Syllabus

Course Title	**LMRT 101 Radiological Equipment-Safety Standards & Maintenance of Imaging Equipment**
Length of Course	30 Hours (5 days)
Course Description	The student will demonstrate knowledge of radiographic accessories, film processing, photographic properties, geometric properties, technical properties and use of production equipment.
Course Objectives	At the end of this course, the LMRT student will Compare the role of the LMRT with that of the RT Identify the discoverer of x-rays and the date of the discovery Explain the primary purposes of the ARRT, ASRT, JRCERT Determine the legal requirements for the practice of radiography in your state Describe the typical work environment of the LMRT Describe in a general way the duties of an LMRT Use correct terminology when discussing x-ray equipment and its parts Demonstrate the radiation field and define the central ray Explain the differences between primary radiation, scatter radiation, and remnant radiation List two effects of scatter radiation List the essential features of a typical x-ray room Explain the purpose of the control booth and the transformer cabinet

	Safely change the positions of the radiographic table and the x-ray table Demonstrate a detent and explain its function Explain the purpose of a collimator Define matter and list its three forms Name the fundamental particles of the atom and list characteristics of each Draw or describe a conceptual model of atomic structure List and describe five forms of energy Draw a sine wave and measure its amplitude and its wavelength Relate the WL of a sine wave to its velocity and frequency Compare and contrast the characteristics of x-rays with the characteristics of visible light Explain in an electric circuit and state the units used to measure each State the frequency of alternating current in the US & Canada using the correct units Describe the process of electromagnetic induction Know components & function of x-ray Circuitry Explain what is meant by rectification and compare the three basic types Be familiar with the voltage waveform for each of the following types: unrectified, half-wave rectified, full-wave rectified, three-phase rectified, and high-frequency.

	List the primary features of all x-ray control panels and discuss the principal differences between conventional and computerized control consoles. Describe the components of the automatic exposure control (AEC) system. List five possible causes of x-ray tube failure and describe methods to prevent each.

Syllabus

Resources Required	Textbook: Radiography Essentials for Limited Practice with Work book Author: Bruce w. Long, Eugene D. Frank, Ruth Ann Ehrlich Bontrager's Handbook of Radiographic Positioning and Techniques Author: Kenneth L. Bontrager, john P. Lampignano
Prerequisites	None
Outside Work	Valley Grande Institute does not award credit of any kind for independent study. However, it is an expectation that students perform additional study and reading outside of the classroom to augment classroom instruction. The Research assignment noted below will require student effort outside of the classroom.
Assignment	NA
Course Evaluation Methods	Quizzes 10% Test/Exam 65% Final Exam 25% .
Grading Scale	90 – 100 A 80 – 89 B 70 – 79 C 69 or below F A final course grade of 70 is required to pass this course
Instructional Methods	Lecture Online Research Student Lab Practice

Syllabus

Additional Information	Students will adhere to the school conduct policy and dress code policy at all times, NO EXCUSES, student neither with incomplete uniform or uniform nor in compliance with the standard of the medical field will be asked to go home and change and dress appropriately; use of cell phones during class time is prohibited; no food or drinks allowed in classroom. Attendance is mandatory; students missing a day of school are responsible for obtaining the missing assignments from instructor or classmates. Absences cannot be used to excuse students for taking a test on designated date and time, taking a test on a different day and/or time will be considered late and points will be deducted no exceptions. Quizzes cannot be made up; tutoring will be available for all and any students that request it or are recommended by their instructor for tutoring, students are responsible for scheduling a tutoring session. For makeup work please refer to student catalog. Students who missed 7 days in a row will be dropped.

