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## Provincial Chemotherapy and Biotherapy

COURSE SYLLABUS

2025

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**Course Format:** eLearning

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**Eligibility:** Nurses who have developed competency in peripheral and central vascular access device care and maintenance. In addition, the participant's nursing leadership/organization must support their application to participate. Participants must also be able to identify an invigilator to monitor their writing of the final exam. The invigilator must be your manager or nurse educator. RPNs can register in this course, as per the guidance document from Cancer Care Ontario "Role of RNs and RPNs in Ambulatory Systemic Treatment" version 1.0 – 17/01/2022.

**Prerequisite:** *Foundations in Oncology Nursing Practice (FONP)* or *Cancer Care Basics (CANB)* is strongly recommended for nurses new to oncology, prior to taking this course. RPNs should complete one of these courses as soon as possible or have 2 years of recent Oncology experience. Approval to administer chemotherapy is at the discretion of the hiring health care organization.

## A. COURSE DESCRIPTION

This 35-hour course is designed to support nurses building their knowledge and skills in Chemotherapy and Biotherapy administration and care. The program reflects standards identified by a number of national and international bodies, including the Canadian Association of Nurses in Oncology. This course also meets Cancer Care Ontario's Regional Models of Care for Systemic Treatment (2019) recommendations, which specify that nurses who administer parenteral chemotherapy are required to achieve certification in chemotherapy administration and to engage in continuing competence education every 2 years.

John Miller's (2008) Holistic Curriculum model provides the philosophical framework for the course, interweaving a whole person approach with best evidence and knowledge in safe, standardized chemotherapy and biotherapy administration and care. The course curriculum was developed with feedback and guidance from oncology nursing experts from across Ontario. Participants will receive a certificate upon successful course completion. Following course completion, a chemotherapy preceptorship is required in the participant's local organization, enabling competency development in that system.

The de Souza Standardized Chemotherapy and Biotherapy Course is one component of many in a comprehensive chemotherapy and biotherapy education program. The de Souza chemotherapy and biotherapy program goals are as follows:

- To provide nurses with comprehensive holistic standardized chemotherapy and biotherapy education
- To support patient safety efforts by integrating safety theory within all levels of the curriculum
- To support knowledge translation and application of evidence based practice in systemic therapy
- To integrate Cancer Care Ontario practice recommendations into a comprehensive curriculum

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<b>Domain of Practice</b>	Treatment and Delivery of Evidence Based Care
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<b>Learning Hours</b>	35 hours
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<b>de Souza Credit</b>	1 credit
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## B. COURSE OBJECTIVES

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

- Demonstrate a holistic, person-centered approach to chemotherapy and biotherapy nursing care.
- Identify various treatment modalities used in cancer treatment, with emphasis on chemotherapy and biotherapy.
- Describe the different phases of drug development and clinical trials and the oncology nurses' role in clinical trials.
- Summarize the factors that influence a person's response to chemotherapy and biotherapy.
- Identify commonly used chemotherapy and biotherapy agents, their mechanisms of action, administration recommendations, infusion related issues and side effects.
- Review and analyze chemotherapy orders and calculations.
- Discuss safe handling issues for chemotherapy and biotherapy, including safe administration practices, management of bodily wastes and spill management. Demonstrate principles of safe handling and safe management in selected cases.
- Consider and apply safety issues and theoretical principles in common chemotherapy and biotherapy scenarios, which include: human factors theories, pump safety literature, cognitive checking principles and guidelines for independent double checks.
- Identify nursing procedures and interventions for administration of cytotoxic and biologic agents by the following routes: PO, IM, SC, and IV. Greater time will be focused on oral and intravenous administration, the most common forms of administration.
- Identify the immediate adverse events and long-term side effects of common chemotherapy and biotherapy agents and their appropriate management.
- Discuss symptom management and related teaching points for patients and families, as guided by evidence based education principles.
- Identify internal and external resources to support patients and families in your community.
- Articulate the ethical and legal considerations frequently encountered in practice and apply a framework to resolve ethical dilemmas.
- Demonstrate documentation that is consistent with Cancer Care Ontario's recommendations for practice.

