADE 12	PERFORMANCE STANDARDS	ILLUSTRATIONS
	<p>3. Understands how scientific processes produce valid, reliable results, including (NM – I.I.II.1):</p> <ul style="list-style-type: none"> • consistency of explanations with data and observations, • openness to peer review, • full disclosure and examination of assumptions, and • testability of hypotheses. <p>4. Uses scientific reasoning and valid logic to recognize (NM – I.I.II.2):</p> <ul style="list-style-type: none"> • faulty logic, • cause and effect, and • the difference between observation and unsubstantiated inferences and conclusions. <p>5. Understands how new data and observations can result in new scientific knowledge (NM – I.I.II.3; APS – MA IV.1E).</p> <p>6. Critically analyzes an accepted explanation by reviewing current scientific knowledge (NM – I.I.II.4).</p> <p>7. Examines investigations of current interest in science (NM – I.I.II.5).</p>	<ul style="list-style-type: none"> √ effective communication √ mathematical applications √ accuracy √ visual representations √ analysis <p>3, 4. The student participates in a variety of tasks that enhance his/her ability to assess and convey accurate and reliable results. He/She:</p> <ul style="list-style-type: none"> • gathers patient data, both subjective (patient statement) and objective (signs and symptoms and defining characteristics) from patients' health records when appropriate. • discusses NANDA nursing diagnosis with the primary nurse and nursing instructor and documents primary nursing diagnosis in chart and justifies reasoning for choosing diagnosis with peers at clinical post conference. • completes a care plan on nursing diagnosis identified. • identifies measurable short term and long term goals that may be used to evaluate effectiveness of nursing interventions and provides support for rationales. Nursing interventions are geared to alleviate identified problem (nursing diagnosis). • observes assessment data (including behavioral changes) and subjective data to examine to what extent the nursing diagnosis has been resolved and documents this observation as outcome criteria on the nursing care plan and in patient's legal chart. <ul style="list-style-type: none"> √ active participation in all activities √ accuracy √ effective communication √ observation skills √ reasonable goals √ logical thinking √ appropriate documentation <p>5 - 7. The student selects a current, scientific topic of interest (e.g., psychiatric nursing, cardiac, pharmacology) to him/her, researches (e.g., Internet), and presents findings to the class. He/She must use current sources (e.g., five years or less) and apply nursing knowledge to support his/her findings.</p> <ul style="list-style-type: none"> √ thorough research √ application of nursing knowledge √ all required components √ quality product

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	<p>8. Creates multiple displays of data to analyze and explain the relationships in scientific investigations (NM – I.I.III.1).</p> <p>9. Uses technologies to quantify relationships in scientific hypotheses (e.g., calculators, computer spreadsheets) (NM – I.I.III.3).</p> <p>10. Identifies and applies measurement techniques and considers possible effects of measurement errors (NM – I.I.III.4).</p>	<p>√ effective presentation √ clear communication Option: The student completes an in-service project.</p> <p>8, 9. The student designs visuals and handouts to display/distribute to class when conducting in-service or class presentations. He/She uses technology (e.g., graphics, transparencies, charts) to design these materials.</p> <p>√ use of technology √ creativity √ appropriateness √ effectiveness of visual</p> <p>10. The student learns to use and interpret a variety of equipment and instruments and through practice demonstrates proficiency in the use of these tools.</p> <ul style="list-style-type: none"> • B/P equipment • thermometer • pulse oximetry • scales <p>√ proficient use of instruments and equipment √ interpretation of readings √ modifications, as needed</p>

STRAND II: PHYSICAL SCIENCE CONTENT**CONTENT STANDARD:** The student understands the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.**BENCHMARKS:** A. The student understands the transformations and transmission of energy and how energy and matter interact.
B. The student understands the motion of objects and waves and the forces that cause them.

