



Radiation Oncology Course

COURSE SYLLABUS

2019

Course Facilitator: Charmaine Lynden

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Course Offering: de Souza Institute

Course Format: eLearning

Contact Information: Charmaine.Lynden@trilliumhealthpartners.ca

Registration: Required

A. COURSE DESCRIPTION

Radiation therapy is an important treatment modality used alone, in combination with other treatments, or as a means to manage symptoms. The goals of radiation treatment are for cure, reduce risk of recurrence, and manage symptoms. Radiation therapy involves using radioactive substances to irradiate, shrink, or stop the growth of cancer cells. In cancer treatment, ionizing radiation involves using high energy particles such as photons, electrons, or neutrons. In Canada, more than 50% of patients diagnosed with cancer will have radiation therapy. This course will focus on the principles of radiation therapy including aspects of how it works, the implications for use, different treatment methods, treatment side effects, and the role of the nurse in supporting patients through treatment.

B. COURSE OBJECTIVES

By the end of this course, you will be able to:

- Describe principles of radiation therapy
- Define radiobiology and list effects on the cell
- Discuss the purpose and rationale for the use of radiation therapy
- Describe the mechanisms of ionizing radiation, dose, fractionation, and administration
- List the common radiation treatment modalities
- Describe treatment planning and scheduling, and identify key interdisciplinary staff roles
- Describe radiation safety principles
- Define radiosensitizers, radioprotectors, and chemotherapeutic agents
- Recognize the most common disease site concurrent protocols using radiation therapy as one of the main modalities
- Describe the most common side effects and disease site specific side effects of radiation therapy
- Discuss the different interventions for prevention and management of common side effects
- Explain the nurses role in assessment, patient education, and symptom management

C. METHOD OF LEARNING

The main mechanisms to facilitate learning in this course will entail eLearning.

eLearning

eLearning, offered through the de Souza Institute's eLearning center, will cover the following activities: the application of knowledge and self-directed reading assignments. The eLearning environment fosters a self-directed approach for participants to progress through the modules at a convenient time, either at home or work. The course timetable in Section G on pages 6 of the course syllabus outlines weekly expectations for participants.

- Learning and application: Sections and modules are developed by de Souza education team to reflect the latest knowledge in Oncology Practice. The content is up to date and the learning format is interactive.
- Readings are intended to enhance the eLearning content surrounding key topic areas.
- Application of knowledge: There will be end of section quizzes, a project, and a final exam.
- Technical support will be provided throughout the course.

D. MODES OF EVALUATION

As part of the evaluation process, you are required to complete the following:

- A baseline evaluation: this survey assesses your knowledge, attitude, confidence, and learning methods before you begin the eLearning modules for the course.
- eLearning sections/modules and required readings: There are four course sections and each course section has a module.
- End of section quizzes: You will be required to complete each section quiz.
- Final project. See below for project details. Participants must obtain a minimum of 74% to receive a passing grade.
- Exam: Participants will be tested on their knowledge after completing all course sections via an online assessment. To successfully pass the exam, participants must obtain a minimum of 80%. The exam is open book.
- Post evaluation: At the end of the course, you will be required to complete a post course evaluation. This will be facilitated electronically through eLearning.

Project

- Participants will have an opportunity to select a focused radiation topic related to their practice or a specific learning need requiring greater breadth and depth of understanding.

- A list of potential topics will be provided, and if a topic is not listed, participants can suggest a topic. There will be resources provided; however, participants will be required to search for additional literature in the virtual library to examine the topic further.
- It is expected that work on this project will begin in week one with instructions and activities provided. The project will require more independent time to produce, but is an integral part of the learning in this course.
- Participants will be supported through the process of developing, planning organizing, completing and sharing a PowerPoint presentation in the eLearning course. This will provide enhanced learning for the participant and also provide knowledge transfer to other participants in the course.
- See appendix A for grading rubric.

When you have met the all the above requirements, you will receive a downloadable certificate of completion via your de Souza account and will receive a credit towards de Souza designation. Please note: the certificate of completion will be available two weeks after the closing of the online course.

