



TENTATIVE—SUBJECT TO CHANGE

**RADT 1200 Principles of Radiation Biology and Protection
COURSE SYLLABUS
Summer Semester 2021 (202116)**

COURSE INFORMATION

Credit Hours/Minutes: 2/1500
Campus/Class Location: Vidalia/Gillis Building/ Room #743
Class Meets: 9 weeks / Tuesdays/8:30 AM – 11:50 AM
Course Reference Number (CRN): 60089
Preferred Method of Contact: Email

INSTRUCTOR CONTACT INFORMATION

Instructor Name: Tara Powell
Email Address: [Tara Powell \(tpowell@southeasterntech.edu\)](mailto:tpowell@southeasterntech.edu)
Campus/Office Location: Vidalia / Room 714
Office Hours: Wednesdays 8:00 AM – 12:00
Phone: 912-538-3152
Fax Number: 912-538-3106
Tutoring Hours (if applicable): available upon request

SOUTHEASTERN TECHNICAL COLLEGE'S (STC) CATALOG AND HANDBOOK

Students are responsible for all policies and procedures and all other information included in Southeastern Technical College's [Catalog and Handbook \(https://catalog.southeasterntech.edu/college-catalog/downloads/current.pdf\)](https://catalog.southeasterntech.edu/college-catalog/downloads/current.pdf).

REQUIRED TEXT

Sherer, M., Visconti, P., Ritenour, E., & Haynes, K., (2018) Radiation Protection in Medical Radiography (8th edition).

Rad Tech Boot Camp, Clover Learning. Online academic license

REQUIRED SUPPLIES & SOFTWARE

Pen, pencil, highlighter, notebook, paper, computer access, earphones (for Rad Tech Boot Camp Unit Videos), calculator

Dosimeter fees are due as outlined in the Rad Tech Orientation and Radiologic Technology Handbook. If fees are not paid by due date, the student will not be allowed to perform course laboratory. Laboratories missed will not be made up.

Laptop computers are REQUIRED with the following suggested specification:

Processor i5 or i7
 Memory 8GB or higher
 Hard drive 250GB or larger
 DVD Drive either internal or external
 Webcam with microphone
 Internet speed of 5 Mbps is required (10 Mbps or more is recommended) Test your internet speed using [speed test \(http://www.speedtest.net/\)](http://www.speedtest.net/)

MOBILE HOTSPOTS ARE NOT ALLOWED

Note: Although students can use their smart phones and tablets to access their online course(s), exams, discussions, assignments, and other graded activities should be performed on a personal computer. Neither Blackboard nor Georgia Virtual Technical Connection (GVTC) provide technical support for issues relating to the use of a smart phone or tablet so students are advised to not rely on these devices to take an online course.

Students should not share login credentials with others and should change passwords periodically to maintain security.

COURSE DESCRIPTION

Provides instruction on the principles of cell radiation interaction. Radiation effects on cells and factors affecting cell response are presented. Acute and chronic effects of radiation are discussed.

MAJOR COURSE COMPETENCIES

Major course competencies include radiation detection and measurement; patient protection; personnel protection; absorbed dose equivalencies; agencies and regulations; introduction to radiation biology; cell anatomy; radiation/cell interaction; and the effects of radiation.

PREREQUISITE(S)

Program admission

COURSE OUTLINE

| | Learning Outcomes | | |
|-------|---|-----------------|-------------------|
| Order | Description | Learning Domain | Level of Learning |
| 1.0 | Radiation Detection and Measurement | | |
| 1.1 | Define terms used to measure ionizing radiation such as rem, roentgen, rad, C/kg, Sievert, and gray. | Cognitive | Knowledge |
| 1.2 | Distinguish between units of measure for ionizing radiation. | Cognitive | Analysis |
| 1.3 | Discuss personnel monitoring devices in terms of types, purposes, characteristics, advantages, and disadvantages. | Cognitive | Comprehension |
| 1.4 | List types of ionization chambers. | Cognitive | Knowledge |
| 1.5 | Describe the theory of operation for ionization chambers. | Cognitive | Comprehension |
| 1.6 | List types and sources of natural radiation and manmade radiation. | Cognitive | Knowledge |
| 2.0 | Patient Protection | | |
| 2.1 | Explain the relationship of beam limiting devices to patient radiation protection. | Cognitive | Comprehension |