Course Delivery Mode	Residential

Syllabus

Course Title	**LMRT 102Image Production & Evaluation**
Length of Course	35 Lecture Hours
Course Description	The student will demonstrate knowledge of radiographic accessories, film processing, photographic properties, geometric properties, technical properties and use of production equipment.
Course Objectives	List the prime factors of exposure and effects State the formula for determining mAs and explain how this unit is useful to the limited x-ray machine operator Explain the radiographic effect caused by changes in each of the four prime factors of exposure Recognize changes in radiographic density and state the exposure factors used to control radiographic density. Identify high, low, and optimum contrast on a radiograph and state the exposure factor that primarily controls radiographic contrast. Define *radiographic distortion* and explain the difference between magnification and shape distortion Define *recorded detail* and list factors that influence definition List and explain the geometric factors that affect recorded detail and explain why magnification affects detail List & discuss methods for minimizing motion blur on radiographs. Importance of recorded detail. List the equipment needed to perform digital imaging Explain the computed radiography (CR) digital system Explain the direct radiography (DR) digital system

	Compare CR and DR digital systems Recognize the importance of using exposure technique charts with digital imaging Describe the processing and post processing of a digital image Explain what a picture archival and communications system (PACS) is and how it is used Explain the technical considerations for everyday use of digital systems

Syllabus

Resources Required	Textbook: Radiography Essentials for Limited Practice with Work book Author: Bruce w. Long, Eugene D. Frank, Ruth Ann Ehrlich Bontrager's Handbook of Radiographic Positioning and Techniques Author: Kenneth L. Bontrager, john P. Lampignano
Prerequisites	None
Outside Work	Valley Grande Institute does not award credit of any kind for independent study. However, it is an expectation that students perform additional study and reading outside of the classroom to augment classroom instruction. The Research assignment noted below will require student effort outside of the classroom.
Assignment	N/A
Course Evaluation Methods	Quizzes 10% Test/Exam 65% Final Exam 25% .
Grading Scale	90 – 100 A 80 – 89 B 70 – 79 C 69 or below F A final course grade of 70 is required to pass this course
Instructional Methods	Lecture Online Research Student Lab Practice
Additional Information	Students will adhere to the school conduct policy and dress code policy at all times, NO EXCUSES, student neither with incomplete uniform or uniform nor in compliance with the standard of the medical field will be asked to go home and change and dress appropriately; use of cell phones during class time is prohibited; no food or drinks allowed in classroom. Attendance is mandatory; students missing a day of school are responsible for obtaining the missing assignments from instructor or classmates. Absences cannot be used to excuse students for taking a test on designated date and time, taking a test on a different day and/or time will be considered late and

	points will be deducted no exceptions. Quizzes cannot be made up; tutoring will be available for all and any students that request it or are recommended by their instructor for tutoring, students are responsible for scheduling a tutoring session. For makeup work please refer to student catalog. Students who missed 7 days in a row will be dropped.
Course Delivery Mode	Residential

Syllabus

Course Title	**LMRT 103Radiation Protection**
Length of Course	12 Lecture Hours
Course Description	The student will demonstrate knowledge of types and sources of ionizing radiation, interaction of radiation with matter, cell anatomy, radio sensitivity, radiation detection, patient protection, personnel protection, and radiation regulations.
Course Objectives	State the units used to measure radiation intensity, radiation dose, and dose equivalents in both the conventional and the SI systems Given a set of x-ray exposure factors, calculate the entrance skin exposure using a dose graph Discuss the potential effects of radiation injury to cells Define and compare radiation risks according to type: somatic vs. genetic, stochastic vs. nonstochastic, short term vs. long term Discuss the risks of exposure to low doses of ionizing radiation and compare these to other familiar health risks Explain the significance of the ALARA principle List and explain methods for minimizing patient dose during radiography Explain what is meant by “low-dose techniques List and explain precautions for the safety of limited operators List potential risks of radiation exposure during pregnancy and explain ways to reduce these risks
Resources Required	Textbook: Radiography Essentials for Limited Practice with Work book Author: Bruce w. Long, Eugene D. Frank, Ruth Ann Ehrlich Bontrager’s Handbook of Radiographic Positioning and Techniques

Syllabus

	Author: Kenneth L. Bontrager, john P. Lampignano
Prerequisites	None
Outside Work	Valley Grande Institute does not award credit of any kind for independent study. However, it is an expectation that students perform additional study and reading outside of the classroom to augment classroom instruction. The Research assignment noted below will require student effort outside of the classroom.
Assignment	N/A
Course Evaluation Methods	Quizzes 10% Test/Exam 65% Final Exam 25% .
Grading Scale	90 – 100 A 80 – 89 B 70 – 79 C 69 or below F A final course grade of 70 is required to pass this course
Instructional Methods	Lecture Online Research Student Lab Practice
Course Delivery Mode	Residential