GRADE 12	PERFORMANCE STANDARDS	ILLUSTRATIONS
	<ol style="list-style-type: none">1. Understands how heat can be transferred by conduction, convection, and radiation and how heat conduction differs in conductors and insulators (NM - II.I.II.4).2. Understands that electromagnetic waves carry energy that can be transferred when they interact with matter (NM - II.I.II.7).3. Understands the concept of equilibrium (i.e., thermal, mechanical, and chemical) (NM - II.I.II.11).	<ol style="list-style-type: none">1. The student gains knowledge of conduction, convection, and radiation through the following:<ul style="list-style-type: none">• assessing patient temperature: skin, body, core,• demonstrating use of a heating pad,• demonstrating application of cold,• verbalizing safety precautions for patient's undergoing x-ray,• comparing and contrasting bradytherapy and teletherapy, (radiation treatments often used for the care of cancer patients),• identifying various means by which one loses body heat,• verbalizing various uses of cooling blanket,• formulating appropriate nursing diagnosis, and• implementing appropriate nursing care.<ul style="list-style-type: none">√ understanding of concepts√ effective communication√ safe practices√ individual participation in all activities2. Through textbook readings, lectures, and demonstrations the student learns about electromagnetic waves and then applies this knowledge during his/her care of patients on radiation therapy.<ul style="list-style-type: none">√ appropriate nursing diagnosis√ appropriate nursing care3. To understand equilibrium, the student:<ul style="list-style-type: none">• demonstrates written and verbal understanding of crystalloid and colloid solutions to maintain equilibrium,• verbalizes use of heat and cold as necessary to maintain thermal equilibrium, and• discusses mechanical ventilation processes.<ul style="list-style-type: none">√ understanding of concepts√ effective oral and written communication

GRADE 12	PERFORMANCE STANDARDS	ILLUSTRATIONS
	<p>4. Knows that materials containing equal amounts of positive and negative charges are electrically neutral, but that a small excess or deficit of negative charges produces significant electrical forces (NM – II.I.III.3).</p> <p>5. Understands the relationship between force and pressure, and how the pressure of a volume of gas depends on the temperature and the amount of gas (NM - II.I.III.4).</p> <p>6. Explains how electric currents cause magnetism and how changing magnetic fields produce electricity (e.g., electric motors, generators) (NM - II.I.III.5).</p> <p>7. Describes wave propagation using amplitude, wavelength, frequency, and speed (NM - II.I.III.10).</p> <p>8. Explains how the interactions of waves can result in interference, reflection, and refraction (NM - II.I.III.11).</p> <p>9. Describes how waves are used for practical purposes (e.g., seismic data, acoustic effects, Doppler effect) (NM - II.I.III.12).</p>	<p>4. The student participates in a variety of activities to understand that the amount of positive and negative charges materials contain may impact the production of electrical forces. He/She:</p> <ul style="list-style-type: none"> • interprets electrolyte laboratory results in relation to patient care, • writes and states understanding of medications used for electrolyte imbalances, • formulates appropriate nursing diagnosis, and • implements appropriate nursing care. <ul style="list-style-type: none"> √ applications √ accuracy √ analysis √ effective communication <p>5. The student takes a patient’s blood pressure, models applying pressure (pressure dressing) to stop bleeding, applies oxygen per nasal prongs or mask, as ordered, and interprets arterial blood gases as ways to show his/her understanding of the relationship between force and pressure.</p> <ul style="list-style-type: none"> √ proficient application of techniques √ accurate analysis <p>6. The student discusses the need for reporting unsafe equipment while in the hospital setting and verbalizes understanding of the use of alternate power systems as indicated when working in a health care delivery system.</p> <ul style="list-style-type: none"> √ active participation in all discussions √ clear and concise communication √ accuracy of information <p>7. The student identifies seizure activity (changes in EEG) and wave changes in EKG (atrial fibrillation, ventricular tachycardia).</p> <ul style="list-style-type: none"> √ correct identification of wave patterns <p>8, 9. To better understand the practical purposes of waves, the student:</p> <ul style="list-style-type: none"> • describes an EKG (electrocardiogram), • describes an EEG (electroencephalogram), • demonstrates use of Doppler, and • verbalizes understanding of ultrasound as a diagnostic tool. <ul style="list-style-type: none"> √ accurate descriptions of an EKG and an EEG √ clarity in communication √ applications of concepts

STRAND III: ANATOMY AND PHYSIOLOGY**CONTENT STANDARD:** The student understands the anatomy and physiology of the body in relation to disease processes.**BENCHMARK:** The student applies knowledge of body systems (e.g., neurological, respiratory, gastrointestinal) in the treatment of disease.