## C. MODE OF LEARNING: eLearning

The eLearning environment fosters a self-directed approach. You can progress through the modules and exercises at a convenient time, at home or work. The course timetable, in **Section G** of the course syllabus, outlines weekly expectations for participants.

- **eLearning Modules**: Sections and modules were developed by the de Souza education team to reflect the latest knowledge in chemotherapy and biotherapy administration and care. The content is up-to-date and includes interactive learning exercises and references to the latest clinical guidelines.
- **Readings**: These are intended to enhance the eLearning content surrounding key topic areas. Required readings further explain important concepts and are marked as required. All other readings are optional and intended to enhance your understanding of course content and expand your learning.
- **Assignment**: This two-part assignment has been developed with the intent of engaging your critical thinking and knowledge application skills and will evaluate your ability to apply essential competencies related to cancer chemotherapy care and assessment of practice issues. Part one focuses on infusion reactions and part two focuses on immunotherapy adverse effects. The assignment will be marked by either the facilitator or a co-facilitator and feedback will be provided.
- **Case Studies for Review**: Three case studies have been developed to enable you to review and apply the course content to real life clinical scenarios. You are required to complete only one case study, but can choose to do all three. You should select the case that most closely relates to your practice setting.
- **Study Guides**: Printable study guides are provided for all course sections except for Section 2 – Cancer Care System and Person Centered Approach. You can print and fill in the guides as you progress through the interactive course modules. Completion of the study guides is not mandatory, but can be a resource to support you in the online open-book exam.

## D. MODES OF EVALUATION

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

- **Baseline Participant Survey**: This survey assesses your knowledge, attitude, and confidence before you begin the eLearning modules for the course.

- **Foundations Modules and Quiz:** You will be required to pass a Foundation's Quiz in **Section 3, with a mark of 70% or greater (2 attempts only)**. Completion of the modules is not mandatory. However, individuals that have not completed the de Souza *Foundations in Oncology Nursing Practice (FONP)* course or who are new to oncology practice, are strongly advised to review the modules prior to attempting the quiz. **Access to sections 4 to 16 will not be available until this quiz is passed.**
- **eLearning Modules:** You must complete **all course sections** by the course end date.
  - You are required to complete all eLearning module content in each section and complete all quizzes that correspond with the module content.
  - The **Section 16 – Two Part Assignment** must be completed by the due date. Detailed assignment information can be found in Section 16 of the course.
  - One case study for review from **Section 17** must be completed, as a review activity after completing the course modules. You can choose to complete all three if you choose.
  - You must receive a pass mark of 70% or greater on all course content before the course exam becomes available to you.
- **Workshops (In-person or Virtual)**
  - **In-person Workshop:** If an in-person workshop is being offered at your organization or hospital, you must register to attend that in-person workshop. Active participation is required. A workshop evaluation must also be completed. **You must download and complete the Jean Louis case study and bring it with you to the workshop. In-person workshops are only offered in January, April and September of each year. Additional dates may be added, but are dependent on local organization availability.**
  - **Virtual Workshop:** This option was added during the COVID-19 pandemic to accommodate policies and restrictions related to public health. For those not able to attend an in-person workshop because it is not offered at their organization or hospital *or* due to public health policies and restrictions, you must register to attend the virtual workshop on *one* of the specified dates. Active participation is required. **Virtual workshops are offered in each cohort.** The virtual workshop covers the core content presented at the in-person workshop, but does not include the hands-on components. **You must download and complete the *Jean Louis case study* and bring it with you to the workshop.**

