

Doisy College of Health Sciences
2021-2022 Program-Level Assessment: Annual Report

Program Name (no acronyms): **Radiation Therapy Program** Department: **Clinical Health Sciences** reviewed/

Is this program accredited by an external program/disciplinary/specialized accrediting organization? **Yes**

Note to DCHS Programs:

Please use this format to title each report

~~2020~~ **2021-2022 Doisy College of Health Sciences-
Program-Level Annual Assessment Report**

- PLO #4 a. **XRT 4420** Rad Therapy Practice II: In Class presentation
 - b. **XRT 4960** Capstone: Case Study presentation, rubric component #8
- PLO #5 a. **XRT 4350** Clinical Practicum I & **XRT 4450** Clinical Practicum II: Linear Accelerator Clinical Rotation Performance Evaluation Attitude Assessment Section, Professionalism
 - b. **XRT 4450**

b. **XRT 4960** Capstone: Case Study presentation, rubric component #8. Both course instructors, the clinical coordinator and the program director, evaluated the student's capstone case study presentations for their ability to identify and interpret a complex radiation therapy treatment procedure by preparing and delivering a professional presentation of a case study in radiation therapy to an audience of professionals. See XRT_ArtifactDescription 1 for assignment/rubric.

PLO #5 a. XRT 4350 Clinical Practicum I & **XRT 4450** Clinical Practicum II : Linear Accelerator Clinical Rotation Performance Evaluation, Attitude Assessment Section, Professionalism. The instructor of this clinically-based course, taken in the first or Spring semester of the professional year in radiation therapy, used linear accelerator rotation evaluations from clinical rotations in Spring and Summer semesters to evaluate the student's definition and demonstration of professional behaviors expected of a radiation therapist. See XRT_ArtifactDescription 1 & 2 for evaluation/rubric.

b. **XRT 4450** Clinical Practicum II: Site Visit Evaluation Summary - The instructor of this clinically-based course, taken in the final, Summer semester of the professional year in radiation therapy, used on

PLO #5 a. XRT 4350 Clinical Practicum I & XRT 4450 Clinical Practicum II: Linear Accelerator Clinical Rotation Performance Evaluation - Attitude Assessment Section: Professionalism - An average of >85% of students (actual ave. 94% of 13/13 or 100%) of students achieved a ranking of application/synthesis. These data tell us that students reached the rating standard assigned.

b. **XRT 4450 Clinical Practicum II: Site Visit Evaluation Summary** - An average of >85% of students (actual ave. grade 82%, 13/13 or 100%) of students achieved a ranking of application/synthesis. These data tell us that students reached the rating standard assigned.

5. Findings: Interpretations & Conclusions

What have you learned from these results? What does the data tell you?

Overall the evaluation of these data tells us that the implementation of three measurement artifacts and slight changes in several others in 20-21 gives us data that is more relevant to the outcome, providing data that is useful to identify specific areas of improvement at the course level, and to improve the program.

PLO #1,

a. This in class exercise allowed practical practice and application and analysis of ethical principles with cases provided. Students enjoyed this exercise. With the analysis of the in class ethical exercise, we believe it is a useful tool and we will continue to use it to assess this PLO. There is no need to review this assignment or corresponding evaluation rubric at this review. This topic and exercise include a topic that is provided across the curriculum and is especially applicable to clinical practice. We compared these results with clinical competency and evaluation results in ethics and determined that this is a useful tool in student success in the field. This (i)2.7 (s)1.7 (a)2.8 (n)5.2 ()10.7 (o)-372 (

If no changes are being made, please explain why.

We made changes in the assessment plan in AY 19-20 to be applied and collected in 20-21 and 21-22. These changes were activities and measurement tools. We continue to add to data collected and continue our

In AY 19-20, in addition to clinical performance evaluations used as measurement tools (gathered from eValue), it was determined that another evaluation should be added as a measurement tool:

Appendix to
Doisy College of Health Sciences Program-Level Assessment:
Annual Report for 2021-2022

Included in this document are all 10 measurement tools/artifacts used in the assessment of student outcomes.