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| | Learning Outcomes | | |
| 2.2 | Discuss added and inherent filtration in terms of the effect on patient dosage. | Cognitive | Comprehension |
| 2.3 | Explain the purpose and importance of patient shielding. | Cognitive | Comprehension |
| 2.4 | Given a list of patients shielding devices and radiographic procedures, correlate the method of shielding to the radiographic procedure. | Cognitive | Application |
| 2.5 | Explain the relationship of exposure factors to patient dosage. | Cognitive | Comprehension |
| 2.6 | Given various radiographic procedures, identify how to use different IRs that will result in an optimum diagnostic image with the minimum radiation exposure to the patient. | Cognitive | Application |
| 2.7 | Discuss methods to avoid repeat radiographs. | Cognitive | Comprehension |
| 2.8 | Explain how to reduce patient dose when performing stationary or mobile fluoroscopy, and mobile radiography. | Cognitive | Comprehension |
| 2.9 | Describe DAP and radiographic dose documentation | Cognitive | Knowledge |
| 3.0 | Personnel Protection | | |
| 3.1 | Explain the use of primary and secondary radiation barriers. | Cognitive | Comprehension |
| 3.2 | Discuss protection devices influencing room construction and design. | Cognitive | Comprehension |
| 3.3 | Clarify controlled areas from uncontrolled areas. | Cognitive | Analysis |
| 3.4 | Explain how radiographic equipment/techniques are used to reduce personnel exposure during radiographic, fluoroscopic, mobile, and surgical procedures. | Cognitive | Comprehension |
| 3.5 | Explain how personnel protective devices are used to reduce personnel exposure during radiographic, fluoroscopic, mobile, and surgical procedures. | Cognitive | Comprehension |
| 3.6 | Explain how patient immobilization devices are used to reduce personnel exposure during radiographic, fluoroscopic, mobile, and surgical procedures. | Cognitive | Comprehension |
| 4.0 | Absorbed Dose Equivalencies | | |
| 4.1 | Define effective dose equivalent. | Cognitive | Knowledge |
| 4.2 | Determine dose equivalent in terms of SI and traditional units when given the quality factor and absorbed dose for different ionizing radiations. | Cognitive | Application |
| 4.3 | Discuss current National Council on Radiation Protection and Measurements recommendations for occupational and general public | Cognitive | Comprehension |
| 4.4 | Describe dose limits related to the declared pregnant radiographer. | Cognitive | Comprehension |
| 5.0 | Agencies and Regulations | | |
| 5.1 | Identify federal and state regulatory agencies. | Cognitive | Knowledge |
| 5.2 | Discuss historical perspectives relating to radiation protection. | Cognitive | Comprehension |
| 5.3 | Explain two purposes of Public Law 97-35. (Patient Consumer Radiation Health and Safety Act of 1981) | Cognitive | Comprehension |

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| | Learning Outcomes | | |
| 5.4 | Discuss state regulations regarding patient and personnel protection. | Cognitive | Comprehension |
| 5.5 | Identify components of 10 CFR part 20 related to personnel monitoring and dose limits. | Cognitive | Knowledge |
| 5.6 | Describe the "ALARA" concept in regard to personnel and patient protection. | Cognitive | Comprehension |
| 5.7 | Describe radiographer radiation protection responsibilities as they pertain to patients, personnel, and the public. | Cognitive | Comprehension |
| 6.0 | Introduction to Radiation Biology | | |
| 6.1 | Discuss historical evidence of the effects of radiation. | Cognitive | Comprehension |
| 6.2 | Describe concepts relating to the interaction of radiation with matter. | Cognitive | Comprehension |
| 6.3 | Discuss the information concerning the human body as it relates to atomic structure. | Cognitive | Comprehension |
| 7.0 | Cell Anatomy | | |
| 7.1 | Review the structures involved in cellular anatomy. | Cognitive | Comprehension |
| 7.2 | Describe the importance of the macromolecules in terms of cellular function. | Cognitive | Comprehension |
| 8.0 | Radiation/Cell Interaction | | |
| 8.1 | Define radiation/cell interaction. | Cognitive | Knowledge |
| 8.2 | Discuss the effects of radiation on cells related to direct and indirect effect. | Cognitive | Comprehension |
| 8.3 | Delineate the four-basic radiation dose-response curves. | Cognitive | Analysis |
| 8.4 | Discuss the cellular factors that affect the radio sensitivity of each cell. | Cognitive | Comprehension |
| 8.5 | Identify physical characteristics of radiation that impact cell response. | Cognitive | Knowledge |
| 8.6 | Differentiate between radio protectors and radio sensitizers. | Cognitive | Analysis |
| 9.0 | Effects of Radiation | | |
| 9.1 | Explain the terms early and late effects of radiation. | Cognitive | Comprehension |
| 9.2 | Describe acute exposure in terms of somatic and genetic effects. | Cognitive | Comprehension |
| 9.3 | Differentiate whole body responses and local responses to acute exposure. | Cognitive | Analysis |
| 9.4 | Describe chronic exposure in terms of somatic and genetic effects. | Cognitive | Comprehension |
| 9.5 | Differentiate whole body responses and local responses to chronic exposure | Cognitive | Analysis |
| 9.6 | Distinguish between stochastic and deterministic effects of ionizing radiation. | Cognitive | Analysis |

GENERAL EDUCATION CORE COMPETENCIES

Southeastern Technical College has identified the following general education core competencies that graduates will attain:

1. The ability to utilize standard written English.
2. The ability to solve practical mathematical problems.

3. The ability to read, analyze, and interpret information.

STUDENT REQUIREMENTS

Prior to the discussion of each chapter in class, the student is expected to complete the following:

1. Read the assigned chapter.
2. Know the answers to the review questions at the end of each chapter.
3. Know the definitions of the key terms listed at the beginning of each chapter.
4. Complete all Rad Tech Boot Camp activities for assigned chapter.