GRADE 12	PERFORMANCE STANDARDS	ILLUSTRATIONS
	<ol style="list-style-type: none"> 1. Identifies the components of the integumentary system and explains the physiological mechanisms that make the functions of this system possible (NM – II.II.III.3 – 5). 2. Identifies the bones and their parts that make up the skeletal system, and relates the physiological mechanisms that help the skeletal system fulfill its functions (NM – II.II.II.8, 10). 3. Identifies the various kinds of major muscles of the body (NM – II.II.I.3). 	<p>For each of the units in this strand, the student:</p> <ul style="list-style-type: none"> • takes an exam that tests his/her understanding of the system, • develops a drug card, explains it, and administers medications to treat disorders in each system, and • formulates appropriate nursing diagnosis and nursing interventions used in the treatment of disorders in each body system. <ol style="list-style-type: none"> 1. The student participates in a variety of exercises to show understanding of the integumentary system. He/She: <ul style="list-style-type: none"> • demonstrates safe/appropriate skin care of the patient in the clinical setting, • identifies patients at risk for skin breakdown in the clinical setting, • demonstrates integumentary assessment in the clinical setting, and • completes nursing care plan related to altered skin integrity. <ul style="list-style-type: none"> √ active participation in all activities √ effective written and oral communication √ safety practices √ accurate diagnosis √ completion of all required tasks 2, 3. The student demonstrates understanding of the skeletal system and its functions in a variety of ways. He/She: <ul style="list-style-type: none"> • demonstrates understanding of musculoskeletal system and disease processes related to skeletal system: fractures, dislocation, and degenerative disease, • describes the signs and symptoms and common treatments of various fractures, • utilizes appropriate positioning for hip pinning, total hip arthroplasty, and total knee arthroplasty, • discusses nursing management of a patient with a dislocation, cast, or one who is traction or undergoing orthopedic surgery,

GRADE 12	PERFORMANCE STANDARDS	ILLUSTRATIONS
	<p>4. Investigates the anatomy and physiology of the brain and its associated coverings (NM – II.II.III.5, 7).</p> <p>5. Describes the structure and function of neurons (NM – II.II.III.7).</p> <p>6. Investigates the physiology of electrochemical impulses and neural integration (NM – II.I.I.14, 15, II.I.III.1, 3 – 6).</p>	<ul style="list-style-type: none"> • completes neurovascular assessments, and • differentiates between strains, contusions and sprains. <ul style="list-style-type: none"> √ active participation in all activities √ effective written and oral communication √ appropriate application of techniques √ accurate assessments √ distinguishes among different types of injuries <p>4. Through discussions, lectures, and written and oral assessments, the student shows understanding of the neurological system and related brain disorders and diseases. He/She describes the signs, symptoms, and common treatment of patients with various neurological dysfunction; discusses signs of symptoms and nursing care of the patient with increased intracranial pressure; applies the nursing management of patients with neurological disorders; and completes a neurological assessment.</p> <ul style="list-style-type: none"> √ active participation in all activities and discussions √ effective written and oral communication √ accurate diagnosis and treatment of symptoms √ appropriate nursing care of patient √ proficiency in assessment <p>5. The student compares and contrasts varying functions of neurotransmitters (e.g., acetylcholine, dopamine, serotonin, epinephrine), writes about pharmacological agents whose action works on various neurotransmitters, completes a mini mental on patients with psychiatric disorders, and completes a neurological assessment on patients with neurological dysfunctions.</p> <ul style="list-style-type: none"> √ understanding of neurological functions √ effective writing elements √ completion of all tasks <p>6. The student exhibits his/her nursing skills related to the physiology of electrochemical impulses and neural integration in several ways. He/She:</p> <ul style="list-style-type: none"> • compares and contrasts partial versus generalized seizures, • provides nursing management of the patient with seizure disorder, and • applies seizure precautions. <ul style="list-style-type: none"> √ completion of all tasks √ proficiency in care of patients with seizure disorders √ effective communication