Syllabus

Course Title	**LMRT 104Medical Ethics and Law**
Length of Course	6 Lecture Hours
Course Description	The student will show the knowledge application of: the development of the profession, medical ethics, law for radiographer, patient's rights and procedural aspects of radiology.
Course Objectives	Discuss reasons why a study of professional behavior is important to the limited x-ray machine operator Apply ethical concepts to typical situations that arise in the health care setting Explain the rationale for confidentiality of professional communications and precautions for maintaining confidentiality Demonstrate respect for patient rights that the limited operator is responsible for protecting List specific acts of misconduct and malpractice that could occur in the practice of radiography and describe the most frequent circumstances causing patients to initiate litigation List aspects of self-care that demonstrate responsible behavior by the limited operator Demonstrate effective communications skills, including listening skills, nonverbal skills, and validation of communication; discriminate between assumed and validated statements Suggest positive strategies for both verbal and nonverbal communication with patients with hearing and visual impairments and patients from other cultures Demonstrate effective communications skills, including listening skills, nonverbal skills, and validation of communication; discriminate between assumed and validated statements Demonstrate communication strategies that promote teamwork in the workplace

	Demonstrate professional skills in handling messages sent and received on paper and by telephone, voice mail, and fax Demonstrate the use of patient charts for both obtaining and recording information; state the essential characteristics of good medical records Explain requirements for maintaining radiographs and procedures for lending them

Syllabus

Resources Required	Textbook: Radiography Essentials for Limited Practice with Work book Author: Bruce w. Long, Eugene D. Frank, Ruth Ann Ehrlich Bontrager's Handbook of Radiographic Positioning and Techniques Author: Kenneth L. Bontrager, john P. Lampignano
Prerequisites	None
Outside Work	Valley Grande Institute does not award credit of any kind for independent study. However, it is an expectation that students perform additional study and reading outside of the classroom to augment classroom instruction. The Research assignment noted below will require student effort outside of the classroom.
Assignment	N/A
Course Evaluation Methods	Quizzes 10% Test/Exam 65% Final Exam 25% .
Grading Scale	90 – 100 A 80 – 89 B 70 – 79 C 69 or below F A final course grade of 70 is required to pass this course
Instructional Methods	Lecture Online Research Student Lab Practice
Additional Information	Students will adhere to the school conduct policy and dress code policy at all times, NO EXCUSES, student neither with incomplete uniform or uniform nor in compliance with the standard of the medical field will be asked to go home and change and dress appropriately; use of cell phones during class time is prohibited; no food or drinks allowed in classroom. Attendance is mandatory; students missing a day of school are responsible for obtaining the missing assignments from instructor or classmates. Absences cannot be used to excuse students for taking a test on designated date and time, taking a test on a different day and/or time will be considered late and

	points will be deducted no exceptions. Quizzes cannot be made up; tutoring will be available for all and any students that request it or are recommended by their instructor for tutoring, students are responsible for scheduling a tutoring session. For makeup work please refer to student catalog. Students who missed 7 days in a row will be dropped.
Course Delivery Mode	Residential

Syllabus

Course Title	**LMRT 105Patient Care & Management**
Length of Course	24 Lecture Hours
Course Description	The students will demonstrate a knowledge of general patient-care and management, emergency situations, first-aid, aseptic isolation techniques and patient positioning.
Course Objectives	Describe the optimum viewing conditions for viewing and evaluating radiographs. Place radiographs on view boxes with correct orientation. Demonstrate a systematic review of a radiograph for diagnostic, technical, and esthetic qualities. Recognize artifacts and technical errors on radiographs and state their causes. Suggest appropriate changes in technique when film quality is less than optimal
Resources Required	Textbook: Radiography Essentials for Limited Practice with Work book Author: Bruce w. Long, Eugene D. Frank, Ruth Ann Ehrlich Bontrager's Handbook of Radiographic Positioning and Techniques Author: Kenneth L. Bontrager, john P. Lampignano
Prerequisites	None
Outside Work	Valley Grande Institute does not award credit of any kind for independent study. However, it is an expectation that students perform additional study and reading outside of the classroom to augment classroom instruction. The Research assignment noted below will require student effort outside of the classroom.
Assignment	N/A
Course Evaluation Methods	Quizzes 10% Test/Exam 65% Final Exam 25% .
Grading Scale	90 – 100 A