E. COMPETENCIES

A number of competencies will be evident within each module and encompasses both the Canadian Association of Nurses in Oncology and the College of Nurses of Ontario Standards of Practice.

College of Ontario Nursing Standards

- Accountability
- Continuing competence
- Knowledge
- Knowledge application
- Leadership
- Relationships
- Professional relationships

Standards & guidelines link:

<http://www.cno.org/en/learn-about-standards-guidelines/standards-and-guidelines/>

Canadian Association of Nurses in Oncology: Competencies associated with radiation therapy in cancer treatment

The nurse or health care provider working in radiation oncology should:

- Have an understanding of the purpose and rationale for radiation
- Have an understanding of the radiobiology of different types of radiation therapy

- Provide patient education to patients and family members regarding: a) role of radiation in treatment plan; b) acute, early or late, and delayed side effects of treatment; safety precautions
- Engage in precautionary measures for safe handling and disposing of radioactive sources (time, distance, and shielding)
- Implement interventions to manage acute side effects of treatment or prevent complications (skin reaction, hydration, medication)
- Provide guidance and referral on supportive care services available for patients based on need

The nurse or health care provider working in any area of oncology is responsible to:

- Assess for disease (or organ specific) symptoms and treatment side effects and implement a management plan
- Recognize the etiology of symptoms or side effects related to each patient
- Provide patient education on prevention and management of symptoms related to disease or treatment
- Implement interventions to manage symptoms of disease or treatment related side effects
- Ongoing evaluation of the effectiveness of interventions with modification as required
- Assess and provide psychosocial, spiritual, and cultural support
- Assess sexuality related side effects and implement interventions to preserve body and self-image, sexual function and/or fertility; provide referral to specialized services as needed
- Assess rehabilitation needs, implement interventions, and provide referral to specialized services if required

CANO Standard Link:

http://www.cano-acio.ca/page/standards_of_care

F. TIME REQUIREMENT AND EXPECTATIONS FOR PARTICIPANTS

To be successful in completing this course, you are encouraged to set aside 3 to 4 hours each week to complete each section as learning is primarily self-directed. The total learning hours for this course is 24 hours.

Sections and modules are to be completed sequentially. Your course activity completion will be reflected in your grade book. Evidence of engagement through active participation will result in a positive learning experience. You will be expected to complete all two sections/ modules through the eLearning system.

G. COURSE TIMELINE

The following sections/modules are to be completed in sequential order according to numerical identifier.

| Section | Topic | Post Date | Date to complete |
|------------------------|--|----------------------------------|--------------------------------------|
| Introduction | eLearning Center Orientation | Within first week of the course | Completion by the end of first week |
| Baseline Survey | Within first week of the course | | |
| 1 | Introduction to Radiation | Within first week of the course | Completion by the end of first week |
| 2 | Administration | Within second week of the course | Completion by the end of second week |
| 3 | Radiation Safety and Combined Modality Therapy | Within third week of the course | Completion by the end of third week |
| 4 | Radiation Treatment Side Effects | Within fourth week of the course | Completion by the end of fourth week |
| Project | Due at the end of Week 6 | | |
| Post Evaluation | To be completed before writing the final exam. | | |
| Exam | Due by the end of Week 8. | | |

H. FACILITATOR AVAILABILITY

As the facilitator for this course, I will be responsible to answer questions related to course content, to monitor the registration process, to facilitate the eLearning modules, and be available to you for questions throughout the course. You can expect me to respond to your queries within 24-hour time period during the week and 48 hours on the weekend. Technical support is available by contacting support@desouzainstitute.com

FACILITATOR BIOGRAPHY

Charmaine holds a Master's degree in nursing and works as a Nurse Practitioner in Radiation Oncology at the Peel Regional Cancer Centre at the Credit Valley Hospital, Mississauga, Ontario. She graduated from the University of Toronto in 2008, and has worked as a Nurse Practitioner in the areas of Medical Oncology and more recently, Radiation Oncology. Her clinical work involves running a NP-led symptom management clinic for patients receiving combined modality treatment for thoracic and pelvic malignancies. She is also involved with coordinating, navigating and improving structures and processes to optimize care for this specific patient population. Her other

areas of interest include primary CNS tumors, and Stereotactic Body Radiotherapy (SBRT).