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	<p>7. Describes the functions of the blood within the human body (NM – II.II.1.3).</p> <p>8. Demonstrates an understanding of the anatomy of the heart, its external coverings, and the flow of blood through the heart (NM – II.I.II. 7 – 10).</p> <p>9. Describes the structure of blood vessels (NM – II.II.1.5).</p>	<p>7. To demonstrate proficiency in blood functions, the student:</p> <ul style="list-style-type: none"> • describes five types of anemia, • discusses nutritional deficiencies that can cause anemia, • compares and contrasts various laboratory tests used to diagnosis blood disorders, and • demonstrates nursing management of the patient with coagulopathies. <ul style="list-style-type: none"> √ active participation in discussions √ comparisons and contrasts √ skillful patient care √ effective communication √ accuracy <p>8. At this level the student devotes a good part of his/her time in on-the-job application of skills. Understanding the anatomy of the heart and its functions requires the student to do the following:</p> <ul style="list-style-type: none"> • complete a cardiovascular nursing assessment, • locate where various heart sounds are best auscultated on the patient, • identify normal and abnormal heart sounds, and • demonstrate nursing management of a patient with various heart diseases/disorders. <ul style="list-style-type: none"> √ successful completion of tests √ application of nursing skills √ effective communication √ accuracy <p style="text-align: center;">OR</p> <p>Each student develops a game that demonstrates aspects of a disease process or treatment of the disease. The student includes activities to go with the game and presents it to the class.</p> <ul style="list-style-type: none"> √ functionality of the game √ effective presentation <p>9. The student detects palpations of various pulses (i.e., carotid, radial, popliteal, femoral, pedal) and successfully passes exams that tests his/her knowledge of the structure of blood vessels and related diseases.</p> <ul style="list-style-type: none"> √ test mastery √ accurate detection of pulses

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	<p>10. Describes the physiological basis of circulation and blood pressure (NM – II.I.III.1, 2, 4, 10 – 12).</p> <p>11. Demonstrates the role of the cardiovascular system in maintaining homeostasis (NM – II.I.II.7, 8, 10, 11).</p> <p>12. Explains the role of the urinary system in body waste management (NM – II.II.III.7).</p> <p>13. Identifies the structures and related functions of the male and female reproductive systems (NM – II.II.II.1 – 5).</p> <p>14. Identifies the organ systems of the human body and the major components (NM – II.II.III.1 – 6).</p>	<p>10. The student:</p> <ul style="list-style-type: none"> • identifies two physiologic components that create blood pressure, • lists factors that influence blood pressure, • lists three structures that physiologically control arterial pressure, • demonstrates taking blood pressure, and • identifies various fluid/electrolytes used to treat fluid imbalances. <ul style="list-style-type: none"> √ successful completion of all tasks √ comprehension of circulation and blood pressure √ accuracy <p>11. The student completes a cardiovascular assessment that includes pulmonary assessment, input and output, edema, and skin turgur.</p> <ul style="list-style-type: none"> √ successful assessment <p>12. The student defines the primary function of the urinary system, identifies problems associated with changes in voiding, obtains a clean catch urinalysis on a patient, demonstrates sterile technique insertion of a urinary catheter, does a urinary assessment of a patient, and compares and contrasts hemodialysis and peritoneal dialysis to demonstrate the role of the urinary system in waste management.</p> <ul style="list-style-type: none"> √ successful completion of all tasks √ proficient nursing skills √ understanding of the urinary system, its diseases, and treatments <p>13. Through discussion, use of diagrams, and a variety of assessments, the student demonstrates knowledge of the structures and functions of the male and female reproductive systems. He/She describes the signs, symptoms, and common treatments of various diseases/disorders.</p> <ul style="list-style-type: none"> √ accurate diagnosis √ active participation in discussions √ application of learned knowledge <p>14. The student works with patients and applies nursing knowledge in the treatment of their ailments related to pathophysiological conditions of the respiratory, cardiac, immune, gastrointestinal, genitourinary, eye/ear, and lymphatic/blood and musculoskeletal systems.</p> <ul style="list-style-type: none"> √ accurate treatment √ skillful nursing care √ mastery of concepts related to the major organ systems of the body