The course is comprised of lecture of the course information, Rad Tech Boot Camp online activities, and Chapter exams. Rad Tech Boot Camp Core and Rad Math Boot Camp online activities will be given to assist in reviewing course materials. Students are expected to perform any additional preparation for tests on their own. Rad Tech Boot Camp online activities are due when the corresponding chapter exam is given. No study guides will be given, and no grades will be dropped in this course.

The Rad Tech Boot Camp and Rad Math Boot Camp will be the students "ticket to test". All Rad Tech Boot Camp and Rad Math Boot Camp assignments must be completed by each Monday evening by midnight before taking the test on the material the following Tuesday. If the student does not complete the assignments prior to taking a test the student, will not be eligible to take the test and will be given a zero for the corresponding chapter exam. A Chapter(s) test average of 70% or above is required to take the final exam.

No assignment opportunities will be given for extra credit. Any chapter(s) test/exam grade will be entered as is to the nearest 10th. No scores will be rounded (up or down). *For example: exam has 60 questions, and each question will be worth 1.66 pts.* The student correctly answers 52 questions out of 60 total questions. $52 \text{ correct answers} \times 1.66 = 86.32$. The grade will be recorded as 86.3. This rule applies to every grade issued during the semester. All final averages will be recorded as is (i.e., a 69.9 is a 69.9).

A power point presentation will be required for this course to assess the students' verbal communication abilities. The power point presentation requirements will be assigned in Black Board. Power Point presentation expectations and assignments are attached at the end of the lesson schedule of the syllabus.

Students are expected to complete all work required by the instructor.

All Radiologic Technology program students are required to wear scrubs to class/laboratory sessions. Students can select the style and color they prefer to wear to class/laboratory. A scrub top with coordinating scrub pants or an STC T-shirt (must be purchased from the STC Bookstore) with scrub pants can be worn. Students can wear the clinical requirement scrubs to class/laboratory if preferred.

COVID-19 MASK REQUIREMENT

Masks or face coverings must be worn at all times while on the campus of Southeastern Technical College. This measure is being implemented to reduce COVID-19 related health risks for everyone engaged in the educational process. Masks or face coverings must be worn over the nose and mouth, in accordance with the Centers for Disease Control and Prevention (CDC). A student's refusal to wear a mask or face covering will be considered a classroom disruption and the student may be asked to leave campus and/or receive further discipline.

COVID-19 SIGNS AND SYMPTOMS

We encourage individuals to monitor for the signs and symptoms of COVID-19 prior to coming on campus.

If you have experienced the symptoms listed below or have a body temperature 100.4°F or higher, we

encourage you to self-quarantine at home and contact a primary care physician's office, local urgent care facility, or health department for further direction. Please notify your instructor(s) by email and do not come on campus for any reason.

| COVID-19 Key Symptoms |
|--|
| Fever or felt feverish |
| Cough: new or worsening, not attributed to another health condition |
| Shortness of breath, not attributed to another health condition |
| New loss of taste or smell |
| Chills; Repeated shaking with chills |
| Sore throat, not attributed to another health condition |
| Muscle pain, not attributed to another health condition or exercise |
| Headache, not attributed to another health condition |
| Diarrhea (unless due to known cause) |
| In the past 14 days, if you: |
| Have had close contact with or are caring for an individual diagnosed with COVID-19 at home (not in healthcare setting), please do not come on campus and contact your instructor (s). |

COVID-19 SELF-REPORTING REQUIREMENT

Students, who test positive for COVID-19 or who have been exposed to a COVID-19 positive person, are required to self-report using the [COVID 19 Health Reporting Form https://bit.ly/2Xq4g0f](https://bit.ly/2Xq4g0f). Report all positive cases of COVID-19 to your instructor and [Stephannie Waters](mailto:swaters@southeasterntech.edu), Exposure Control Coordinator, swaters@southeasterntech.edu, 912-538-3195.

TESTING POLICY

Tests/exams will be given for chapter(s) assigned and will be timed allowing 1.5 minute per question. In addition, quizzes are subject to be given on any given day over any assigned material (i.e. reading, worksheets, Rad Tech Boot Camp, etc.). Rad Tech Boot Camp activities are outlined in the course lesson schedule and are the students' ticket to take chapter tests when assigned. Any quizzes missed due to student absence will not be made up. A Chapter(s) test average of 70% or above is required to take the final exam.

