



---

# Complex Malignant Hematology

COURSE SYLLABUS (CMHE00ODM24)

2024

**Course Authors:**

Donalda MacDonald, RN, CON(C)

Jennifer Wiernikowski, MN, NP-Adult, CON(C)

**Course Facilitators:**

Jennifer Wiernikowski, MN, NP-Adult, CON(C)

Margaret Forbes, MN, NP-Adult, CON(C)

---

**Course Format:** eLearning

**Contact Information:**

Jennifer Wiernikowski - [Jennifer.Wiernikowski@desouzainstitute.com](mailto:Jennifer.Wiernikowski@desouzainstitute.com)

Margaret Forbes – [Margaret.Forbes@desouzainstitute.com](mailto:Margaret.Forbes@desouzainstitute.com)

**Technical Support:** [support@desouzainstitute.com](mailto:support@desouzainstitute.com)

**Registration:** Required

**Eligibility:** Nurses, Physician Assistants, Physicians, and Pharmacists

**Prerequisite:** None. *Taking either Foundations of Oncology Nursing Practice or Provincial Standardized Chemotherapy and Biotherapy (PSCB) is **strongly** recommended before taking this course.*

## A. COURSE DESCRIPTION

Cancer care is changing rapidly, and no area is changing faster than complex malignant hematology. *Complex Malignant Hematology* is a comprehensive course covering core competency areas in managing hematological malignancies. This course is designed to equip you with the knowledge you need to succeed in this challenging and rewarding subspecialty.

The course is divided into **twelve sections** with **forty-six modules** in total. The first section is an optional review of hematopoiesis, the immune system and diagnostic testing. The next four sections will introduce you to the essentials of **multiple myeloma, lymphoma, leukemia, and aplastic anemia**. These four disease-site sections cover pathophysiology, incidence, risk factors, clinical presentation, and more importantly, the latest updates in diagnostics, staging, and treatment options. The disease site sections are followed by a focused section on hematopoietic stem cell transplant and adoptive cell therapy that includes the latest indications and possible complications. The latter half of the course will introduce you to the complications of hematological malignancies and their treatment, with a focus on anticipating and preventing oncological emergencies. The final two sections explore psychosocial issues for patients and families, and survivorship care.

Although you can complete the various components of the course at your own pace, you must complete the course, in its entirety, within **twenty weeks** of the course start date (this date can be found on the course information page in *My Account*).

---

**Domain of Practice** Treatment and Delivery of Evidence Based Care

**Learning Hours** 40 hours

**de Souza Credit** 1 credit

---

## B. COURSE OBJECTIVES

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

- Describe the clinical presentation, risk factors, and pathophysiology of multiple myeloma, lymphoma, leukemia, and aplastic anemia.
- Explain the diagnosis and staging of each disease site, including prognostic indicators where available.
- Identify treatment modalities that are currently used for each site.
- Differentiate the care needs of patients receiving allogenic and autologous hematopoietic stem cell transplant.

- Identify complications of the disease or its treatment and explain the assessment and management of these complications.
- Anticipate, prevent, and manage oncological emergencies seen in patients with hematological cancers.
- Identify the components to be integrated into patient and family education based on diagnosis, treatment, prognosis, and potential complications.
- Recognize the unique issues for cancer survivors.

## 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 F** of the course syllabus, outlines our suggested weekly expectations for participants.

- **eLearning Modules:** Sections and modules were developed by the de Souza education team to reflect the latest knowledge in complex malignant hematology. The content is up-to-date and includes interactive application exercises and links to the latest clinical guidelines.
- **Study Guides:** Each course section has a printable study guide that you can print and fill in as you progress through the interactive course modules.

## D. MODES OF EVALUATION

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

- **A Baseline Participant Survey:** This survey assesses your knowledge, attitude, and confidence before you begin the eLearning modules for the course.
- **eLearning Modules:** You must complete all **12 sections** by the course end date.
- **Quizzes:** There are a total of four quizzes in this course. The **minimum passing grade for each quiz is provided under “suggested course timeline” on pages 5-7**. The quizzes are open book and you have **two attempts** at the quiz to achieve a passing grade. You are required to complete each quiz independently.
- **Course Evaluation:** At the end of the course, you will be required to complete a “Participant Post Survey” where you can provide your feedback on whether the content met your professional practice needs. These surveys are facilitated electronically through eLearning.

When you have met all of the above requirements, you will receive **40 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. EXPECTATIONS FOR PARTICIPANTS

To be successful in completing this course, you are encouraged to set aside 3 to 4 hours each week to complete the activities. The total learning hours for this course is 40 hours, which does not include the quizzes.