PLO #1 a

XRT 4320 Principles of Radiation Therapy Practice I: Ethical Dilemma in class exercise

For the case you were presented, you and a partner complete the following chart for presentation to the

PLO #1 b

XRT 4420 Principles of Radiation Therapy Practice II: Ethical Dilemma Reflection Paper

Ethics Paper, worth 10 points: This assigned reflection paper is to be on an ethical situation you have observed during your clinical rotation. In your reflection please write on the following:

- **Describe a situation that you believe to be an ethical issue. This can be an expansion of one ethical situation that you have already submitted as a journal entry.**
- **Identify the person by role (anonymously – patient, family, MD, nurse, therapist, etc) who is involved as a stakeholder in the unethical behavior. Identify who is the decision maker.**
- **Describe the ethical principles/values involved.**
- **What do you think is the best course of action to resolve this issue and why.**
- **Describe the follow up to the situation, or if there is one planned.**

It is to be at least two to three double spaced pages in length, 12 point font, with proper writing style, grammar and spelling. This paper is worth **10 points** and is evaluated based on the grading scale included in the course syllabus.

PLO # 2 a.

XRT 4420 Principles of Radiation Therapy Practice II: Clinical-Critical Reflection Paper

Final Clinical Critical Reflection Paper, worth 10 points:

Your final assignment/entry will be a **critical reflection paper**. The reflection should be about your clinical experiences so far; for example, perceptions, general observations, technology or accomplishments, and how your classroom learning ties back to your clinical experiences.

PLO #2 b

When identifying your topic and preparing your thesis, underline the important words/concepts in your thesis statement to use as search terms. For example: What are the primary etiological factors that contribute to the development of medial tibial stress syndrome?

The following is a 10 minute video that provides information on how to write a literature review: <http://www.lib.ncsu.edu/tutorials/lit-review/> You will need to find high quality journal or peer reviewed articles for your project that are timely, no older than 5-8 years from publication date. Most journals in **PubMed** and **Scopus** are peer-reviewed; other data bases have a check box for "Peer Reviewed" journals. You can "google" the journal name to find its peer review status. For off-campus access to SLU Library databases (from home), use your SLU Net ID and password. Other databases to try: Medline, Ovid, CINAHL.

To find the full text article in the database search results, click on the FIND IT @ SLU icon. It will take your to (step 1) the full-text of the article (if available) or (step 3) the ILLiad Digital Document Delivery system. There is not charge to students for requesting articles through ILLiad. To sign up for your ILLiad account, go to <http://illiad.slu.edu/illiad/LTL/logon.html>. Check the bibliography of a "good" article to find other relevant references. New technologies can be backed up with case studies. A total of at least 3-4 articles that are no older than 5-8 years from publication date must be reviewed for the literature review. This literature review is assigned and completed prior to the poster assignment and is worth 30 points total.

Other General Poster Information

When designing your poster, use the project rubric and the outline provided, prepare a poster that will be viewed by the target audience. Please include abstract, diagrams, charts, descriptive materials, technical factors, photos or any graphics that may be of interest to the audience. In addition, you must cite any reference material and graphics. The **AMA style** of writing must be used for citations and writing style.

Your completed poster, that has been done on your computer, must be emailed to the instructors, on the date scheduled by the instructor, which will be prior to printing. This will be the version that is graded! Suggestions for edits will be given prior to the final printing.

The poster needs to be printed out to professional size, either 24 x 32 **or** 32 x 40, formatted in either landscape or portrait, whichever you prefer. Poster printing services are available on SLU campus and that is where you will have your posters printed. Remember that your poster should be of a quality that will allow it to be presented at various professional and University sponsored events. Instructions on how to make the poster using your computer and power point slides will be provided.

Posters in general should use brief and to-the-point word descriptions. Graphics and photos add interest to the poster and at least 4 of these must be included on the poster, one of which **you must create** yourself. These graphics must be cited appropriately below the graphic as well as in the reference section.

