



# **Introduction to Health Informatics within Nursing**

## **N1140A**

### **Fall 2024**

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## **Introduction to Health Informatics within Nursing**

### **N1140A**

#### **Calendar Description:**

In this course students have an opportunity to develop foundational knowledge, skills, and competencies related to the use, application, and evaluation of technology across all domains of nursing practice. The influence and implications of technology on clients, families, communities, society, the nursing profession, and nursing practice will also be explored.

#### **Course Description:**

This course introduces the *knowledge, skills and attitudes* necessary for the use of information technology by nurses in relation to client care, health care administration, client teaching, nursing education and research. This course was designed to make students aware of professional, legal and ethical issues associated with the use of informatics within nursing. Students will explore the professional application of information technology in nursing education, professional practice and research.

#### **Course Goals:**

Students will:

1. Understand and apply informatics principles, information and communications technology (ICT) examples, technology frameworks, and information literacy knowledge and skills to analyse, critique, and inform personal and professional nursing practice.
2. Consider and analyse how information technology has shaped and will continue to shape nursing practice, education, leadership, policy, and research.
3. Critically reflect on how information and communications technology influences nursing and health (care) issues including social determinants of health, social justice, and health equity.
4. Identify how regulatory, professional, and organizational practice standards and guidelines related to information technology and informatics help to guide and support safe, competent, effective, and evidence-informed nursing practice to promote health and well-being of clients.
5. Recognize the potential benefits, consequences, and implications related to the use, integration, and evaluation of information and communications technology (ICT) within nursing practice and healthcare.
6. Explain the how the components of the socio-technological relationship that exists in the health care system impacts the nursing profession and clients.
7. Demonstrate how information technology is used in relation to the personal and professional context to develop the skill set required to establish an online professional presence for ongoing professional development.
8. Demonstrate awareness of professional organizations and professional development opportunities in nursing informatics

**Major Concepts in the course:**

1. Clients
2. Context/culture
3. Health
4. Health promotion
5. Technology/informatics
6. Safety
7. Interprofessional collaborative practice
8. Health care system
9. Caring
10. Client-centred care
11. Social justice
12. Professionalism
13. Ethical practice
14. Communication
15. Critical reflection
16. Evidence informed practice
17. Health information literacy
18. Political influences

**National Nursing Entry-to-Practice Competencies (CNO, 2019) addressed in the course:**

- Clinician: 1.1, 1.2, 1.4, 1.7, 1.21, 1.22
- Professional: 2.1-2.9, 2.12
- Communicator: 3.3, 3.5-3.8
- Collaborator: 4.1, 4.3, 4.4, 4.5
- Coordinator: 5.1, 5.4, 5.6,
- Leader: 6.2-6.5, 6.10, 6.11
- Advocate: 7.1, 7.6-7.14
- Educator: 8.2-8.5
- Scholar: 9.1-9.8

**Interprofessional Competencies addressed in the course:**

- Interprofessional communication
- Role clarification
- Patient/Client/Family/Community-centred care
- Team functioning

**Nursing Informatics Competencies (CASN, 2012) addressed in the course:**

- Uses relevant information and knowledge to support the delivery of evidence-informed patient care

- Uses Information Communication Technologies (ICTs) in accordance with professional and regulatory standards and workplace policies
- Uses information and communication technologies in the delivery of patient/client care

**National Entry-To-Practice Mental Health and Addiction Competencies (CASN, 2015) addressed in this course include:**

- The nurse provides care in accordance with professional and regulatory standards when promoting mental health and preventing or managing mental health conditions and/or addiction.
- Acts in accordance with the CNA Code of Ethics when working with persons experiencing a mental health condition and/or addiction.
- Develops and maintains competencies through self-reflection and new opportunities working with persons experiencing a mental health condition and/or addiction.

**The Learning Outcomes for Patient Safety in Undergraduate Nursing Curricula (CASN & CPSI, 2018)**

- Domain 2: Work in Teams for Patient safety
  - Use evidence-informed team communication tools to facilitate the improvement of patient safety
  - Use appropriate shared clinical documentation to facilitate continuity of care
- Domain 3: Communicate effectively for patient safety
  - Uses team communication tools
- Domain 5: Optimize Human and Environmental Factors
  - Identify environmental factors such as light and sound, work interruptions and technology on personal and patient safety

**How this course will contribute to your development as a professional nurse:**

Health informatics in nursing will contribute to students' development as professional nurses by introducing students to the emerging importance of health(care) facilitated by information and communication technologies. Similarly, this course will provide students with the basis from which to critique how knowledge is generated and circulated with respect to information literacy. Students will learn how to effectively use social technologies to develop an online professional presence. Through engagement with course learning activities, students will begin to build their knowledge and vocabulary of health informatics for the nursing profession.