Writable study guides are available to download and fill in if you wish. The study guides are not mandatory and completion of them is **not included in the learning hours**. If you do complete the study guides you will have a copy of the course content for your future reference; once you complete the course you will no longer have access to the course modules and resources. There are printable documents throughout the course, which you may want to save or print out.

Your course activity completion will be reflected in your **grade book**. You are expected to complete all sections through the eLearning system.

<b>Section 01: Review of hematopoiesis, the immune system, and diagnostic testing</b>	0 learning hours*
<b>Section 02: Multiple Myeloma</b>	3.00 learning hours
<b>Section 03: Lymphoma</b>	6.50 learning hours
<b>Section 04: Leukemia</b>	5.75 learning hours
<b>Section 05: Aplastic Anemia</b>	0.75 learning hours
<b>Section 06: Hematopoietic Stem Cell Transplant &amp; Adoptive Cell Therapy</b>	5.00 learning hours
<b>Section 07: Infection</b>	2.00 learning hours
<b>Section 08: Other Complications of Disease and Treatment</b>	2.00 learning hours
<b>Section 09: Oncological Emergencies</b>	6.00 learning hours
<b>Section 10: Toxicities</b>	5.25 learning hours
<b>Symptom Assessment Video Exercise</b>	0.50 hours
<b>Section 11: Psychosocial Issues</b>	1.75 learning hours
<b>Section 12: Survivorship</b>	1.50 learning hours
<b>TOTAL</b>	<b>40.00 learning hours</b>

\*Section 01 is a general review for your reference only. The content in section 01 will not be tested and there is no section 01 study guide.

## F. SUGGESTED COURSE TIMELINE

You **do not** have to complete the weekly course activities exactly as outlined below. However, you must complete all course requirements within **twenty weeks** of starting the course.

	<b>Suggested Weekly eLearning Activities</b>
Week 1	<ul style="list-style-type: none"> <li>✓ Learner Agreement</li> <li>✓ Participant Baseline Survey</li> <li>✓ Optional: Section 01 - Review of hematopoiesis, the immune system and diagnostic testing</li> <li>✓ Download the <b>Multiple Myeloma</b> Study Guides</li> <li>✓ Multiple Myeloma - Module 01: Pathophysiology &amp; Diagnosis (1.5 hours)</li> <li>✓ Multiple Myeloma - Module 02: Treatment (1.5 hours)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 3</b></p>
Week 2	<ul style="list-style-type: none"> <li>✓ Download the <b>Lymphoma</b> Study Guide</li> <li>✓ Lymphoma - Module 01: Introduction, Presentation, and Diagnosis (0.5 hours)</li> <li>✓ Lymphoma - Module 02: Hodgkin lymphoma (1.5 hours)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 2</b></p>
Week 3	<ul style="list-style-type: none"> <li>✓ Lymphoma - Module 03: Introduction to NHL (1 hour)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 1</b></p>
Week 4	<ul style="list-style-type: none"> <li>✓ Lymphoma - Module 04: Aggressive B-Cell NHL (1.5 hours)</li> <li>✓ Lymphoma - Module 05: Indolent B-cell NHL (0.75 hours)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 2.25</b></p>
Week 5	<ul style="list-style-type: none"> <li>✓ Lymphoma - Module 06: Peripheral T-cell NHL (0.75 hours)</li> <li>✓ Lymphoma - Module 07: Waldenström Macroglobulinemia (0.5 hours)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 1.25</b></p>

Quiz 1 (passing grade 79% or 11 correct answers out of 14 total quiz questions)	
Week 6	<ul style="list-style-type: none"> <li>✓ Download the <b>Leukemia</b> Study Guides</li> <li>✓ Leukemia - Module 01: Pathophysiology and diagnosis (1 hour)</li> <li>✓ Leukemia - Module 02: Acute myeloid leukemia (1 hour)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 2</b></p>
Week 7	<ul style="list-style-type: none"> <li>✓ Leukemia - Module 03: Acute lymphoblastic leukemia (1 hour)</li> <li>✓ Leukemia - Module 04: Myelodysplastic syndrome (0.75 hours)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 1.75</b></p>
Week 8	<ul style="list-style-type: none"> <li>✓ Leukemia - Module 05: Chronic myeloid leukemia (1 hour)</li> <li>✓ Leukemia - Module 06: Complications &amp; Supportive care (1 hour)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 2</b></p>
Week 9	<ul style="list-style-type: none"> <li>✓ Download the <b>Aplastic Anemia</b> Study Guides</li> <li>✓ Module 01: Aplastic Anemia (0.75 hours)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 0.75</b></p>
Quiz 2 (passing grade 80% or 8 correct answers out of 10 questions)	
Week 10	<ul style="list-style-type: none"> <li>✓ Download the <b>Hematopoietic Stem Cell Transplant &amp; Adoptive Cell Therapy</b> Study Guides</li> <li>✓ HSCT - Module 01: Introduction to HSCT (1 hour)</li> <li>✓ HSCT - Module 02: Autologous HSCT (0.5 hours)</li> <li>✓ HSCT - Module 03: Allogenic HSCT (0.75 hours)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 2.25</b></p>