No assignment opportunities will be given for extra credit. Any chapter(s) test/exam grade will be entered as is to the nearest 10th. No scores will be rounded (up or down). *For example: exam has 60 questions, and each question will be worth 1.66 pts.* The student correctly answers 52 questions out of 60 total questions. $52 \text{ correct answers} \times 1.66 = 86.32$. The grade will be recorded as 86.3. This rule applies to every grade issued during the semester. All final averages will be recorded as is (i.e., a 69.9 is a 69.9).

Prior to beginning any test, all students are required to place all textbooks and personal property underneath the desk. Students may be separated in different classrooms, assigned different seats, and/or provided desk dividers during testing as directed by the instructor. Talking is not allowed once the test/exam begins. Once the test/exam begins, students will not be allowed to exit the classroom until the exam is completed and/or turned into the instructor.

Smart watches, cell phones, or any other electronic devices will not be allowed during exams. Students found with their cell phone or any other personal communication device during the exam will be considered cheating and given a zero for the test/exam.

Once a student completes his/her exam, he/she will turn the exam paper over and remain at his/her desk quietly until everyone has finished with the exam. This will prevent other students from being distracted as students exit. Then, the instructor will take up all test/exam papers.

Testing for the course is scheduled to be done on-campus, in-person but may be moved to an online format as needed for Covid-19 restrictions. See below for specific testing guidelines.

Respondus Online Testing Guidelines (if we go to an online testing format)

Due to possible campus closure in response to the COVID 19 pandemic the Radiologic Technology program is making an exception in offering online/offsite testing through Blackboard. The programs will use Respondus Monitor through Blackboard to administer and proctor the examinations.

The following are faculty expectations of the student during the online/offsite testing process.

1. The student will download Respondus to their devices from the STC website.
2. The student will log in at least 15 minutes before the exam is scheduled to begin. Exams times will be found on the lesson plan of the course syllabus.
3. The student will secure an area with a minimum internet speed of 5 Mbps. Test your internet speed using speed test (<http://www.speedtest.net/>)
4. Mobile Hotspots are **not** to be used since as they are not considered a reliable internet source.
5. The student will perform all required Respondus checks prior to being allowed to test. (examples- Webcam Check and Facial Recognition Check)
6. The student will have in place a monitoring camera as Respondus Monitor will be used to ensure test integrity. The student will take a complete, 360 degree scan of the testing environment, showing floor, desk and walls.
7. During the exam, students will be both audio and visually recorded.
8. The student exams will be timed, just like in the face-to-face setting.
9. The student will not use any books, notes or third party supplies during the test. The desk/table will be cleared of additional items. There will be no paper or writing materials allowed out.
10. The student has reviewed the Dishonesty Policy and Procedure for Academic Dishonesty as noted on the course syllabus.
11. The student will not be allowed to use smart watches, cell phones, tablets, calculators, ear phones or other electronic devices during the exam.
12. The student will not wear a hat or any items that obscures the face or eyes while testing.
13. The student will keep the face in clear view of the camera while testing.
14. The student will have all background noise silenced while testing.
15. The student will have no other operating functions open on the computer during testing. (ie: Word, Excel, PowerPoint)
16. The student will be prohibited from taking Screen shots or recording of the exam in anyway.
17. The exam will not have any calculation problems so no extra paper, pencil or calculator will be needed.
18. Question rationales will not be available at this time for test security. Instructors will be available at a later time for missed content review. Students are encouraged to set up individualized meetings with their faculty to discuss specific content areas which were missed.
19. After the exam, the final grade will not be issued or posted to the Blackboard gradebook until the validity of the test is reviewed and approved by the instructor(s). This includes reviewing the

Respondus Monitor report and the video recording of the testing session. At any time the validity is questionable, the student may be required to take a different version of the examination.

20. If a student believes a test question needs to be challenged, the student must email their instructor the evidence based rationale for consideration. This request must be received via email within 24 hours of the examination.

ONLINE TESTING INSTRUCTIONS WITH RESPONDUS LOCKDOWN BROWSER WITH MONITOR

Before you can take a test/exam online for this class, you will need to install the Respondus Lockdown Browser with Monitor. You will go to your MySTC, click the Respondus Lockdown Browser with Monitor. Click to download and then install. This takes less than 5 minutes.

Accessing the LockDown Browser with Monitor Using non-STC Computers

Students using laptops or not on campus who are taking an online exam using the Respondus LockDown Browser with Monitor can still access the browser icon on the desktop if they log in to mySTC. Follow these steps to access mySTC:

1. Access the STC website.
2. Click mySTC at the top of the screen.
3. Double click the Respondus LockDown Browser with Monitor icon to download the product to their pc/laptop. Once downloaded, double click to install the Respondus LockDown Browser with Monitor and following the onscreen prompts: **Note:** this link is unique to STC and should be used to access the lockdown browser install screen. You only need to install one time per computer.
4. On the install screen, click the *Do you need the Mac version?* link if you are using a Mac computer.
5. Click the Install Now button and follow the onscreen prompts.
6. Once installed, double click the Lockdown browser icon on the desktop of your PC/laptop to begin the test in Blackboard.
7. Key Blackboard username and password as usual.
8. Access course as usual by clicking the course title. Access exam from the Exam Folder on the left menu.
 - a. Students - click the test link and begin the exam.
 - b. The Browser security will be enabled, you will not be able to print, move away from the test, copy the test, or print screen.
9. To resume operations using a standard browser (Chrome, Firefox, etc.), students should click the X on the Respondus LockDown Browser tab.

