Course Description
RAD 201 Radiation Biology
Lec. 2 Lab. 0 Cr. 2
This course is a study of the principles of radiobiology and protection. It emphasizes procedures that keep radiation exposure to patients, personnel, and the population at large at a minimum.
Prerequisites: RAD 165, RAD 230.
Corequisites: RAD 115, RAD 176.
2 Cr (2 lect/pres, 0 lab, 0 other)

Course Focus
This course is a study of the principles of radiobiology and protection. It emphasizes procedures that keep radiation exposure to patients, personnel, and the population at large at a minimum.

Text and References

Course Goals
The following list of course goals will be addressed in the course. (*designates a CRUCIAL goal)

1. clarify effective radiation protection*
2. define key terms and concepts*
3. state ALARA principle*
4. justify radiologic procedures
5. list radiation sources
6. describe photon interactions*
7. express absorption process
8. name x-ray photon transmission types
9. discuss radiation exposure risks*
10. calculate effective dose
11. scrutinize subvert measurement unit
12. illustrate tissue weighting factor
13. explain radiologic responsibilities
14. characterize cell structure and functions
15. identify human cell ionization consequences
16. describe target theory
17. characterize radiation energy transfer determinants
18. characterize cell radio sensitivity factors
19. diagram acute radiation syndrome response stages
20. identify radiation dose response curve drawings
21. distinguish major radiologic organizations
22. explore occupational dose limits*
23. explore non occupational dose limits
24. explain equivalent and effective dosing concept
25. compare CT procedure doses
26. contrast routine diagnostic procedure doses
27. wear personnel dosimeter*
28. identify radiation survey instruments
29. employ radiographic precautions
30. validate medical management

Student Contributions
Classes are designed to employ a variety of teaching techniques. In order to maximize learning, required readings and Web enhanced sections should be done prior to class. If a student is falling behind in clinical performance and/or academic achievement, it is imperative to seek immediate assistance from the instructor.
Course Evaluation

Unit exams  27.5%*  May include grades from online modules
Quizzes  27.5%*  May include grades from online modules
Project  20%
Final Exam  25%

Course Schedule

CLASS INFORMATION:  Building 4 Room 210
Lecture:  T 2:00pm-4:00pm

ADA STATEMENT
The Technical College of the Lowcountry provides access, equal opportunity and reasonable accommodation in its services, programs, activities, education and employment for individuals with disabilities. To request disability accommodation, contact the counselor for students with disabilities at (843) 525-8228 during the first ten business days of the academic term.

ATTENDANCE
The College’s statement of policy indicates that students must attend ninety percent of total class hours or they will be in violation of the attendance policy.

1. Students not physically attending class during the first ten calendar days from the start of the semester must be dropped from the class for NOT ATTENDING.

2. Students taking an online/internet class must sign in and communicate with the instructor within the first ten calendar days from the start of the semester to indicate attendance in the class. Students not attending class during the first ten calendar days from the start of the semester must be dropped from the class for NOT ATTENDING.

3. Reinstatement requires the signature of the division dean.
   a. In the event it becomes necessary for a student to withdraw from the course OR if a student stops attending class, it is the student’s responsibility to initiate and complete the necessary paperwork. Withdrawing from class may have consequences associated with financial aid and time to completion.

b. When a student exceeds the allowed absences, the student is in violation of the attendance policy. The instructor MUST withdrawal the student with a grade of “W”, “WP”, or “WF” depending on the date the student exceeded the allowed absences and the student’s progress up to the last date of attendance

   Or

   c. Under extenuating circumstances and at the discretion of the faculty member teaching the class, allow the student to continue in the class and make-up the work. This exception must be documented at the time the allowed absences are exceeded.
d. Absences are counted from the first day of class. There are no "excused" absences. All absences are counted, regardless of the reason for the absence.

4. A student must take the final exam or be excused from the final exam in order to earn a non-withdrawal grade.

5. Students are expected to be in class on time. Arrival to class after the scheduled start time or leaving class prior to dismissal counts as a tardy. Three tardies and/or early departures are considered as one absence unless stated otherwise.

6. It is the student’s responsibility to sign the roll/verify attendance with instructor upon entering the classroom. Failure to sign the roll/verify attendance results in a recorded absence. In the event of tardiness, it is the student’s responsibility to insure that attendance is marked. The student is responsible for all material/announcements presented, whether present or absent.

7. Continuity of classroom and laboratory (which includes clinical experiences) is essential to the student’s progress in providing safe and competent patient care. Students are expected to use appropriate judgment for participating in clinical activities. To evaluate the student’s knowledge and skills, it is necessary for the student to be present for all clinical experiences. If absence does occur, the designated clinical site, in addition to the Division of Health Sciences Administrative Assistant, must be notified by telephone no later than 30 minutes prior to the start of the clinical experience. The Division of Health Sciences telephone number is 843-525-8267.