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	<p>15. Distinguishes among the major types of chemical reactions that are important for studying physiology (NM – II.I.I.13, II.I.I.15).</p> <p>16. Discusses the structures and functions of carbohydrates, lipids, proteins, nucleic acids, and high-energy compounds (NM – II.II.III.1, II.II.III.6).</p> <p>17. Identifies the four major tissue types of the body and their structure and function (NM – II.II.III.7).</p>	<p>15. In either oral or written format, the student expresses his/her understanding of the sodium/potassium pump, acid/base balances, and fluid and electrolytes.</p> <ul style="list-style-type: none"> √ understanding of chemical reactions √ effective communication <p>16. In small or large group discussions the student explains the structures and functions of carbohydrates, lipids, proteins, nucleic acids, and high-energy compounds. The student includes information on different types of diets (e.g., renal, low sodium, cardiac, diabetic), nutrition required for wound healing, malabsorption disorders, and components of partial and total parental nutrition. He/She must also demonstrate tube feeding in the patient (e.g., nasogastric, peg tube).</p> <ul style="list-style-type: none"> √ active participation in discussions √ deep understanding of concepts √ relevant information √ effective communication √ application of nursing techniques <p>17. The student compares and contrasts function of epithelial, connective, muscle and nervous tissues and describes disease processes associated with specific tissue types.</p> <ul style="list-style-type: none"> √ accurate assessments √ effective communication

STRAND IV: SCIENCE IN SOCIETY**CONTENT STANDARD:** The student understands how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by, individuals and societies.**BENCHMARK:** The student examines and analyzes how scientific discoveries and their applications affect the world and explains how societies influence scientific investigations and applications.

GRADE 12	PERFORMANCE STANDARDS	ILLUSTRATIONS
	<ol style="list-style-type: none"> 1. Knows how science enables technology but also constrains it and recognizes the difference between real technology and science fiction (medical X-rays vs. Star-Trek tricorders) (NM – III.I.I.1). 2. Understands how advances in technology enable further advances in science (e.g., microscopes and cellular structure, telescopes and understanding of the universe) (NM – III.I.I.2). 3. Evaluates the influences of technology on society (e.g., communications, petroleum, transportation, nuclear energy, computers, medicine, genetic engineering) including both desired and undesired effects, including some historical examples (e.g., the wheel, the plow, the printing press, the lightning rod) (NM – III.I.I.3). 4. Understands the scientific foundations of common technologies (e.g., kitchen appliances, radio, television, aircraft, rockets, computers, medical x-rays, selective breeding, fertilizers and pesticides, agricultural equipment) (NM – III.I.I.4). 5. Understands that applications of genetics can meet human needs and can create new problems (e.g., agriculture, medicine, cloning) (NM – III.I.I.5). 6. Analyzes the impact of digital technologies on the availability, creation, and dissemination of information NM – III.I.I.6). 	<ol style="list-style-type: none"> 1, 5. The student participates in ethical discussions (e.g., genetic testing) regarding science and technology. He/She compares and contrasts real technology (e.g., medicine) with various contemporary shows that depict nursing and health care. <ul style="list-style-type: none"> √ individual participation in discussions √ comparison and contrasting examples √ understanding of ethical issues 2 – 5. The student learns and applies his/her technological skills as they relate to the medical environment and the deliverance of health care (e.g., CAT scans, MRIs, x-rays). Along with that knowledge, he/she preserves patient confidentiality through HIPPA practices and is able to explain technological advances in the treatment of disease and disorders. <ul style="list-style-type: none"> √ application of technological skills √ confidentiality practices √ clear communication 6. The student utilizes the computer (e.g., Internet, word processing) on a regular basis to complete homework assignments. The computer supplements the student textbook with additional medical information