<http://lms.southeasterntech.edu/How%20to%20Documents%20-%20Instructors/Respondus%20Lockdown%20Browser%20-%20Student%20Instructions.pdf>

Accessing the LockDown Browser Using Southeastern Technical College (STC) Computers

1. Login to the STC computer.
2. Double click the Respondus LockDown Browser icon (see picture above for example) on the desktop. (This icon appears on the student side only.) The lockdown browser will automatically connect to Blackboard.
3. Key Blackboard username and password as usual.
4. Access course as usual.
5. Access exam from content area as usual. Students can then take the exam as usual but with the Respondus LockDown Browser security enabled.
6. To resume operations using a standard browser (Chrome, Firefox, etc.), students should click the X on the Respondus LockDown Browser tab.

FINAL EXAM: A Chapter(s) test average of 70% or above is required to take the final exam. A final exam will be given to students and will be a 50-question comprehensive exam.

MAKEUP POLICY

(Tests, quizzes, homework, Rad Tech Boot Camp assignments, laboratories):

A grade of zero will be assigned for any missed assignment regardless of the reason. No quizzes or online assignments will be made up. No late homework/online assignments will be accepted.

CELL PHONE POLICY

Cell phones are not to be utilized in the classroom or laboratory unless being used as an academic tool during classroom activities that are approved by the instructor. Students utilizing their cellphone for non-academic purposes during class or laboratory (texting, talking on or, emailing, etc.), will receive a zero on their next chapter test grade. In the event of an emergency, such as a sick family member or sick child, calls should be directed to the front desk at 912-538-3117 where a message can be left.

ATTENDANCE GUIDELINES

Class attendance is a very important aspect of a student's success. Being absent from class prevents students from receiving the full benefit of a course and interrupts the learning process. Southeastern Technical College considers both tardiness and leaving early as types of absenteeism. Responsibility for class attendance rests with the student. Regular and punctual attendance at all scheduled classes is required for student success. Students will be expected to complete all work required by the instructor as described in the individual course syllabus.

Instructors have the right to give unannounced quizzes/assignments. Students who miss an unannounced quiz or assignment will receive a grade of 0. Students who stop attending class, but do not formally withdraw, may receive a grade of "F" (Failing 0-59) and face financial aid repercussions in upcoming semesters.

Instructors are responsible for determining whether missed work may be made up and the content and dates for makeup work is at the discretion of the instructor.

Attendance is counted from the first scheduled class meeting of each semester. To receive credit for a course a student must attend at least 90% of the scheduled instructional time. All work missed due to tardiness or absences must be made up at the convenience of the instructor. Any student attending less than the required scheduled instructional time (90%) may be dropped from the course as stated below in the Withdrawal Procedure.

Tardy means arriving after the scheduled time for instruction to begin. Early departure means leaving before the end of the scheduled time. Three (3) tardies or early departures equal one (1) absence for the course.

For this class, which meets 1 day a week for 9 weeks, the maximum number of days a student may miss is 1 days during the semester.

STUDENTS WITH DISABILITIES

Students with disabilities who believe that they may need accommodations in this class based on the impact of a disability are encouraged to contact the appropriate campus coordinator to request services.

Swainsboro Campus: [Macy Gay \(mgay@southeasterntech.edu\)](mailto:mgay@southeasterntech.edu), 478-289-2274, Building 1, Room 1210.

Vidalia Campus: [Helen Thomas \(hthomas@southeasterntech.edu\)](mailto:hthomas@southeasterntech.edu), 912-538-3126, Building A, Room 165.

SPECIFIC ABSENCES

Provisions for Instructional Time missed because of documented absences due to jury duty, military duty, court duty, or required job training will be made at the discretion of the instructor.

PREGNANCY

Southeastern Technical College does not discriminate on the basis of pregnancy. However, we can offer accommodations to students who are pregnant that need special consideration to successfully complete the course. If you think you will need accommodations due to pregnancy, please make arrangements with the appropriate campus coordinator.

Swainsboro Campus: [Macy Gay \(mgay@southeasterntech.edu\)](mailto:mgay@southeasterntech.edu), 478-289-2274, Building 1, Room 1210.

Vidalia Campus: [Helen Thomas \(hthomas@southeasterntech.edu\)](mailto:hthomas@southeasterntech.edu), 912-538-3126, Building A, Room 165.