8. Absences from the clinical area are strongly discouraged. The attendance policy applies to clinical activities. “No call, no show” for clinical is unprofessional conduct and the student will be withdrawn from the program with a WF.

A copy of TCL’s STATEMENT OF POLICY NUMBER: 3-1-307 CLASS ATTENDANCE (WITHDRAWAL) is on file in the Division Office and in the Learning Resources Center.

HAZARDOUS WEATHER
In case weather conditions are so severe that operation of the College may clearly pose a hardship on students and staff traveling to the College, notification of closing will be made through the following radio and television stations: WYKZ 98.7, WGCO 98.3, WGZO 103.1, WFXH 106.1, WWVV 106.9, WLOW 107.9, WGZR 104.9, WFXH 1130 AM, WLHV 101.1, WSOK 1230 AM, WAEV 97.3, WTCO TV, WTGS TV, WJWJ TV, and WSAV TV. Students, faculty and staff are highly encouraged to opt in to the Emergency Text Message Alert System. www.tcl.edu/textalert.asp

ACADEMIC MISCONDUCT
There is no tolerance at TCL for academic dishonesty and misconduct. The College expects all students to conduct themselves with dignity and to maintain high standards of responsible citizenship.

It is the student’s responsibility to address any questions regarding what might constitute academic misconduct to the course instructor for further clarification.
The College adheres to the Student Code for the South Carolina Technical College System. Copies of the Student Code and Grievance Procedure are provided in the TCL Student Handbook, the Division Office, and the Learning Resources Center.

Health care professionals hold the public trust. Academic misconduct by health science students calls that trust into question and academic integrity is expected.

It is a fundamental requirement that any work presented by students will be their own. Examples of academic misconduct include (but are not limited to):

1. Copying the work of another student or allowing another student to copy working papers, printed output, electronic files, quizzes, tests, or assignments.
2. Completing the work of another student or allowing another student to complete or contribute to working papers, printed output, electronic files, quizzes, tests, or assignments.
3. Viewing another student’s computer screen during a quiz or examination.
4. Talking or communicating with another student during a test.
5. Violating procedures prescribed by the instructor to protect the integrity of a quiz, test, or assignment.
6. Plagiarism in any form, including, but not limited to: copying/pasting from a website, textbook, previously submitted student work, or any instructor-prepared class material; obvious violation of any copyright-protected materials.
7. Knowingly aiding a person involved in academic misconduct.
8. Providing false information to staff and/or faculty.
9. Entering an office unaccompanied by faculty or staff.

Recording Devices / Cell Phones
Students are not allowed to use recording devices during any lectures, lab, or clinical periods. Moreover, students must have cell phones turned off (not on vibrate) during lectures and lab times. If for any reason a cell phone rings or vibrates during lecture or lab, the student will receive a grade reduction per occurrence after the first warning. Students are not allowed to have their cell phone, IPod, or any other electronic device at their clinical rotations.

GRADING POLICY

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<tr>
<th>Grading scale</th>
<th>Values</th>
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<tbody>
<tr>
<td>90% - 100%</td>
<td>A</td>
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<tr>
<td>82% - 89%</td>
<td>B</td>
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<tr>
<td>75% - 81%</td>
<td>C</td>
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<td>70% - 74%</td>
<td>D</td>
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<td>Below 70%</td>
<td>F</td>
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<td>W</td>
<td>withdraw</td>
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<td>WP</td>
<td>withdraw with passing grade</td>
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<td>WF</td>
<td>withdraw with failing grade</td>
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<td>I</td>
<td>Incomplete</td>
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**Grading Methodology.** The final grade must be 75.000 or more in order to pass the course and progress in the program. Students absent from an examination or presentation will receive a “0” grade for the examination unless other arrangements are made with the individual instructor prior to the examination or presentation day or on the examination or presentation day before the test/presentation is scheduled to be given. It is the responsibility of the student to contact the appropriate instructor to arrange to make up the examination. Arrangements may be completed by telephone. If the instructor is not available, a message should be left on the instructor’s voice mail AND with another member of the faculty or administrative assistant. The instructor will decide the time and method of make-up examinations on an individual basis. Messages sent by other students are unacceptable. The student is responsible for notifying the instructor of the reason for the absence. Grades are posted on Blackboard within one week of administration of tests and examinations.

**EXPECTATION OF STUDENT TO FULFILL RADIOLOGIC TECHNOLOGY COURSE REQUIREMENTS**

Radiologic Technology students are expected to adhere to all policies outlined in the college catalog/handbook as well as the Radiologic Technology Student Handbook. Violations of any policies are unacceptable. Failure to adhere to college and radiologic technology program policies may constitute dismissal from the program.

Course Coordinator: John Eichinger, MSRS (R) (CT) AART  
OFFICE LOCATION: Building4 Room 204  
OFFICE PHONE: 843-470-8397  
Office Hours: By Appointment  
Email: jeichinger@tcl.edu