Week 11	<ul style="list-style-type: none"> <li>✓ HSCT - Module 04: Complications of HSCT (1 hour)</li> <li>✓ HSCT – Module 05: CAR T-cell Therapy (1 hour)</li> <li>✓ HSCT – Module 6: CAR T-cell Therapy Adverse Effects (0.50 hours)</li> <li>✓ HSCT - Module 07: Survivorship Issues after HSCT (0.25 hours)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 2.75</b></p>
Week 12	<ul style="list-style-type: none"> <li>✓ Download the <b>Infection</b> Study Guides</li> <li>✓ Infection- Module 01: Principles of Infection (0.25 hours)</li> <li>✓ Infection- Module 02: CVADs and Infection Risk (0.25 hours)</li> <li>✓ Infection- Module 03: Types of Infection (1.5 hour)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 2</b></p>
Week 13	<ul style="list-style-type: none"> <li>✓ Download the <b>Other Complications of Disease and Treatment</b> Study Guide</li> <li>✓ Module 01: Other Complications of Disease and Treatment (2 hours)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 2</b></p>
<b>Quiz 3 (passing grade 75% or 9 correct answers out of 12 questions)</b>	
Week 14	<ul style="list-style-type: none"> <li>✓ Download the <b>Oncological Emergencies</b> Study Guides</li> <li>✓ Oncological Emergencies - Module 01: Sepsis (0.75 hour)</li> <li>✓ Oncological Emergencies - Module 02: TLS (0.75 hour)</li> <li>✓ Oncological Emergencies - Module 03: DIC (0.75 hour)</li> <li>✓ Oncological Emergencies - Module 04: Hypercalcemia (0.75 hour)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 3</b></p>

Week 15	<ul style="list-style-type: none"> <li>✓ Oncological Emergencies - Module 05: SVCS (0.75 hour)</li> <li>✓ Oncological Emergencies - Module 06: Hyperleukocytosis (0.75 hour)</li> <li>✓ Oncological Emergencies - Module 07: SOS (0.75 hour)</li> <li>✓ Oncological Emergencies - Module 08: CRS (0.75 hour)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 3</b></p>
Week 16	<ul style="list-style-type: none"> <li>✓ Download the <b>Toxicities</b> Study Guides</li> <li>✓ Toxicities- Module 01: Introduction to Symptom Assessment Tools (0.5 hours)</li> <li>✓ Toxicities- Module 02: Myelosuppression (0.75 hours)</li> <li>✓ Toxicities- Module 03: Peripheral Neuropathy (0.75 hours)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 2</b></p>
Week 17	<ul style="list-style-type: none"> <li>✓ Toxicities- Module 04a: GI Toxicities - Introduction (0.25 hours)</li> <li>✓ Toxicities- Module 04b: GI Toxicities - Constipation (0.75 hours)</li> <li>✓ Toxicities- Module 04c: GI Toxicities - Diarrhea (0.75 hour)</li> <li>✓ Toxicities- Module 04d: GI Toxicities – Nausea and Vomiting (0.75 hours)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 2.5</b></p>
Week 18	<ul style="list-style-type: none"> <li>✓ Toxicities- Module 05: Fatigue (0.75 hours)</li> <li>✓ Interactive Video Case Studies (0.50 hours)</li> <li>✓ Download the <b>Psychosocial Issues</b> Study Guides</li> <li>✓ Psychosocial Issues – Module 01: Sexuality and Fertility (1 hour)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 2.25</b></p>
Week 19	<ul style="list-style-type: none"> <li>✓ Psychosocial Issues – Module 02: Emotional Distress (0.75 hours)</li> <li>✓ Download and Print the <b>Survivorship</b> Study Guide</li> <li>✓ Module 01: Survivorship (1.5 hours)</li> </ul> <p style="text-align: right;"><b>Total learning hours: 2.25</b></p>



Week 20	<ul style="list-style-type: none"><li>✓ Review content that you found more challenging.</li><li>✓ Course Evaluation: Participant Post-Survey</li></ul>
<b>Quiz 4 (passing grade 75% or 18 correct answers out of 24 questions)</b>	

## G. FACILITATOR AVAILABILITY

This course is self-directed. The course facilitators will answer your questions related to course content.