Syllabus

	80 – 89 B 70 – 79 C 69 or below F A final course grade of 70 is required to pass this course
Instructional Methods	Lecture Online Research Student Lab Practice
Additional Information	Students will adhere to the school conduct policy and dress code policy at all times, NO EXCUSES, student neither with incomplete uniform or uniform nor in compliance with the standard of the medical field will be asked to go home and change and dress appropriately; use of cell phones during class time is prohibited; no food or drinks allowed in classroom. Attendance is mandatory; students missing a day of school are responsible for obtaining the missing assignments from instructor or classmates. Absences cannot be used to excuse students for taking a test on designated date and time, taking a test on a different day and/or time will be considered late and points will be deducted no exceptions. Quizzes cannot be made up; tutoring will be available for all and any students that request it or are recommended by their instructor for tutoring, students are responsible for scheduling a tutoring session. For makeup work please refer to student catalog. Students who missed 7 days in a row will be dropped.
Course Delivery Mode	Residential

Syllabus

Course Title	**LMRT 106 Medical Terminology**
Length of Course	6 Lecture Hours
Course Description	The student will demonstrate a knowledge of basic medical terminology as it relates to the duties of the x-ray technician
Course Objectives	Basic word structure - Analyze medical words with origin Divide Medical Terms into component parts and word building Basic rules about grammar usage & spelling Combining forms - Singular and pleural forms Practical Application
Resources Required	Textbook: Radiography Essentials for Limited Practice with Work book Author: Bruce w. Long, Eugene D. Frank, Ruth Ann Ehrlich Bontrager's Handbook of Radiographic Positioning and Techniques Author: Kenneth L. Bontrager, john P. Lampignano
Prerequisites	None
Outside Work	Valley Grande Institute does not award credit of any kind for independent study. However, it is an expectation that students perform additional study and reading outside of the classroom to augment classroom instruction. The Research assignment noted below will require student effort outside of the classroom.
Assignment	N/A
Course Evaluation Methods	Quizzes 10% Test/Exam 65% Final Exam 25% .
Grading Scale	90 – 100 A 80 – 89 B 70 – 79 C

Syllabus

	69 or below F A final course grade of 70 is required to pass this course
Instructional Methods	Lecture Online Research Student Lab Practice
Additional Information	Students will adhere to the school conduct policy and dress code policy at all times, NO EXCUSES, student neither with incomplete uniform or uniform nor in compliance with the standard of the medical field will be asked to go home and change and dress appropriately; use of cell phones during class time is prohibited; no food or drinks allowed in classroom. Attendance is mandatory; students missing a day of school are responsible for obtaining the missing assignments from instructor or classmates. Absences cannot be used to excuse students for taking a test on designated date and time, taking a test on a different day and/or time will be considered late and points will be deducted no exceptions. Quizzes cannot be made up; tutoring will be available for all and any students that request it or are recommended by their instructor for tutoring, students are responsible for scheduling a tutoring session. For makeup work please refer to student catalog. Students who missed 7 days in a row will be dropped.
Course Delivery Mode	Residential

