

**Course (or Program) Outcome Guides
Fall 2018**

Course/Program Title: BIO 202, Radiation Biology

Course/Program Team: Megan Dayhoff

Expected Learning Outcomes for BIO 202:

After completing this course, the student will be able to define and apply the following radiation biology and protection concepts to radiography practice:

- Effects of radiation on biological molecules and chromosomes,
- Cellular and tissue response to radiation,
- Effects of radiation on major organs and systems,
- Radiation syndromes, late effects, genetic effects and carcinogenesis,
- Effects of radiation on fetal development,
- Risk assessment and Maximum Permissible Dose,
- Clinical Radiobiology - diagnostic and therapeutic procedures.

Assessment (How do or will students demonstrate achievement of each outcome?)

- Unit Exams
- Designated questions from final exam (85% of students will answer correctly)
- Discussion Questions
- Team Project/ Presentation on Effects of Ionizing Radiation on the Cell

Validation (What methods have you used or will you use to validate your assessment?)

- Completion of course with an average grade of 75% or higher.
- 85 % of students will answer designated questions from final exam correctly

Results (What do your assessment data show? If you have not yet assessed student achievement of your learning outcomes, when is assessment planned?)

	FA 18 31 students
Question # from Final Exam	
#12 Meiosis	29/31=94%
#22 Chromosomes	30/31=97%
# 29 LET & RBE	31/31=100%
#34 Radiolysis	31/31=100%
#56 Response Stages	31/31=100%
#69 Embryo's Response	31/31=100%
# 96 Cumulative Eff. Dose	29/31=94%
#109 Filters	29/31=94%

- 100% of students successfully passed the course with 75% or higher

Follow-up Continue with current curriculum

Budget Justification

(What resources are necessary to improve student learning?)

None at this time