At least 5 accurate facts relating to the topic are required to be included on the poster, seven for a score of excellent in that category. Make sure the font sizes are large enough that the labels on the poster can be read from a distance of 2 feet. The title should be able to be viewed from a distance of at least 4 feet.

protected material must be cited or referenced below the graphic. The graphic should also be referred to in your text. The poster should be exceptionally neat and attractive in terms of layout, use of blank space, and design. This poster project must include at least 4 graphic elements, **one of which you make yourself**.

8. Conclusion\Project Results (RequiredPa(r)-5.9 (ed)10.(s)J/Tn296TjETEMC /P <</MCID 1 BDC 359.64 23

70-72 C-
 65-69 D
 <65 F

Points will be taken off for late submission (past the date the project was due) equivalent to 10% off of the total project points for every day it is late.

The previously assigned topic and literature review related to this poster is worth 30 points and is part of XRT 4320 Principles and Practice I course grade.

The entire poster will be graded based on the provided rubric and is worth 70 points, which is calculated as part of the XRT 4350 Clinical Practicum I course grade.

Clinical Project: RESEARCH POSTER RUBRIC

Name: _____

Poster Title: _____

Evaluator: _____

Date: _____

CATEGORY/ SCORE	5 Points (Excellent)	4 Points (Above Average)	3.5 Points (Acceptable)	0 Points (Unsatisfactory)
Abstract	Abstract included on poster <u>and</u> under separate cover. All elements listed are included. Very easy to read and understand, a clear topic is included. Word count of 150-175 is followed.	Abstract included on poster <u>and</u> under separate cover. Most elements listed are included. Can be improved by organization, but not difficult to read. Topic is Clear, word count is followed.	One of the 2 required abstracts is missing. Not all required elements listed are included. Difficult to follow and understand. Grammar and mechanics errors. Topic vague. Word count not followed.	Abstract unacceptable or missing. Required elements are not included. Difficult to understand and/or follow. Grammar and Mechanics errors. Topic is unclear. Word count not followed.
Poster Graphics-Number	At least 4 required graphics are included, one is made by author.	At least 3 graphics are included, one is made by author.	At least 2 graphics are included. One may or may not be made by author.	1 or less graphics are included.

Poster

CATEGORY/

CATEGORY/ SCORE	5 Points (Excellent)	4 Points (Above Average)	3.5 Points (Acceptable)	0 Points (Unsatisfactory)
----------------------------	---------------------------------	-------------------------------------	------------------------------------	--------------------------------------

Poster
Mechanics

PLO #3 a.

**XRT 4440 Clinical Dosimetry
Calculation Competencies and Review**

Name _____

This assignment, as a final review of treatment planning, clinical dosimetry and calculations, will be counted as your final competency. It is to evaluate your ability to demonstrate your knowledge, application and synthesis of the components of a complex radiation therapy treatment procedures.

This assignment is worth **30 points**, based on the grading scale included in the syllabus. Using a separate sheet of paper to complete the calculations, **you must show all work**. Partial credit will be given if appropriate.

1. (2 pts) Find the equivalent square for a 12.5 x 26cm² field size:
2. (2 pts) Use the formula $S_{eq} = \sqrt{A \cdot B}$ to find the equivalent square for a 12.5 x 26cm² field size.

11. (3 pts) Calculate the GD and MU for the following SAD setup:

18MV
Collimator Setting: 20cm²
Blocked Field Size: 18cm²
Depth: 12cm
TD: 180cGy

12. (3 pts) Calculate the GD and MU for the following SAD setup:

18MV, TD = 220 cGy
Collimator Setting: 16.5cm²
Blocked Field Size: 14cm²
Depth: 7cm
Tray Factor: 0.96

13. (3 pts) What is the SSD if a patient is treated to a depth of 8cm from a single AP field using an SSD setup? What is it with an SAD setup?

PLO #3 b., PLO #4 b.