Syllabus

Course Title	**LMRT 107 Anatomy and Physiology**
Length of Course	30 Lecture Hours
Course Description	Students will demonstrate a basic understanding of the anatomic structure of the human body; in particular the skeleton system and the muscular system. Students will also demonstrate understanding of the basic physiologic body functions
Course Objectives	Explain the differences between cells, tissues, organs, and systems List the systems of the human body and state the basic components and function of each Describe the structure of bone, features & characteristics List the three classifications of joints and give an example of each Use correct terminology to describe joint motions Demonstrate anatomic position List and define the planes of the body Use correct terminology to describe anatomic locations and relationships Use correct terminology when referring to radiographic positions and projections Given a position/projection description, select, mark, and place the IR correctly Define common terms used to describe or classify disease processes Explain the differences between acute and chronic conditions and between benign and malignant conditions Define inflammation and describe its possible consequences Name the bones that compose the upper extremity and

	shoulder girdle and identify each on an anatomic diagram Name and identify the significant bony prominences, depressions, features and characteristics of the upper extremity and shoulder girdle and identify significant positioning landmarks by palpation Describe and recognize on radiographs pathologic conditions common to the upper extremity and shoulder girdle Name the bones that make up the lower extremity and pelvis, and identify each on an anatomic diagram Name and identify the significant bony prominences, depressions, features and characteristics of the lower extremity and pelvis and identify significant positioning landmarks by palpation Describe and recognize on radiographs pathologic conditions that are common to the lower extremity and pelvis Name the regions that make up the spine and identify each on an anatomic diagram Identify on a diagram the parts of a typical vertebra Identify on a diagram the parts of the Cervical vertebra Identify on a diagram the parts of the Thoracic vertebra Identify on a diagram the parts of the Lumbar vertebra Identify on a diagram the parts of Sacrum & Coccyx Identify significant positioning landmarks for the spine by palpation Describe and recognize on radiographs abnormalities and pathologic conditions common to the spine Name the bones that make up the bony thorax and identify each on an anatomic diagram and on a radiograph Name and identify on an anatomic diagram the principal organs located within the thoracic cavity

	Name and identify on an anatomic diagram the principal organs located within the abdominal cavity Identify significant positioning landmarks in the thoracic and abdominal areas by palpation Describe and recognize on radiographs pathologic conditions that are common to the bony thorax, chest, and abdomen Name the principal bones that make up the cranium and the face and identify each on an anatomical diagram and on a radiograph Name and identify the four sets of paranasal sinuses on an anatomical diagram and on radiographs Identify significant positioning landmarks of the skull and face by palpation Describe and recognize on radiographs pathologic conditions that are common to skull, facial bones, and paranasal sinuses

Syllabus

Resources Required	Textbook: Radiography Essentials for Limited Practice with Work book Author: Bruce w. Long, Eugene D. Frank, Ruth Ann Ehrlich Bontrager's Handbook of Radiographic Positioning and Techniques Author: Kenneth L. Bontrager, john P. Lampignano
Prerequisites	None
Outside Work	Valley Grande Institute does not award credit of any kind for independent study. However, it is an expectation that students perform additional study and reading outside of the classroom to augment classroom instruction. The Research assignment noted below will require student effort outside of the classroom.
Assignment	N/A
Course Evaluation Methods	Quizzes 10% Test/Exam 65% Final Exam 25% .
Grading Scale	90 – 100 A 80 – 89 B 70 – 79 C 69 or below F A final course grade of 70 is required to pass this course
Instructional Methods	Lecture Online Research Student Lab Practice
Additional Information	Students will adhere to the school conduct policy and dress code policy at all times, NO EXCUSES, student neither with incomplete uniform or uniform nor in compliance with the standard of the medical field will be asked to go home and change and dress appropriately; use of cell phones during class time is prohibited; no food or drinks allowed in classroom. Attendance is mandatory; students missing a day of school are responsible for obtaining the missing assignments from instructor or classmates. Absences cannot be used to excuse students for taking a test on designated date and time, taking a test on a different day and/or time will be considered late and

	points will be deducted no exceptions. Quizzes cannot be made up; tutoring will be available for all and any students that request it or are recommended by their instructor for tutoring, students are responsible for scheduling a tutoring session. For makeup work please refer to student catalog. Students who missed 7 days in a row will be dropped.
Course Delivery Mode	Residential