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	<p>7. Describes uses of radioactivity (e.g., nuclear power, nuclear medicine, radiometric dating) (NM – III.I.I.8).</p> <p>8. Describes major historical changes in scientific perspectives (e.g., atomic theory, germs, cosmology, relativity, plate tectonics, evolution) and the experimental observations that triggered them (NM – III.I.I.10).</p> <p>9. Understands that reasonable people may disagree about some issues that of interest to both science and religion (e.g., the origin of life on Earth, the cause of the Big Bang, the future of Earth) (NM – III.I.I.16).</p> <p>10. Understands that scientists have characteristics in common with other individuals (e.g., employment and career needs, curiosity, desire to perform public service, greed, preconceptions and biases, temptation to be unethical, core values including honesty and openness) (NM – III.I.I.18).</p>	<p>that may or may not be found in the text.</p> <ul style="list-style-type: none"> √ use of computer to gather information <p>7. The student researches and examines studies that describe the use of radioactive materials and explains to others how various radioactive substances can be used in the care and treatment of patients and in diagnostic procedures.</p> <ul style="list-style-type: none"> √ thorough research √ relevant information √ effective communication √ understanding of uses of radioactivity <p>8. The student researches the history of infection, the history of treatment of the psychiatric patient, and the history of transplants. After collecting information in all three areas, the student selects one of the topics that generated the most interest to him/her, summarizes the main points of the research, and presents in either an oral or written format. The student includes in his/her presentation appropriate interventions, the nursing process required for the specific area, and details on how he/she would conduct a health care in-service relating to the topic.</p> <ul style="list-style-type: none"> √ thorough research √ relevant historical information √ all required components √ effective communication √ quality presentation √ problem-solving strategies <p>9. In large or small groups the student discusses how various health care services and treatments can raise ethical issues (e.g., religious) for some people and how their beliefs may prevent them from getting the proper treatment and services they need.</p> <ul style="list-style-type: none"> √ active participation in discussions √ understanding of issues √ support for position <p>10. The student participates in a variety of activities that signify practices common to other professions. He/She:</p> <ul style="list-style-type: none"> • signs an honor code upon admission to the nursing program, • verbalizes various healthcare volunteer organizations in the community,

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	<p>11. Knows that science plays a role in many different kinds of careers and activities (e.g., public service, volunteers, public office holders, researchers, teachers, doctors, nurses, technicians, farmers, ranchers) (NM – III.I.I.19).</p>	<ul style="list-style-type: none"> • explains what the Nurses Code of Ethics means, • attends a hearing at the University of New Mexico State Board of Nursing, and • attends a recruitment panel in the spring of his/her senior year. <ul style="list-style-type: none"> √ participation in and completion of all required activities √ effective communication <p>11. Through a variety of activities, the nursing student gains an understanding and an appreciation of the roles of different healthcare professions and providers. He/She:</p> <ul style="list-style-type: none"> • defines various levels and scopes of practice in the nursing profession, • describes how therapy plays a role in healthcare: physical therapist, occupational therapist, speech therapist, • compares and contrasts the role of nurse, nurse practitioner, and physician, • observes careers in laboratory, diagnostics, and dietary, • completes a field trip to the state capitol to observe how politics plays a role in nursing, and • describes roles of social worker, psychologist and other mental health care professionals. <ul style="list-style-type: none"> √ participation in all the required activities √ effective communication √ comparisons and contrasts √ observation skills √ understanding of the varied healthcare roles and their impact

STRAND V: CAREER READINESS**CONTENT STANDARD:** The student prepares for entering the professional arena in a health-care setting.**BENCHMARKS:** A. The student explores the expectations, guidelines, and roles of a medical professional.
B. The student applies the principles of professional behavior in the health-care setting.

GRADE 12	PERFORMANCE STANDARDS	ILLUSTRATIONS
	<ol style="list-style-type: none">1. Applies responsibilities, activities, and practices of a practical nurse (CR – 1B).2. Evaluates short term and long term professional goals (CR – 2A).3. Demonstrates personal strengths and areas of professional growth (CR – 2B).4. Refines technological skills (CR – 3D).5. Analyzes and integrates positive behavior, conduct, and social manners within the school, workplace, and community (CR – 4A).6. Models ability to work cooperatively to accomplish objectives (CR – 4B).7. Demonstrates appropriate and legal behaviors necessary to obtain and maintain employment (CR – 4C).8. Investigates, analyzes, and applies safety standards related to the school, community, and workplace (CR – 4D).9. Utilizes and analyzes individual interests, aptitudes, and skills within the group to accomplish goals (CR – 5A).10. Demonstrates and models ability to work with others from diverse backgrounds (CR – 5C).11. Demonstrates leadership skills within a group through effective communication, ability to motivate team members, and effective delegation of responsibility (CR – 5D).	<p>A Level III nursing student spends a good part of his/her time in the clinical setting applying his/her skills learned in the past two years. In addition, he/she spends outside time researching. The student functions at a high level of independence, functions as a peer leader, communicates with health care professionals, and maximizes problem-solving skills and techniques. He/She has built knowledge to a confident and professional level. See also Strand VI in Nursing I.</p>