**How this course will contribute to your development as an interprofessional team member:**

This course will provide students with the basis to understand how health informatics and health information technologies are transforming participation and participants within the health care team. Through active engagement with course learning activities, students will begin to

understand how health informatics and health information technologies are influencing how knowledge is generated, shared, and distributed within the interprofessional health team and consumers/patients/clients. Similarly, students will be introduced to the professional practice benefits and challenges created by the intersection of health informatics, the media, vendors of technology, and the regulatory/government organizations. Other insights into how health informatics can be used to assist in interprofessional collaboration and sharing will also be considered and illustrated using case studies, and other learning materials and activities.

### **How we will work together:**

In this course, learning and teaching are a *shared* responsibility. The instructor's role is to guide, facilitate and support your learning. As a student, it is expected that you will be prepared to actively engage in weekly dialogue and reflective, critical thought. The course and accompanying learning activities are designed to foster discussion, debate, and critical examination of concepts relevant to health informatics within nursing. *Weekly engagement is expected to facilitate learning, and your active participation will support not only your own but your colleagues' learning.* In order to create an interactive learning environment, students will be asked to share within groups, their understanding of course material, their experiences, and to engage in reflection on their learning. Completing assigned weekly readings / learning activities will enhance your success in the course.

### **Textbooks and other resources:**

There is no required textbook for this course. Required reading materials in the form of journal articles can be located electronically through the Western library system. Other material shared electronically (e.g., podcasts, videos, images) will typically be available in the corresponding Weekly Learning Module in OWL Brightspace.

### **Recommended Resource:**

American Psychological Association. (2020). *Publication manual of the American Psychological Association*. (7<sup>th</sup> ed.). Washington, DC: American Psychological Association.

## Fall 2024 Weekly Schedule

Week (Starting date)	Weekly Topic	Concepts and Course Goals  <small>All course goals are integrated throughout the course.</small>
Week 1 (September 9)	Course Introduction: What is Health Informatics?	1,2,3,4,5,9,10,18
Week 2 (September 16)	Ethical Practice & A Virtual Healthcare World  <b>Group Charter due September 22, 2024 @ 11:59PM</b>	1-5,9,12-15, 18
Week 3 (September 23)	Evidence-Informed Practice and Informatics: Information and Misinformation	1,10,13-18
Week 4 (October 1) *September 30 <sup>th</sup> National Truth & Reconciliation Day	Electronic Health Technologies I: Foundational Concepts  <b>Online Discussion due October 6, 2024 @ 11:59PM</b>	1-4,9,10,14,15,17- 18
Week 5 (October 7)	Electronic Health Technologies II: Challenges and Opportunities	1,5,7-9,12-13,17
Week 6 October 14 <sup>th</sup> Thanksgiving statutory holiday	<b>Fall Reading Week October 12-20, 2024</b>	
Week 7 (October 21)	Emerging Technologies I: Artificial Intelligence	1,5,7-9,12-13,17
Week 8 (October 28)	Emerging Technologies II: Automation and Robotics  <b>Midterm October 31, 2024 @ 10:00 AM(to be confirmed by Exam Central)</b>	1-4,9,10,14,15,17- 18
Week 9 (November 4)	Technology-Enabled Models of Care	1,5,7,10-18
Week 10 (November 11)	Digital Health & Policy	All

Week 11 (November 18)	Digital Health & Social Justice	All
Week 12 (November 25)	New Roles and Future Directions for Nurses in Health Informatics  <b>Group presentation due Nov. 25, 2024 @ 11:59PM</b>	1,5,7-9,12-13,17
Fall Term Exam Period (December 9 – 22 )	<b>Final Exam</b> Scheduled by the Office of the Registrar	All

## Opportunities to Demonstrate Learning

### 1. Online Asynchronous Forum Discussions (15% Total)

**Due: Week 2 and Week 4**

Students will participate in an online asynchronous forum discussion during two (2) separate time points in this course. During each of the online forum discussions, each student will generate and post on the forum within their pre-determined groups. Students must participate and post on the forum for each of the online discussions by Sunday at 11:59pm (Week 2 and Week 4). All forum discussion posts will be reviewed for completion and evaluated by the course instructor/course TA.