Syllabus

Course Title	**LMRT 108Radiological Procedures**
Length of Course	24 Lecture Hours
Course Description	The student will demonstrate knowledge of the general systemic and skeletal anatomy and arthrology, radiographic terminology, basic to imaging principles and positioning.
Course Objectives	Name and identify significant positioning landmarks by palpation Demonstrate correct body and part positioning for routine projections and common special projections of the upper extremity and shoulder girdle Correctly evaluate radiographs of the upper extremity and shoulder girdle for positioning accuracy
Resources Required	Textbook: Radiography Essentials for Limited Practice with Work book Author: Bruce w. Long, Eugene D. Frank, Ruth Ann Ehrlich Bontrager's Handbook of Radiographic Positioning and Techniques Author: Kenneth L. Bontrager, john P. Lampignano
Prerequisites	None
Outside Work	Valley Grande Institute does not award credit of any kind for independent study. However, it is an expectation that students perform additional study and reading outside of the classroom to augment classroom instruction. The Research assignment noted below will require student effort outside of the classroom.
Assignment	N/A
Course Evaluation Methods	Quizzes 10% Test/Exam 65% Final Exam 25% .
Grading Scale	90 – 100 A 80 – 89 B 70 – 79 C

Syllabus

	69 or below F A final course grade of 70 is required to pass this course
Instructional Methods	Lecture Online Research Student Lab Practice
Additional Information	Students will adhere to the school conduct policy and dress code policy at all times, NO EXCUSES, student neither with incomplete uniform or uniform nor in compliance with the standard of the medical field will be asked to go home and change and dress appropriately; use of cell phones during class time is prohibited; no food or drinks allowed in classroom. Attendance is mandatory; students missing a day of school are responsible for obtaining the missing assignments from instructor or classmates. Absences cannot be used to excuse students for taking a test on designated date and time, taking a test on a different day and/or time will be considered late and points will be deducted no exceptions. Quizzes cannot be made up; tutoring will be available for all and any students that request it or are recommended by their instructor for tutoring, students are responsible for scheduling a tutoring session. For makeup work please refer to student catalog. Students who missed 7 days in a row will be dropped.
Course Delivery Mode	Residential

Syllabus

<table>
<tr><td>Course Title</td><td>LMRT 109 Clinical Instruction of Modalities</td></tr>
<tr><td>Length of Course</td><td>112 Lab Hours</td></tr>
<tr><td>Course Description</td><td>The student will demonstrate knowledge of the general systemic and skeletal anatomy and arthrology, radiographic terminology, basic to imaging principles and positioning.
This is a “hands-on” laboratory instruction in radiological procedures for four specializations. Students practice in a clinical setting to become proficient and will demonstrate the skills used in producing x-ray of: Skull, Chest, Spine and Extremities. Students will complete the minimum of clinical instruction clock hours required for each modality. (As required by the State Department of Health)
Prerequisite: None

<table><tr><th>Module</th><th>Clinical Instruction</th></tr><tr><td>Skull</td><td>50 Hours</td></tr><tr><td>Chest</td><td>6 Hours</td></tr><tr><td>Spine</td><td>25 Hours</td></tr><tr><td>Extremities</td><td>30 Hours</td></tr></table></td></tr>
<tr><td>Course Objectives</td><td>Name and identify the significant bony prominences and depressions of the upper extremity and shoulder girdle and identify significant positioning landmarks by palpation.

Demonstrate correct body and part positioning for routine projections and common special projections of the upper extremity and shoulder girdle.

Correctly evaluate radiographs of the upper extremity and shoulder girdle for positioning accuracy.

Correctly identify upper extremity & shoulder girdle anatomy in radiographs
Name and identify the significant prominences and depressions of the lower extremity and pelvis and identify significant positioning landmarks by palpation.

Demonstrate correct body and part positioning for routine</td></tr>
</table>

	projections and common special projections of the lower extremity and pelvis. Correctly evaluate radiographs of the lower extremity and pelvis for positioning accuracy. Correctly identify lower extremity & pelvis anatomy in radiographs Identify significant positioning landmarks on the skull and face by palpation. Demonstrate correct body and part positioning for routine projections and common special projections of the skull and Para nasal sinuses. Correctly evaluate radiographs of the skull, facial bones, and paranasal sinuses for positioning accuracy. Correctly identify boney skull, facial bones, and paranasal sinuses anatomy in radiographs