- **Workshop Attendance:** Whether you attend an in-person or a virtual workshop, attendance will be taken and recorded in the eLearning course. The workshop is a key component of this course, therefore we ask that you work with your workplace *at the time of enrollment and at the start of the course*, to ensure that your schedule will allow you attend and actively participate.
- **Exam:** You must write the final exam by the course end date. There are 44 multiple choice questions and you will be given 2 hours to write it. To successfully pass the exam, you must obtain a **minimum of 36 out of 44 (>81%)**. The exam is open book. No talking is permitted during the exam. The invigilator must be present for the full 120 minutes.
  - We recommend that you attempt the exam at least 1 week before the course ends.
  - You are allowed a **maximum of two attempts for this exam**. If you are not successful after two attempts, we recommend that you retake this course at a later time. Please note, if you are unsuccessful on your first attempt and in order to have your second attempt enabled in eLearning, you must reach out to the course facilitator to receive feedback and address your learning gaps.
- **Participant Post Survey:** At the end of the course, you will be required to complete a post course evaluation survey where you will have the opportunity to provide feedback. The survey is located within the eLearning course.

When you have met the all of the above requirements, you will receive **35 learning hours, 1 de Souza credit** towards obtaining your de Souza designation, and an email containing instructions on how to download your certificate of completion via your “My Account”.

## E. COMPETENCIES

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

### College of Nurses of Ontario 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 cancer chemotherapy nursing practice:

- Comprehensive health assessment
- Supportive and therapeutic relationships
- Management of cancer symptoms and treatment side effects
- Teaching and coaching
- Facilitating continuity of care/ navigating the system
- Decision-making and advocacy
- Professional practice and leadership

### CANO Standard Link:

<http://www.cano-acio.ca/conep/>

### CANO National Strategy for Chemotherapy Standards Link:

<https://www.cano-acio.ca/page/NSCA>

## F. TIME REQUIREMENT & EXPECTATIONS FOR PARTICIPANTS

To be successful in completing this course, you are encouraged to set aside 4 to 6 hours each week to complete each section, as learning is primarily self-directed. Time spent to complete course activities will vary from learner to learner and will depend on preferred learning style, needs and previous oncology experience. Despite variance in learner time to complete the modules and course activities, successful course completion provides **35 learning** hours, which can be used for continuing education.

Sections and modules are to be completed sequentially; you can choose to go ahead and complete learning activities in multiple sections and modules at once, but must submit the assignments in the assigned weeks (refer to timeline in Section G).

Your course 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 15 sections (Sections 2-16) of the eLearning course.

## G. SUGGESTED COURSE TIMELINE

You must complete the sections/modules below in **sequential order**. Please note that the timeline below is a guide. It is your responsibility to ensure that all course requirements are completed by the course end date.

	<b>Suggested Weekly eLearning Activities</b>
Week 1	<ul style="list-style-type: none"> <li>✓ eLearning Center Orientation – <i>Optional but highly recommended</i></li> <li>✓ Learner Agreement</li> <li>✓ Baseline Survey</li> <li>✓ Pre-knowledge Test</li> <li>✓ Section 1 – Resources to be Used Throughout the Course</li> <li>Section 2 (<i>Optional</i>) – Cancer Center System and Person Centered Approach</li> <li>✓ Section 3 – Foundations Introductory Units to Cancer – <i>Only required to pass quiz with grade of 70% or higher (max. 2 attempts)</i></li> <li>✓ Section 4 – Diagnosis, Staging and Treatment</li> </ul>