#### **Online Discussion #1: Week 2 (5%) Due: September 22, 2024 @ 11:59PM**

By the end of Week 2, students will join their pre-determined groups on the forum and:

- a) Individually post a self-introduction to other members of the group; and
- b) In consultation with other group members, develop and post a Group Charter outlining the expectations of group work in anticipation of the Group Presentation Assignment for this course.

#### **Online Discussion #2: Week 4 (10%). Due: October 6, 2024 @ 11:59PM**

By the end of Week 4, students will join their pre-determined groups on the forum and:

- a) Individually generate and respond to the questions/prompts that will be posed by the course instructor. The questions/prompts will be made available to students at the beginning of Week 4 and will reflect the Week 4 content.

## 2. Online Midterm Exam (20%)

**Scheduled: October 31, 2024 @10:00AM** Date to be confirmed by Exam Central.

An **individual, online, and synchronous** Midterm Exam is scheduled and will cover course content from Weeks 1 through 7 inclusive. Additional exam details will be provided on the course site in Brightspace.

## 3. Group Presentation Assignment (30%)

**Due: November 25, 2024 @11:59PM**

The purpose of this group assignment is for students to review, analyse, and critique a course topic and its impact on health, health care, and the profession of nursing using course materials and additional evidence found in the literature. For example, you may choose to analyze the impact of robotics on healthcare delivery, or how the proliferation of disinformation can impact nurse-patient relationships.

### Assignment Process:

- In your assigned groups, choose a topic of interest from the weekly course outline
- Referring to your Group Charter created in Week 2, discuss and document the roles and responsibilities for completing the presentation assignment (this will be part of your submission)
- In your presentation:
  - Provide some background by summarizing the topic and explain how it is related to health, healthcare, and nursing.
  - Explain why/how the topic is important to healthcare and the nursing profession
  - Discuss the implications of the chosen topic on healthcare delivery and the nursing profession
  - Identify ways in which nurses can integrate the chosen topic into their practice and what supports they require to do so.

### Assignment Format:

- Prepare an audio/visual presentation (e.g. video, narrated slides) to summarize the group's analysis. The presentation must have both audio and visual components and be a maximum of 10 minutes in length.
- There should be clear indication of balanced contribution among the group members.
- The group assignment is to be submitted to the assignment tool in the OWL Brightspace course site and should include:
  - The presentation slides with speaker notes and audio
  - A group report summarizing individual group member's contributions, and a list of references used (in APA format) in MS Word
- The file extension for an uploaded assignment must include the group number and all students' surnames, initial and name of assignment:  
i.e. Group 01\_BeethovenLCaraADrakeDutcherJ\_StraussJ\_Group Presentation  
Group 01\_BeethovenL\_CaraA\_DrakeA\_DutcherJ\_StraussJ\_Group Report



#### 4. Final Exam (35%)    **Date: To be scheduled by the Office of the Registrar**

An **individual, online, and synchronous** final exam is scheduled by the Office of Registrar. The final exam will cover course content from weeks 1 through 12, inclusive. The exam will provide an opportunity for students to demonstrate their understanding of course concepts related to the use, application, and evaluation of technology across all domains of nursing practice. Additional exam details will be provided on the course site in Brightspace.

*\*Please note: Online Proctoring - Tests and examinations in this course may be conducted using a remote proctoring service. By taking this course, you are consenting to the use of this software and acknowledge that you will be required to provide personal information (including some biometric data) and the session will be recorded. Completion of this course will require you to have a reliable internet connection and a device that meets the technical requirements for this service. More information about this remote proctoring service, including technical requirements, is available on Western's Remote Proctoring website at:*