It is strongly encouraged that requests for consideration be made **PRIOR** to delivery and early enough in the pregnancy to ensure that all the required documentation is secured before the absence occurs. Requests made after delivery **MAY NOT** be accommodated. The coordinator will contact your instructor to discuss accommodations when all required documentation has been received. The instructor will then discuss a plan with you to make up missed assignments.

WITHDRAWAL PROCEDURE

Students wishing to officially withdraw from a course(s) or all courses after the drop/add period and prior to the 65% point of the term in which student is enrolled (date will be posted on the school calendar) must speak with a Career Counselor in Student Affairs and complete a Student Withdrawal Form. A grade of "W" (Withdrawn) is assigned for the course(s) when the student completes the withdrawal form.

Students who are dropped from courses due to attendance after drop/add until the 65% point of the semester will receive a "W" for the course.

Important – Student-initiated withdrawals are not allowed after the 65% point. Only instructors can drop students after the 65% point for violating the attendance procedure of the course. Students who are dropped from courses due to attendance after the 65% point will receive either a "WP" (Withdrawn Passing) or "WF" (Withdrawn Failing) for the semester.

Informing your instructor that you will not return to his/her course, does not satisfy the approved withdrawal procedure outlined above.

There is no refund for partial reduction of hours. Withdrawals may affect students' eligibility for financial aid for the current semester and in the future, so a student must also speak with a representative of the Financial Aid Office to determine any financial penalties that may be assessed due to the withdrawal. A grade of "W" will count in attempted hour calculations for the purpose of Financial Aid.

ACADEMIC DISHONESTY POLICY

The Southeastern Technical College Academic Dishonesty Policy states that all forms of academic dishonesty, including but not limited to cheating on tests, plagiarism, collusion, and falsification of information, will call for discipline. The policy can also be found in the Southeastern Technical College Catalog and Handbook.

PROCEDURE FOR ACADEMIC MISCONDUCT

The procedure for dealing with academic misconduct and dishonesty is as follows:

1. First Offense

Student will be assigned a grade of "0" for the test or assignment. Instructor keeps a record in course/program files and notes as first offense. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus. The Registrar will input the incident into Banner for tracking purposes.

2. Second Offense

Student is given a grade of "WF" (Withdrawn Failing) for the course in which offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's

home campus indicating a "WF" has been issued as a result of second offense. The Registrar will input the incident into Banner for tracking purposes.

3. Third Offense

Student is given a grade of "WF" for the course in which the offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of third offense. The Vice President for Student Affairs, or designee, will notify the student of suspension from college for a specified period of time. The Registrar will input the incident into Banner for tracking purposes.

STATEMENT OF NON-DISCRIMINATION

The Technical College System of Georgia (TCSG) and its constituent Technical Colleges do not discriminate on the basis of race, color, creed, national or ethnic origin, gender, religion, disability, age, political affiliation or belief, genetic information, disabled veteran, veteran of the Vietnam Era, spouse of military member, or citizenship status (except in those special circumstances permitted or mandated by law). This nondiscrimination policy encompasses the operation of all technical college-administered programs, federally financed programs, educational programs and activities involving admissions, scholarships and loans, student life, and athletics. It also applies to the recruitment and employment of personnel and contracting for goods and services.

All work and campus environments shall be free from unlawful forms of discrimination, harassment and retaliation as outlined under Title IX of the Educational Amendments of 1972, Title VI and Title VII of the Civil Rights Act of 1964, as amended, the Age Discrimination in Employment Act of 1967, as amended, Executive Order 11246, as amended, the Vietnam Era Veterans Readjustment Act of 1974, as amended, Section 504 of the Rehabilitation Act of 1973, as amended, the Americans With Disabilities Act of 1990, as amended, the Equal Pay Act, Lilly Ledbetter Fair Pay Act of 2009, the Georgia Fair Employment Act of 1978, as amended, the Immigration Reform and Control Act of 1986, the Genetic Information Nondiscrimination Act of 2008, the Workforce Investment Act of 1998 and other related mandates under TCSG Policy, federal or state statutes.

The Technical College System and Technical Colleges shall promote the realization of equal opportunity through a positive continuing program of specific practices designed to ensure the full realization of equal opportunity.

The following individuals have been designated to handle inquiries regarding the nondiscrimination policies:

| | |
|---|--|
| <p>American With Disabilities Act (ADA)/Section 504 - Equity- Title IX (Students) – Office of Civil Rights (OCR) Compliance Officer</p> | <p>Title VI - Title IX (Employees) – Equal Employment Opportunity Commission (EEOC) Officer</p> |
| <p>Helen Thomas, Special Needs Specialist Vidalia Campus 3001 East 1st Street, Vidalia Office 165 Phone: 912-538-3126 Email: Helen Thomas hthomas@southeasterntech.edu</p> | <p>Lanie Jonas, Director of Human Resources Vidalia Campus 3001 East 1st Street, Vidalia Office 138B Phone: 912-538-3230 Email: Lanie Jonas ljonas@southeasterntech.edu</p> |

ACCESSIBILITY STATEMENT

Southeastern Technical College is committed to making course content accessible to individuals to comply with the requirements of Section 508 of the Rehabilitation Act of Americans with Disabilities Act (ADA). If you find a problem that prevents access, please contact the course instructor.