[Additional Information Regarding Learning At de Souza Institute](#)

A. GUIDELINES FOR ONLINE DISCUSSION

Discussion related to course content will take place in the collaboration discussion forums. The collaboration discussion forums provide you with the opportunity to share ideas and clarify your understanding of course content and readings. Participating in the discussion forums is optional.

B. SOCIAL FORUM

This social forum is provided for you, the participants, to post news, items of general interest, share information about yourselves and to raise topics of interest beyond the specific questions being discussed in the module-specific forums. All messages of a social nature can be posted in the social forum. This forum is open to all participants, including the facilitator.

C. VIRTUAL LIBRARY

The de Souza Institute has a virtual library that can be accessed to those registered in this course or any other de Souza Institute continuing education program. This resource enables you to access over 1500 e-Journals, 200 e-books and 8 on-line databases such as CINHALL or Ovid-Medline. You can use the virtual library to access the required reading materials for your course. The virtual library can be accessed 24 hours a day at any location that has internet access using a login and password.

The direct link is <https://library.desouzainstitute.com/login>.

D. TECHNICAL SUPPORT

eLearning Centre Orientation

If this is the first time you are taking a course offered by the de Souza Institute, please complete the eLearning Centre Orientation course (free of charge). This course is designed to introduce you to online learning and help you understand how to navigate through the de Souza Institute eLearning centre and courses. It is strongly recommended that you complete this orientation so you will be able to successfully navigate de Souza's eLearning environment.

de Souza Support

If you have questions about the content of a course please email your course facilitator.

If you need assistance accessing or navigating the eLearning Centre, please refer to the eLearning Orientation course. If you have questions or have any general technical difficulties please contact support@desouzainstitute.com.

E. POLICIES AND PROCEDURES

Please click on the links below to view de Souza Institute's Policies.

[Academic Honesty and Copyright Policy](#)

[Cancellations, Incomplete and No Show Policy](#)

Course content and resources provided in this course are based on best practice guidelines from provincial and national bodies. Please consult your educator if you have specific questions related to local protocols and policies as they vary among healthcare organizations.

Appendix A
Radiation Therapy Final Project Submission (Slide Presentation)
Grading Rubric

| Criteria | | | | |
|---|--------------------------|---------------------|---------------------|---------------------------|
| (1) Content | Excellent (3) | Good (2) | Fair (1) | Needs Work (0) |
| Presents accurate content information around the main topic selected by the presenter | 3 | 2 | 1 | 0 |
| Demonstrates up to date knowledge of the topic using relevant resources | 3 | 2 | 1 | 0 |
| Summarizes ideas and lessons learned for practice in the summary slide(s) | 3 | 2 | 1 | 0 |
| (2) Organization | Excellent (3) | Good (2) | Fair (1) | Needs Work (0) |
| Outlines objectives clearly in the introduction slide | 3 | 2 | 1 | 0 |
| Content follows objectives, and has a logical flow from each section of the slide to the next | 3 | 2 | 1 | 0 |
| Includes References in the bibliography slide (s) using APA style | 3 | 2 | 1 | 0 |
| (3) Readability of Slides | Excellent (3) | Good (2) | Fair (1) | Needs Work (0) |
| Minimal spelling errors, grammatical and punctuation errors | 3 [No errors] | 2 [1-2 errors] | 1 [3-5 errors] | 0 [>5 errors] |
| Good visual quality: slides are easy to read | 3 | 2 | 1 | 0 |
| Content well displayed, effective use of graphs or images | 3 | 2 | 1 | 0 |
| Score (Max 27) | | | | |

Passing grade for the project: 74% or higher (20/27)