GRADE 12	PERFORMANCE STANDARDS	ILLUSTRATIONS
	<p>12. Applies critical thinking and problem-solving skills or identifies problems and uses critical thinking skills and team skills to solve problems (CR – 5E).</p> <p>13. Analyzes the results of the process (CR – 5F).</p>	

STRAND VI: LITERACY**CONTENT STANDARD:** The student communicates nursing principles through multiple reading, writing, speaking, and research opportunities.**BENCHMARK:** The student demonstrates proficiency in critical thinking, reading comprehension, specialized vocabulary, and a variety of writing, speaking, and research opportunities.

GRADE 12	PERFORMANCE STANDARDS	ILLUSTRATIONS
	<p>The following performance standards are aligned with the Albuquerque Public Schools 12th grade Language Arts Standards.</p> <ol style="list-style-type: none"> 1. Demonstrates command of reading strategies across content areas (APS – LA I.1). 2. Evaluates the effectiveness of increasingly more sophisticated vocabulary in a variety of texts (APS – I.2). 3. Reads a wide variety of informational texts (APS – LA I.3). 4. Identifies and analyzes concepts in works as they relate to the reader (APS – LA II.5). 5. Demonstrates fluency in using the writing process to create a final product (APS – LA III.1). 6. Demonstrates fluency in using elements of effective writing (APS – LA III.2). 7. Demonstrates fluency in using a variety of technology (APS – LA III.3). 8. Demonstrates fluency in using writing conventions (APS – LA III.4). 9. Demonstrates fluency with speaking strategies (APS – LA IV.1). 	<p>A Level III nursing student spends a good part of his/her time in the clinical setting applying his/her skills learned in the past two years. In addition, he/she spends outside time researching. However, there are still multiple opportunities for the student to apply literacy skills, as evidenced, in every strand.</p> <p>1 – 4. See Strand I, the illustration for performance standards #5, #7; Strand II, the 1st and 2nd illustrations; and Strand III, the illustration for performance standard #4.</p> <p>5 – 8. See Strand I, the 1st illustration and the illustration for performance standard #10; Strand II, the 3rd illustration; Strand III, the 1st illustration and the illustration for performance standard #12; and Strand IV, the 2nd and 3rd illustrations.</p> <p>9. See Strand I, the 3rd illustration; Strand II, the 3rd illustration; Strand III, the 2nd illustration and the illustration for performance standard #16; and Strand IV, the last illustration.</p>

GRADE 12	PERFORMANCE STANDARDS	ILLUSTRATIONS
	<p>10. Critiques text delivered electronically or visually (APS – LA V.1): determines the source(s) of the information, appraises the accuracy, purpose, and value of the messages, and selects information to incorporate, use, and convey ideas in new ways.</p> <p>11. Uses a variety of sources to gather information (APS – LA VI.1).</p> <p>12. Continues to attribute sources of information in a variety of ways (APS – VI.3).</p> <p>13. Evaluates and defends research questions and topics (APS – LA VI.4).</p>	<p>10. See Strand I, the 3rd illustration, Strand III, the illustration for performance standard #4; and Strand IV, the 2nd and 3rd illustrations.</p> <p>11 – 13. See Strand I, the 2nd illustration and the illustration for performance standards #5, #7 and Strand IV, the illustrations for performance standards #7 and #8.</p> <p style="text-align: center;">OR</p> <p>1 – 13. The student researches (e.g., Internet, print, journals) a selected disease and develops a newspaper based on information gathered. The student includes its etiology, signs and symptoms, diagnostic procedures, medical treatment, nursing interventions, patient and family teachings, community resources, and a glossary. The student presents findings to peers via a presentation format (e.g., PowerPoint, charts, cartoons). A teacher-designed rubric is used to score and evaluate the presentation.</p> <ul style="list-style-type: none"> √ thorough research √ relevant information √ all required components √ a variety of resources √ use of technology √ effective communication √ quality presentation √ adherence to rubric criteria