Week 2	<ul style="list-style-type: none"> <li>✓ Section 5 – Clinical Trials</li> <li>✓ Section 6 – Patient Education</li> <li>✓ Section 7 – Psychological and Emotional Distress</li> <li>✓ Section 8 – Safe Handling</li> </ul>
Week 3	<ul style="list-style-type: none"> <li>✓ Section 9 – Safety Theory</li> <li>✓ Section 10 – Assessment and Administration</li> </ul>
Week 4	<ul style="list-style-type: none"> <li>✓ Section 11 – Chemotherapeutic Agents</li> </ul>
Week 5	<ul style="list-style-type: none"> <li>✓ Section 12 – Biotherapy</li> </ul>
Week 6	<ul style="list-style-type: none"> <li>✓ Section 13 – Oral Systemic Therapies</li> <li>✓ Section 14 – Adverse Effects</li> <li>✓ Section 15 – Immediate Complications</li> </ul>
Week 7	<ul style="list-style-type: none"> <li>✓ <b>Section 16 (Final Assignment) -Due by <b>Week 7</b></b></li> </ul>
In-Person or Virtual Workshop	<ul style="list-style-type: none"> <li>✓ Occurs within weeks 6 to 8 – full participation required</li> <li>✓ <i>Workshop details will be posted in the News Forum of the course by Week 3.</i></li> <li>✓ If your organization does not offer an in-person workshop for you to attend, you must attend <i>one</i> of the virtual workshops.</li> <li>✓ <b>You must complete and bring with you the <u>Jean Louis case study</u>, which will be marked at the workshop.</b></li> </ul>
Week 10	<ul style="list-style-type: none"> <li>✓ <b>Section 17 – Case Studies for Review:</b> Complete <u>one</u> case study as review and prep for the exam</li> <li>✓ Must be done before writing the exam</li> </ul>

	<ul style="list-style-type: none"> <li>✓ Arrange a date, time and location to write the <b>exam</b> with your invigilator – We recommend that you attempt the final exam by <b>Week 10</b></li> <li>✓ Study for final exam; review content that you found more challenging</li> <li>✓ Participant Post Survey – <i>complete <u>before</u> writing the final exam</i></li> </ul>
Week 11 Exam	<ul style="list-style-type: none"> <li>✓ The last day to write the exam (including re-write) is at the end of Week 11 <b>Maximum 2 attempts – 2 hours open book exam – must obtain 36/44 (&gt;81%) to pass</b></li> </ul>

## H. FACILITATOR AVAILABILITY

This course is self-directed. The course facilitator will answer your questions related to course content. You can expect the facilitator to respond to your questions within 24-48 hours during the week and within 48-72 hours on the weekend.

Technical support is available by contacting [support@desouzainstitute.com](mailto:support@desouzainstitute.com)

## I. FACILITATOR'S BIOGRAPHY

### **Komal Patel Saini, RN(EC), MN, CON(C), CHPCN(C), CGNC(C)**

Komal began her nursing career in 2006 on an in-patient oncology unit where she has had the opportunity to provide direct patient care, precept nursing students, mentor nurses, and educate healthcare professionals throughout the organization. Komal values lifelong learning and has demonstrated this in many professional activities she has engaged in including the chairing of the Oncology Interprofessional Unit Base Council and Oncology Journal Club. In 2011, Komal completed an RNAO clinical fellowship that focused on Oncology and Palliative Pain and Symptom Management. Komal holds a BScN (Honours) from the University of Windsor (2006) and holds a Masters in Nursing with a teaching focus from Athabasca University (2014). She obtained her Oncology CNA certification in 2010, Hospice Palliative Care CNA certification in 2012 and Gerontology CNA certification in 2019. Komal achieved her de Souza APN designation in 2013 and completed the Post Master's NP program with a focus in primary health care from Athabasca University in August 2018.

## J. SOCIAL FORUM

The social forum is provided for you 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 this forum. This forum is open to all participants, including the facilitator.

## K. VIRTUAL LIBRARY

de Souza Institute has a virtual library that can be accessed by 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 CINAHL or Ovid-Medline. You can use the virtual library to access the additional reading materials for your course. The virtual library can be accessed 24 hours a day using your login and password.

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

## L. TECHNICAL SUPPORT

### eLearning Centre Orientation

The eLearning Centre Orientation is designed to introduce you to online learning and to 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 that you will be able to successfully navigate de Souza's eLearning environment.

### de Souza Institute 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 technical difficulties, please contact [support@desouzainstitute.com](mailto:support@desouzainstitute.com).

## M. POLICIES AND PROCEDURES

Click the links below to read de Souza Institute's respective policies.

[Academic Honesty and Copyright Policy](#)

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

[Request for Accommodation Policy](#)

Course content and resources provided in this course are based on best practice guidelines from provincial and national bodies. Local protocols and policies vary among healthcare organizations; please consult educators within your organization if you have specific questions related to local protocols and policies.