GRIEVANCE PROCEDURES

Grievance procedures can be found in the Catalog and Handbook located on Southeastern Technical College's website.

ACCESS TO TECHNOLOGY

Students can now access Blackboard, Remote Lab Access, Student Email, Library Databases (Galileo), and BannerWeb via the mySTC portal or by clicking the Current Students link on the [Southeastern Technical College \(STC\) Website \(www.southeasterntech.edu\)](http://www.southeasterntech.edu).

TECHNICAL COLLEGE SYSTEM OF GEORGIA (TCSG) GUARANTEE/WARRANTY STATEMENT

The Technical College System of Georgia guarantees employers that graduates of State Technical Colleges shall possess skills and knowledge as prescribed by State Curriculum Standards. Should any graduate employee within two years of graduation be deemed lacking in said skills, that student shall be retrained in any State Technical College at no charge for instructional costs to either the student or the employer.

GRADING POLICY

| Assessment/Assignment | Percentage |
|--------------------------|------------|
| Chapter Exams | 50 % |
| Power Point Presentation | 20 % |
| Final Exam | 30 % |

GRADING SCALE

| Letter Grade | Range |
|--------------|--------|
| A | 90-100 |
| B | 80-89 |
| C | 70-79 |
| D | 60-69 |
| F | 0-59 |

RADT 1200 Principles of Radiation Biology and Protection Summer Semester 2021 Lesson Plan

| Date/Week | Chapter/Lesson | Content | Assignments & Tests Due Dates | Competency Area |
|------------------|-----------------------|---|--|--------------------|
| WEEK 1 May 18 | Chapter1 Chapter 2 | Review Syllabus & Course Requirements Introduction to Radiation Protection & Radiation: Types, Sources, and Doses Received | Read Chapters 1 & 2 Complete Rad Tech Boot Camp Module 03. Radiation Protection <ul style="list-style-type: none"> • Cardinal Rule (ALARA) • Shielding Complete all videos, quizzes, and the module assessment before the day of the test. | 2,3 c |

| Date/Week | Chapter/Lesson | Content | Assignments & Tests Due Dates | Competency Area |
|------------------|------------------------|--|---|--------------------|
| WEEK 2 May 25 | Chapter 3 Chapter 4 | <p>Exam on Chapter 1 & 2 <i>Introduction to Radiation Protection & Radiation: Types, Sources, and Doses Received</i></p> <p>Interaction of X-Radiation with Matter Radiation Quantities and Units</p> | <p>Read Chapter 3 & 4 Complete Rad Tech Boot Camp</p> <p>Module 02. Radiation Units of Measurement</p> <ul style="list-style-type: none"> • Rad Units Overview • Air KERMA & Exposure • Absorbed Dose • Equivalent Dose • Effective Dose <p>-----</p> <p>Complete all videos, quizzes, and Module assessment.</p> <p>Module 06. X-Ray Interactions with Matter</p> <ul style="list-style-type: none"> • Attenuation • Coherent Scatter • Photoelectric Effect • Compton Scatter <p>Complete all videos, quizzes, and the module assessment before the day of the test.</p> | 1,4,5 b, c |

| Date/Week | Chapter/Lesson | Content | Assignments & Tests Due Dates | Competency Area |
|------------------|------------------------|---|---|--------------------|
| WEEK 3 June 1 | Chapter 5 Chapter 6 | Exam on Chapter 3 & 4 <i>Interaction of X-Radiation with Matter</i> <i>Radiation Quantities and Units</i> by Radiation Monitoring Overview of Cell Biology | Read Chapters 5 & 6 Complete Rad Tech Boot Camp Module 04. Radiation Detection Devices <ul style="list-style-type: none"> • Radiation Detection overview • Ionization Chambers • Scintillation Detectors • Semiconductor Detectors • Occupational Dosimetry • TLD & OSL Dosimetry Complete all videos, quizzes, and the module assessment before the day of the test. | 7 c |

| Date/Week | Chapter/Lesson | Content | Assignments & Tests Due Dates | Competency Area |
|------------------|------------------------|---|---|--------------------|
| WEEK 4 June 8 | Chapter 7 Chapter 8 | <p>Exam - Chapter 5 & 6- Radiation Monitoring & Overview of Cell Biology</p> <p>Molecular and Cellular Radiation Biology Early Tissue Reactions and Their Effects on Organ Systems</p> | <p>Read Chapter 7 & 8 Complete Rad Tech Boot Camp</p> <p>Module 18. Radiosensitivity</p> <ul style="list-style-type: none"> • Radiosensitivity Introduction • Radiosensitivity (Radiation type) • Radiosensitivity (Oxygenation) • Radiosensitivity (Tissue type) <p>Complete all videos, quizzes, and the module assessment before the day of the test.</p> <p>-----</p> <p>Complete Rad Tech Boot Camp</p> <p>Module 17. Radiation Biology</p> <ul style="list-style-type: none"> • Stochastic vs. Deterministic • Direct vs. indirect effect • Long-term vs. short-term • Somatic & Genetic effect • Acute Radiation Syndrome • Genetic Effects of Radiation • Embryonic & Fetal effects • Carcinogenesis <p>Complete all videos, quizzes, and the module assessment before the day of the test.</p> | 6,8 c |