Syllabus

Resources Required	Textbook: Radiography Essentials for Limited Practice with Work book Author: Bruce w. Long, Eugene D. Frank, Ruth Ann Ehrlich Bontrager's Handbook of Radiographic Positioning and Techniques Author: Kenneth L. Bontrager, john P. Lampignano
Prerequisites	None
Outside Work	Valley Grande Institute does not award credit of any kind for independent study. However, it is an expectation that students perform additional study and reading outside of the classroom to augment classroom instruction. The Research assignment noted below will require student effort outside of the classroom.
Assignment	N/A
Course Evaluation Methods	Quizzes 10% Test/Exam 65% Final Exam 25% .
Grading Scale	90 – 100 A 80 – 89 B 70 – 79 C 69 or below F A final course grade of 70 is required to pass this course
Instructional Methods	Lecture Online Research Student Lab Practice
Additional Information	Students will adhere to the school conduct policy and dress code policy at all times, NO EXCUSES, student neither with incomplete uniform or uniform nor in compliance with the standard of the medical field will be asked to go home and change and dress appropriately; use of cell phones during class time is prohibited; no food or drinks allowed in classroom. Attendance is mandatory; students missing a day of school are responsible for obtaining the missing assignments from instructor or classmates. Absences cannot be used to excuse students for taking a test on designated date and time, taking a test on a different day and/or time will be considered late and

	points will be deducted no exceptions. Quizzes cannot be made up; tutoring will be available for all and any students that request it or are recommended by their instructor for tutoring, students are responsible for scheduling a tutoring session. For makeup work please refer to student catalog. Students who missed 7 days in a row will be dropped.
Course Delivery Mode	Residential

Syllabus

<table>
<tr><td>Course Title</td><td>LMRT 110Practicum Simulation of Modalities</td></tr>
<tr><td>Length of Course</td><td>400 Clinical Hours</td></tr>
<tr><td>Course Description</td><td>This is a practicum coursepresented in the laboratory that meets the requirements of the State Department of Health, in radiological procedures for four modalities. Students will practice different procedures under simulated conditions, and complete state required hours for “hands-on” experience.
.
<table><tr><th>Module</th><th>Practicum Simulation</th></tr><tr><td>Skull</td><td>100 Hours</td></tr><tr><td>Chest</td><td>100 Hours</td></tr><tr><td>Spine</td><td>100 Hours</td></tr><tr><td>Extremities</td><td>100 Hours</td></tr></table></td></tr>
<tr><td>Course Objectives</td><td>Practice correct body and part positioning for routine projections and common supplemental projections

Demonstrate correct knowledge and use of x-ray equipment through actual practice and written testing

Correctly evaluate anatomy on radiographs and/or written test

Become proficient in use of calipers, markers, and the proper cassettes

Practice the use of protective shielding and collimation

Practice setting low dose techniques
- Optimalkvp: highest kvp with acceptable contrast
- fastest screens/film
- minimum SID
- non grid when appropriate</td></tr>
<tr><td>Resources Required</td><td>Textbook: Radiography Essentials for Limited Practice with Work book</td></tr>
</table>

Syllabus

	Author: Bruce w. Long, Eugene D. Frank, Ruth Ann Ehrlich Bontrager's Handbook of Radiographic Positioning and Techniques Author: Kenneth L. Bontrager, john P. Lampignano
Prerequisites	LMRT 101 through LMRT 109
Outside Work	Valley Grande Institute does not award credit of any kind for independent study. However, it is an expectation that students perform additional study and reading outside of the classroom to augment classroom instruction. The Research assignment noted below will require student effort outside of the classroom.
Assignment	N/A
Course Evaluation Methods	Lab Grade • professional conduct • personal appearance • instruction/initiative • attendance • lab maintenance Test • proficiency evaluation • written - Projects **Time Sheet of 400 logged hours**.
Grading Scale	Pass Fail The student must present time sheets that account for 400 hours and achieve a Pass grade on lab activities.
Instructional Methods	Lecture Online Research Student Lab Practice
Additional Information	Students will adhere to the school conduct policy and dress code policy at all times, NO EXCUSES, student neither with incomplete uniform or uniform nor in compliance with the standard of the medical field will be asked to go home and change and dress appropriately; use of cell phones during class time is prohibited; no food or drinks allowed in classroom.