You can expect the facilitators to respond to your questions within 24-hours during the week and within 48 hours (about 2 days) on the weekend.

Jennifer Wiernikowski - [Jennifer.Wiernikowski@desouzainstitute.com](mailto:Jennifer.Wiernikowski@desouzainstitute.com)

Margaret Forbes – [margaret.forbes@desouzainstitute.com](mailto:margaret.forbes@desouzainstitute.com)

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

## H. COURSE AUTHOR & FACILITATOR BIOGRAPHIES

### **Donalda MacDonald, RN, CON(C) – Course author**

Donalda has been an oncology nurse for 45 years, 35 years working in clinical oncology at Mount Sinai Hospital in Toronto, and the last 10 as an educator at de Souza. Her lifelong education focus has been on the novice oncology nurse, whether that nurse is a new grad or someone transferring into oncology from another clinical area. Donalda has held certification in oncology from both the Oncology Nursing Society and the CNA since 1998. She has served on the board of directors for the Canadian Association of Nurses in Oncology for seven years, five of which she was treasurer. Donalda has done item writing and been a reviewer for the CNA oncology certification exam. In 2008, Donalda was nominated by her oncology peers and was one of the 100 nurses from across Canada to receive the CNA Centennial Award honouring her work in education of novice oncology nurses. In 2014, she received the CANO-ACIO Lifetime Achievement Award, and in 2023 was the recipient of the CANO-ACIO Pfizer Award of Excellence in Nursing Education

### **Jennifer Wiernikowski, MN, NP-Adult, CON(C) – Course author and facilitator**

Jennifer Wiernikowski is a Nurse Practitioner in Hematology who formerly practiced at the Juravinski Cancer Hospital in Hamilton Ontario. Her clinical work focused on caring for patients and families facing hematological malignancies, autologous and allogeneic stem cell transplant. She is the past secretary of the Canadian Blood and Marrow Transplant Group (CBMTG), past President of the Canadian Association of Nurses in Oncology (CANO/ACIO) and previous Chief of Nursing Practice for the Juravinski Cancer Program. Jennifer has held a clinical cross appointment in the school of nursing at McMaster University. She is a previous Associate Member of the Department of Oncology, Michael G DeGroot School of Medicine at McMaster University. In 2019, Jennifer was the recipient of the Canadian Association of Nurses in Oncology (CANO/ACIO) Award of Distinction.

### **Margaret Forbes, MN, NP-Adult, CON(C) - Course author and facilitator**

Margaret is a nurse practitioner with more than 30 years of oncology experience. She recently practiced as a nurse practitioner in complex malignant hematology including stem cell transplant and cellular therapies at the Juravinski Hospital and Cancer Centre. Margaret also has clinical experience in the treatment and management of people with solid tumour malignancies, specifically breast cancer. Margaret has held various nursing leadership roles most recently as a nurse practitioner lead in complex malignant hematology. She was the clinical lead in the development of the cancer survivorship program at the Juravinski Cancer Centre. In 2016, Margaret was the recipient of the Canadian Association of Nurses in Oncology (CANO-ACIO) Pfizer Award of Excellence in Nursing Leadership. In 2018, Margaret led the development of the Ron and Nancy Clark Nurse Practitioner Fellowship in Hematology at the Juravinski Hospital and Cancer Centre. Margaret has participated in research as both a co-principal investigator and co-investigator in multiple studies. Margaret is an assistant clinical professor at McMaster University School of Nursing. She has recently joined the de Souza Institute as an advanced practice nurse educator. Margaret believes that a strong foundation in oncology knowledge will inspire nurses and other health care providers to become confident, competent and enthusiastic about providing excellence in the care of people and their families who experience cancer.

## I. 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>.

## J. 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 a course's content, 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).

## K. POLICIES AND PROCEDURES

Click the links below to read de Souza Institute's Academic Honesty and Copyright; and cancellation, incomplete and no show policies.

[Academic Honesty and Copyright Policy](#)

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

[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.