| Date/Week | Chapter/Lesson | Content | Assignments & Tests Due Dates | Competency Area |
|--------------------|--|--|---|-----------------|
| WEEK 5 June 15 | Chapter 9 | Exam Chapter 7 & 8 - <i>Molecular and Cellular Radiation Biology Early Tissue Reactions and Their Effects on Organ Systems</i> Stochastic Effects and Late Tissue Reactions of Radiation in Organ Systems | Read Chapter 9 | 9 c |
| WEEK 6 June 22 | Chapter 10 | Chapter 9 Exam - <i>Stochastic Effects and Late Tissue Reactions of Radiation in Organ Systems</i> Dose Limits for Exposure to Ionizing Radiation | Read Chapter 10 | 1 C |
| WEEK 7 June 29 | Chapter 11 | Chapter 10 Exam - <i>Dose Limits for Exposure to Ionizing Radiation</i> Equipment Design for Radiation Protection | Read Chapter 11 | 2 c |
| WEEK 8 July 13 | Chapter 12 | Chapter 11 Exam - <i>Equipment Design for Radiation Protection</i> Management of Patient Radiation Dose During Diagnostic X-Ray Procedures | Read Chapter 12 | 3 c |
| WEEK 9 July 20 | Chapter 14 | Chapter 12 Exam - <i>Management of Patient Radiation Dose During Diagnostic X-Ray Procedures</i> Management of Imaging Personnel Radiation Dose During Diagnostic X-Ray Procedures | Read Chapter 14 | 3 a, c |
| WEEK 10 July 27 | Chapters 1,2,3,4,5, 6,7,8,9,10,11,12, and 14 | -Assigned Power Point presentation DUE -Final exam | Review all chapters covered for final exam. | 1-9 a,b,c |

COMPETENCY AREAS:

1. Radiation detection and measurement
2. Patient Protection
3. Personnel Protection
4. Absorbed dose equivalencies.
5. Agencies and Regulations
6. Introduction to radiation biology

7. Cell Anatomy
8. Radiation/Cell Interaction
9. Effects of Radiation

GENERAL CORE EDUCATIONAL COMPETENCIES:

- a) The ability to utilize standard written English.
- b) The ability to solve practical mathematical problems.
- c) The ability to read, analyze, and interpret information.

Power Point Presentation Expectations

Power Point Presentation should be well organized with an overview of the assigned Radiation event, early and late effects of radiation exposure to the population affected, and any worldwide effects of the incident. The power point presentation is to be recorded by utilizing Photo Story, Movie Maker, iMovie, Prezi, etc.

Research your radiation event and know your topic as if you are teaching the class about this event. Impress me by your knowledge of the subject you are discussing. Discuss how this radiation event has given useful data and insight into radiation exposure.

Power Point Etiquette

When working with PowerPoint you must remember that the goal is to deliver information clearly and concisely. Nothing that distracts from those goals is acceptable. Try limiting yourself to

- ✿ Only 1 background (theme)
- ✿ No more than 2 fonts
- ✿ No more than 2 types of animations
- ✿ Avoid too many sounds with the animation.

Other things of importance:

- ✿ Avoid wordiness (no more than 50 words per page—25 is better)
- ✿ Avoid putting more than seven bulleted points on a slide.
- ✿ An image on every slide
- ✿ Organization is the key. You want there to be an easy-to-follow structure to your presentation.
- ✿ References of where you got your information should be on the last slide of the presentation.

| Student Name | Power Point presentation topic |
|-------------------|--------------------------------|
| Corissa Bass | Chernobyl |
| Ansley Brannen | Hiroshima |
| Deyra Colmenares | 3-mile island |
| Cezar Marquez | Fukushima |
| Meagan McCumbers | Watch Dial Girls |
| Stormy Messex | Uranium Miners |
| Grace Reed | Marshall Islands |
| Jennifer Sabillon | Nagasaki |
| Katrina Walker | Manhattan Project |

Southeastern Technical College
Radiologic Technology Degree Program

I _____ have read and understand the syllabus for RADT 1200. I have also been given the opportunity to ask questions to clarify any requirements listed on the syllabi. By signing this agreement, I am acknowledging that I fully understand my requirements and grading criteria that I am responsible for in this course. I agree to follow the guidelines and rules listed on the syllabi.

Print Name

Student Signature

Date