<https://remoteproctoring.uwo.ca>

### Summary of Opportunities to Demonstrate Learning

OPPORTUNITIES TO DEMONSTRATE LEARNING	VALUE	DUE DATE	COURSE GOALS
Online Discussion: #1 Group Charter	5%	Week 2 <b>September 22, 2024</b> <b>@ 11:59PM</b>	1-8
Online Discussion: #2 Week 4 Content Forum	10%	Week 4 <b>October 6, 2024 @</b> <b>11:59PM</b>	1-8
Midterm Exam*	20%	Week 8 <b>October 31 @</b> <b>10:00AM</b> <i>(to be confirmed by</i> <i>Exam Central)</i>	1-8
Group Presentation	30%	Week 12 <b>November 25, 2024</b> <b>@ 11:59PM</b>	1-8
Final Exam*	35%	<b>TBA</b> <i>(Scheduled by the</i> <i>Office of the Registrar)</i>	1-8
Total	100%		

## **Policies**

All policies related to assignments are in the Undergraduate BScN Programs Manual on the [Undergraduate Student Information site](#) .

## **Assignments and Exams**

Please refer to the Undergraduate BScN Programs Manual for UWO academic guidelines for penalties for late assignments, re-grading of assignments, and the protocol for missed mid-term or final exams. The Undergraduate BScN Programs Manual is found at [School of Nursing Policies](#)

## **Support Services**

There are various support services around campus and these include, but are not limited to:

1. Academic Support and Engagement - <http://academicsupport.uwo.ca>
2. Wellness and Well-being - <https://www.uwo.ca/health/>
3. Registrar's Office -- <http://www.registrar.uwo.ca/>
4. Ombuds Office -- <http://www.uwo.ca/ombuds/>

The websites for Registrarial Services (<http://www.registrar.uwo.ca>), and the same for affiliated university colleges when appropriate, and any appropriate Student Support Services (including the services provided by the USC listed here: <http://westernusc.ca/services/>) and the Student Development Services, should be provided for easy access.

Students who are in emotional/mental distress should refer to Mental Health@Western (<https://www.uwo.ca/health/>) for a complete list of options about how to obtain help.

## **Statement on Gender-Based and Sexual Violence**

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at:

[https://www.uwo.ca/health/student\\_support/survivor\\_support/get-help.html](https://www.uwo.ca/health/student_support/survivor_support/get-help.html).

## **Student Code of Conduct**

The purpose of the Code of Student Conduct is to define the general standard of conduct expected of students registered at Western University, provide examples of behaviour that constitutes a breach of this standard of conduct, provide examples of sanctions that may be imposed and set out the disciplinary procedures that the University will follow. For more information, visit <https://www.uwo.ca/univsec/pdf/board/code.pdf>

## **Attendance**

Students are expected to demonstrate professional responsibility through regular attendance at, and participation in, all course learning activities. Much of the learning that takes place is a

result of preparation and engagement with the material, as well as active dialogue with colleagues and faculty. Students are expected to organize their schedules such that weekly preparation for class is completed, and classes are attended, with consistency.

### **Absence from Course Commitments**

Students must familiarize themselves with the Policy on [Academic Consideration – Undergraduate Students in First Entry Programs](#)

Students missing course work for medical, compassionate, or extenuating circumstances can request academic consideration by completing a request at the central academic consideration portal. Students are permitted one academic consideration request per course per term **without** supporting documentation. Note that supporting documentation is **always** required for academic consideration requests for examinations scheduled by the office of the registrar (e.g., December and April exams) and for practical laboratory and performance tests (typically scheduled during the last week of the term).

Students should also note that the instructor may **designate** one assessment per course per term that requires supporting documentation. This designated assessment is described elsewhere in this document. Academic consideration requests may be denied when flexibility in assessment has already been included. Examples of flexibility in assessment include when there are assessments not required for calculation of the final grade (e.g. 8 out of 10 quizzes), when there is flexibility in the submission timeframe (e.g. 72 hour no late penalty period), or when timed assessments (e.g., quizzes) are available over an extended period of time (e.g., when you are given a 72 hour time period to start – and finish – the assessment).

Please note that any academic considerations granted in this course will be determined by the instructor of this course, in consultation with the academic advisors in your Faculty of Registration, in accordance with information presented in this course syllabus. Supporting documentation for academic considerations for absences due to illness should use the [Student Medical Certificate](#) or, where that is not possible, equivalent documentation by a health care practitioner.

### **Accommodation for Religious Holidays**

Students should review the policy for [Accommodation for Religious Holidays](#). Where a student will be unable to write examinations and term tests due to a conflicting religious holiday, they should inform their instructors as soon as possible but not later than two weeks prior to writing the examination/term test. In the case of conflict with a midterm test, students should inform their instructor as soon as possible but not later than one week prior to the midterm.