**XRT 4960: Capstone in Radiation Therapy
CASE STUDY PRESENTATION PROJECT**

Description:

Students are to choose one patient under treatment and complete a case study presentation. The student must follow one patient through all aspects of their course of therapy, document the process, and cover all aspects of the patient's treatment. This includes discussing the type of cancer, the initial consultation and options for treatment, through the simulation, dosimetry, and progressing through the course of treatment. Emphasis is placed on the particular cancer, site and technique chosen for treatment. This project offers the student the opportunity to put all aspects of radiation therapy together to see the total picture of the patient's course of treatment from beginning to end; gives the opportunity to practice good communication, speaking and presentation skills and the use of visual aids. Students may use Health Sciences Library for research and resources. Copies of patient information may be used but **names and numbers must be blacked out**. Be sure to block out any identifying features from photos that you have included in your power point presentation. **REMEMBER, all patient information must remain confidential.**

Objectives:

1. Choose 1 new patient that is scheduled for a consult and treatment. (this is where the student must begin).
2. Research information relevant to the patient's type of cancer, including history and physical, pathology, epidemiology, etiology, signs and symptoms, diagnosis, work-up, staging/grading, anatomy including lymph nodes, treatment options, complete treatment plan including simulation, and prognosis/survival rate.
3. Present information in a well-organized manner using good communication, speaking and presentation skills, in **no more or less than 30 minutes, including questions.** Engage your audience!
4. **Utilize your power point.** Make it interesting to the audience. Other types of visual aids (copies of films, copies of treatment plans, etc.) can also be used to enhance the presentation.
5. **Prepare 3-4 questions to ask the audience after your presentation.** The questions and answers must be handed in to the faculty as a separate handout at the time of the presentation.

PRESENTATION OUTLINE:

All case presentations **must follow the outline below** (and as described on the rubric) and should

During the consultation, describe the interactions you observed between the patient and the staff (doctors, nurses, support staff).

2. **Brief but complete background of the particular malignancy:**

-

8. Radiation therapy, treatment plan and dose/fractionation:

- Discuss **IN DEPTH** the radiation therapy treatment plan – Why is this plan best for the patient? What is the technique? (IMRT, 3-fld., wedge-pr., POP, single field, etc.) If this is a protocol or clinical trial, explain.
- Show the dosimetry plan and explain. Include the DVH and explain.
- Discuss normal tissue tolerance and critical structures, including the TD 5/5 (whole or partial organ must be defined and endpoint).
- Show and explain the different tumor volumes (GTV, CTV, PTV, TV, etc. if possible). Refer to the anatomy of the area.
-

13. Psychological/Social:

- How will the disease affect the patient's mental or psychological outlook?
- Will it affect body image? Lifestyle? Social Life?
- Ability to work and/or take care of the home and family?
- Will it affect relationships with others?
- Will leisure time be altered or affected?
- Note the QOL index, if defined.

14. Summary:

- Must include personal reflections on the patient case.
- What is the expected outcome of treatment?
- What is the follow-

•



6. If a paper chart exists, **DO NOT TAKE THE PATIENT CHART FROM THE DEPARTMENT!** Make copies of any information you need. Block out the name and number on any copies.
7. Block out names or identifying features from plans, photos, scans or anything copied from the chart.
8. Make sure all information fits on your slide and that it is easily viewable.
9. When using images make sure they are unidentifiable and are not too dark or blurry. If they are, do not use them.
10. Make sure pictures and illustrations are relevant.
11. Make sure you know what type of treatment the patient is receiving, not all treatments are considered IMRT, for example.
12. Do not work on this project during clinical time, unless approved by the Clinical Instructor, Clinical Coordinator or Program Director.

Presentations Tips

1. **Practice** your presentation; know how to pronounce all words used in the presentation. Practice projecting your voice. You will have a mic the day of your presentation.
2. Be animated: project enthusiasm and passion for your topic, use inflection in your voice. Make it obvious to the audience that you are engaged in your patient/topic.
3. Try not to read from every slide, it is nice to be able to know your information well enough to step away from the podium and talk to the audience rather than looking down and reading every word, thus avoiding eye contact with your audience.
4. After each section, pause and take a few breaths or take a sip of water. This gives the audience time to process the information, and helps you calm down.
5. Check your timing while you practice. It must be about 30 minutes with questions.
6. When discussing images, diagrams, anatomy, treatment beams etc., point out these areas using a pointer or mouse, don't say 'you can see where it is,' 'or it's right there.' We will provide a clicker so you can advance your slides and have a laser pointer handy.
7. Remember to pay attention to your appearance and please dress accordingly. This is an important presentation with an audience of professionals, so be professional in both your dress and demeanor.