Syllabus

	Attendance is mandatory; students missing a day of school are responsible for obtaining the missing assignments from instructor or classmates. Absences cannot be used to excuse students for taking a test on designated date and time, taking a test on a different day and/or time will be considered late and points will be deducted no exceptions. Quizzes cannot be made up; tutoring will be available for all and any students that request it or are recommended by their instructor for tutoring, students are responsible for scheduling a tutoring session. For makeup work please refer to student catalog. Students who missed 7 days in a row will be dropped.
Course Delivery Mode	Residential

Syllabus

Course Title	LMRT 111 - CLINICALS
Length of Course	120 clock Hrs or 15 days of class (8hrs/day)
Course Description	The student will perform hand-on skills in a hospital or x-ray clinic setting work as a Limited Medical Radiologic Technologist. Under supervision, the student will practice the skills acquired during the theory and laboratory instruction in the areas of: Skull, Chest, Spine and Extremities. All clinical experiences are conducted in State Registered clinical sited (radiology clinics, hospitals, and doctor's office)
Course Objectives	**Clinical Experience/Completion/Competency Requirements After completion of the theory and clinical sections of the course, the students will proceed to the Clinical Experience part program. Here the students will demonstrate hands on skills to achieve the following objectives.** 1. Patient positioning 2. Use of accessory X-ray equipment 3. Develop films 4. Use of X-ray equipment proficiently 5. Accurate recordkeeping 6. X-ray photography of skull, chest, spine, and extremities proficiently 7. Patient/ Technician communication 8. Deal with emergency situations. 9. Students practice in a clinical setting to become proficiency and will demonstrate skills used in producing x-rays of the Skull, Chest, Spine, and Extremities. 10. Students will be assigned to a clinical site that is approved be Texas Dept. of Health X-ray division. 11. Students will be assigned to a qualified supervisor at the clinical site 12. The supervisor will send to the school every 2 weeks, a student progress report (forms: VGI-2001 and AH.1 Clinical. 13. Before starting clinical all students must complete form: clinical-student contract. 14. Every Friday, the supervisor will send to the school the students attendance record.
Resources Required	Textbook: Radiography Essentials for Limited Practice 3rd Edition. Long Frank Ehrlich

Syllabus

	Handbook: BONTRAGER'S POCKETBOOK ATLAS ON RADIOGRAPHIC POSITIONING AND TECHNIQUES 7TH EDITION.
Online Resources	www.Quia.com
Prerequisites	LMRT 101 through LMRT 110
Outside Work	Valley Grande Institute does not award credit of any kind for independent study. However, it is an expectation that students perform additional study and reading outside of the classroom to augment classroom instruction. The Research assignment noted below will require student effort outside of the classroom.
Assignment	N/A
Course Evaluation Methods	The grading is Satisfactory or Unsatisfactory (students can do addition work practice to achieve satisfactory). Evaluation is done by on-site supervisor.
Grading Scale	92 – 100 A 83 – 91 B 75 – 82 C Below 75 F A final course grade of 70 is required to pass this course
Methods of Instruction	Clinicals are conducted at the assigned site. Demonstration
Additional Information	Students will adhere to the school conduct policy and dress code policy at all times, NO EXCUSES, student neither with incomplete uniform or uniform nor in compliance with the standard of the medical field will be asked to go home and change and dress appropriately; use of cell phones during class time is prohibited; no food or drinks allowed in classroom. Attendance is mandatory; students missing a day of school are responsible for obtaining the missing assignments from instructor or classmates. Absences cannot be used to excuse students for taking a test on designated date and time, taking a test on a different day and/or time will be considered late and points will be deducted no exceptions. Quizzes cannot be made up; tutoring will be available for all and any students that request it or are recommended by their instructor for tutoring, students are responsible for scheduling a tutoring session. For makeup work please refer to student catalog. Students who missed 7 days in a row will be dropped.
Course Delivery Mode	Residential