### **Special Examinations**

A Special Examination is any examination other than the regular examination, and it may be offered only with the permission of the Dean of the Faculty in which the student is registered, in consultation with the instructor and Department Chair. Permission to write a Special Examination may be given on the basis of compassionate or medical grounds with appropriate

supporting documents. To provide an opportunity for students to recover from the circumstances resulting in a Special Examination, the University has implemented Special Examination dates. The Faculty of Health Sciences has set School-specific dates for these Special Examinations. Please speak with your instructor about the date on which the Special Examination for this course will be held.

### **Academic Offences**

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following website: [http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/scholastic\\_discipline\\_under\\_grad.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_under_grad.pdf).

### **Plagiarism**

Student work is expected to be original. Plagiarism is a serious academic offence and could lead to a zero on the assignment in question, a zero in this course, or your expulsion from the university. You are plagiarizing if you insert a phrase, sentence or paragraph taken directly from another author without acknowledging that the work belongs to him/her. Similarly, you are plagiarizing if you paraphrase or summarize another author's ideas without acknowledging that the ideas belong to someone else. All papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between Western University and Turnitin.com ([www.turnitin.com](http://www.turnitin.com)).

### **Use of Artificial Intelligence for the Completion of Course Work**

Within this course, you may only use artificial intelligence tools (e.g., "ChatGPT") in ways that are specifically authorized by the course instructor. All submitted work must reflect your own thoughts and independent written work.

### **Re-submission of Previously Graded Material**

Without the explicit written permission of the instructor, you may not submit any academic work for which credit has been obtained previously, or for which credit is being sought, in another course or program of study in the University or elsewhere.

### **Use of Statistical Pattern Recognition on Multiple Choice Exams**

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

### **Accessibility Statement**

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Accessible Education (AE) at 661-2111 x 82147 for any specific question regarding an accommodation or review [The policy on Accommodation for Students with Disabilities](#)

### **Correspondence Statement**

The centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner. Students are further expected to attend to announcements presented through Brightspace, and to read emails generated in this way.

### **Use of Electronic Devices**

#### **During Exams**

Unless you have medical accommodations that require you to do so, or explicit permission from the instructor of the course, you may not use any electronic devices (e.g., cell phones, tablets, cameras, smart glass, smart watches, or iPods) other than the device on which you are completing your assessment (e.g. laptop, desktop computer) during ANY online tests, quizzes, midterms, examinations, or other in-class evaluations. **These devices MUST NOT be accessible during the test/exam. Any student found with a prohibited device will receive an automatic grade of zero on the test or exam.**

#### **Brightspace**

All course material will be posted to OWL Brightspace: <https://westernu.brightspace.com/>. If students need assistance with OWL Brightspace, they can seek support on the [OWL Brightspace Help](#) page. Alternatively, they can contact the [Western Technology Services Helpdesk](#) online or by phone at 519-661-3800 or ext. 83800 for technical support. Current versions of all popular browsers (e.g., Safari, Chrome, Edge, Firefox) are supported with OWL Brightspace; what is most important is that you update your browser frequently to ensure it is current. All JavaScript and cookies should be enabled.

#### **Copyright and Audio/Video Recording Statement**

Course material produced by faculty is copyrighted and to reproduce this material for any purposes other than your own educational use contravenes Canadian Copyright Laws. Unless explicitly noted otherwise, you may not make audio or video recordings of lectures – nor may you edit, re-use, distribute, or re-broadcast any of the material posted to the course website.

Note that disruptive behaviour of any type during online classes, including inappropriate use of the chat function, is unacceptable. Students found guilty of Zoom-bombing a class or of other serious online offenses may be subject to disciplinary measures under the Code of Student Conduct.

**Online Proctoring**

Tests and examinations in this course may be conducted using a remote proctoring service. By taking this course, you are consenting to the use of this software and acknowledge that you will be required to provide **personal information** (including some biometric data) and the session will be **recorded**. Completion of this course will require you to have a reliable internet connection and a device that meets the technical requirements for this service. More information about this remote proctoring service, including technical requirements, is available on Western's Remote Proctoring website at: <https://remoteproctoring.uwo.ca>.