CAPSTONE CASE STUDY EVALUATION FORM/RUBRIC

Student Name: _____ Date: _____

Evaluator: _____

Topic of Case Study: _____

The following scale will be used to score each section:

6 points: Excellent (A) **5 points:** Above Average (B) **4.5 points:** Average (C) **3 points:** Unsatisfactory (D/F)

Criteria Required: Case Study	Points (6- 3)
<p>Content Evaluation:</p> <p>1. Introduction, History and Physical: List patient information based on the History and Physical: Patient’s age, occupation, other medical conditions, etc. Be sure to give the patient a false name to protect their identity and block out any identifying features from photos included in your PPT. Explain the common signs and symptoms associated with this disease and describe the symptoms the patient experienced. During the consultation, describe the interactions you observed between patient and staff (doctors, nurses, support staff)</p> <p>2. Brief but complete background of the particula(t)-5.9 ((aTJEE(ound oTw 11.0H1.2c)10.5 (k</p>	

7. **General treatment for this cancer:**

- How is this type of cancer usually treated? How is this patient being treated?
- Describe the role of surgery, medical oncology and XRT.
Surgery/chemotherapy/radiation therapy – which one or a combination for this patient?
- Discuss any other treatments – dietary, counseling, psychosocial?

8. **Radiation therapy, treatment plan and dose/fractionation:**

- Discuss **IN DEPTH** the radiation therapy treatment plan – Why is this plan best for the patient? What is the technique? (IMRT, 3-fld., wedge-pr., POP, single field, etc.) If this is a protocol or clinical trial, explain.
- Show the dosimetry plan and explain. Include the DVH and explain.
- Discuss normal tissue tolerance and critical structures, including the TD 5/5 (whole or partial organ must be defined and endpoint).
- Show and explain the different tumor volumes (GTV, CTV, PTV, TV, etc. if possible). Refer back to the anatomy of the area.
- Explain the prescription for treatment. What is the total tumor dose? Daily tumor dose? What type of fractionation is used? Is this radical or palliative treatment? Why? What energy is being used and why? Are wedges or other beam2 ()11.p (pl)2.g(r)-6 (1.04 -0)4

12. Prognosis:

XRT-4420 RADIATION THERAPY PRACTICE II
Scoring Rubric for Clinical Oncology Didactic Presentation: Head and Neck Cancers

Name: _____ Date: _____

Topic: _____

Evaluator: _____

The following scale will be used to score each section:

6 points: Excellent (A)

5 points: Well Developed (B)

4.5 points: Acceptable (C)

3 points: Unsatisfactory (D\F) (description of criteria for evaluation is attached)

Criteria Required	Points
1. Overall organization Comments:	
2. Clarity of presentation; was it easily understood? Comments:	
3. Did the presentation flow in a logical progression? Comments:	
4. Content (was the topic presented accurately and completely, following the outline provided) Comments:	
5. Quality of Power Point presentation (easy to follow, clear, diagrams included, references provided) Comments:	
6. Presentation Skills (Eye contact, posture, voice tone and quality, etc.) Comments:	
7. Handouts and/or teaching aids provided Comments:	
Total Points	
42 points possible	Ave Points/Final Grade

Grade Scale :

93-100	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
65-69	D
<65	F

Points will be taken off for late submission (past the date the project was due) equivalent to 10% off the total points for every day it is late.

Criteria for Evaluation in an Oral Presentation

6 points: Excellent

In general well organized, detailed and well expressed. Consistently displays technical competence in this area in relation to principles of public speaking in choice of content, materials, methods and time frame. Is clear, concise, entertaining, attention grabbing, and worthwhile to attend. Flows well, with no hesitation from the presenter. Content is well-covered.

5 points: Well-Developed

Organized and moderately complete and integrated. Content is covered. May be difficult to follow in some aspects, but still follows principles of public speaking in choice of content, materials, methods and time frame. Attention to audience response and assessment of audience needs may need some development.

4.5 points: Acceptable

Communicates moderately well but displays 1-2 significant weaknesses: portions of the project are not addressed; details may be omitted, development is superficial; organization is fair; presentation is careless or difficult to follow, presenter appears not to be prepared, however visual aids are complete (power point)

3 points Unsatisfactory

Presentation is not complete and presenter is clearly unprepared. Presentation displays serious problems in development, methods, format and content. Significant weaknesses are obvious.

PLO #5 a., b. found in appendix 2

Personal Attributes: Is positive and enthusiastic, shows initiative in performing assigned tasks.	3.0	2.0	1.0	
Clinical Applications: Demonstrates competency and professional attributes when performing clinical procedures.	3.0	2.0	1.0	
Professionalism: Assumes responsibility for actions and exhibits professional confidence and honest behavior at all times.	3.0	2.0	1.0	
Integrity: Ensures confidentiality of privileged information, and is honest and forthright at all times.	3.0	2.0	1.0	

OVERALL ROTATION PERFORMANCE ATTITUDE ASSESSMENT: Total will auto-populate (Question 2 of 10 - Mandatory)

	Always Performs at Entry Level Graduate 4	Sometimes Performs at Entry Level Graduate 2	*Rarely Performs at Entry Level Graduate 0	
Prepares treatment room	3.0	2.0	1.0	
	3.0	2.0	1.0	
Meets and assists correct patient to and from treatment area. Includes verification of correct patient by 2 methods of identification.	3.0	2.0	1.0	

Explains procedure and confirms patient understanding

Patient Set Up

Immobilizes patient.

Positions treatment machine to reproduce set-up indicated in treatment chart.

Rechecks set-up with set-up indicated in chart.

Instructs patient to remain still during treatment

Closes door to treatment room.

Treatment Machine Console

Checks set up and treatment parameters on record and verify system



Sets appropriate controls on treatment machine console for patient treatment.

Assists in activating machine to deliver prescribed dosage, with direct clinical preceptor/therapist supervision.

Monitors patient visually and audibly.

Monitors treatment machine console recording procedures.

Records pertinent data in treatment chart, accurately and completely.

Initials record entry, verify with clinical preceptor/therapist.

OVERALL ROTATION PERFORMANCE PATIENT TREATMENT TOTAL. THIS WILL AUTO CALCULATE (Question 4 of 10 - Mandatory)

(Question 5 of 10 - Mandatory)

(6 points) The student has mastered entry level comprehensive knowledge of basic and advanced concepts beyond requirements of set-up.

(4 points) The student demonstrates above average understanding of basic concepts applicable to the skill demonstrated

(2 points) The student demonstrates adequate knowledge of the essential elements of the task performed

STUDENT'S COMPREHENSION SET UPS

4.0

3.0

Total

(Question 8 of 10 Mandatory)

	(4 points): Student was dependable, was in attendance in the clinical area when expected not tardy, and communicated absences, which was minimal.	(2 points): Student was noticeably absent or tardy from the clinical area on several occasions, however successfully completed the objectives of the rotation, communicated clearly the reason for the absence, and was responsible for information missed.	(0 points) a communication completion
III. STUDENT'S ATTENDANCE IN CLINICAL AREA		2	

Comments

s
 i
 c
 o
 en
 s
 o

:

List alternative treatments

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for consistent data collection procedures and the use of advanced analytical techniques to derive meaningful insights from the data.

3. The third part of the document focuses on the role of technology in data management and analysis. It discusses how modern software solutions can streamline data collection, storage, and processing, thereby improving efficiency and accuracy.

4. The fourth part of the document addresses the challenges associated with data management, such as data quality, security, and privacy. It provides strategies to mitigate these risks and ensure that the data remains reliable and secure throughout its lifecycle.

5. The fifth part of the document concludes by summarizing the key findings and recommendations. It stresses the importance of a data-driven approach in decision-making and the need for continuous monitoring and improvement of data management practices.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

List and discuss possible side effects and complications associated with the treatment given:

Overall Summary Performance of Procedure:

_____ **Unsatisfactory** - requires additional clinical practice and **complete re-evaluation required**

Evaluator: _____ Date: _____
Signature

Student: _____ Date: _____
Signature