Medical Radiography Technology

Infection Prevention and Control

COURSE INFORMATION

COURSE NUMBER	**INFC 215**
TOTAL HOURS	**25**
THEORY	**25**
PRACTICAL	**0**
PREREQUISITES	**ANPH 252 - Anatomy and Pathology 2** **MRAD 202 - Patient Care 2** **MRAD 240 - Specialized Imaging 1** **MRAD 251 - Computed Tomography Theory 1** **MRAD 254 - Fluoroscopic Imaging** **MRAD 256 - Radiographic Technique 2** **MRAD 358 - Clinical Integration 1** **PRCT 353 - Clinical Placement I**
CO-REQUISITES	**None**
ACADEMIC UNIT RESPONSIBLE FOR COURSE	**Allied Health Education**

STUDENTS, PLEASE NOTE

This course contains information that may be required to substantiate learning for professional recognition. It is your responsibility to retain a copy for your own use during your program and after graduation.

COURSE DESCRIPTION

The chain of infection and methods of prevention and control of microorganisms, including blood borne viruses such as hepatitis and human immunodeficiency virus (HIV) will be reviewed. Immunization, routine practice, additional isolation precautions, sterilization and disinfection, safety, and Workplace Hazardous Materials Information System (WHMIS) are also covered.

COURSE OBJECTIVES

Following completion, the student will be able to:

1. Differentiate the major groups of microorganisms including their roles in disease.
    - 1.1 Differentiate four groups of microorganisms.
    - 1.2 Distinguish different types of bacteria in terms of their shape and Gram stain.
    - 1.3 Explain the purpose of the Gram reaction.
    - 1.4 Describe the importance of bacterial endospores.
    - 1.5 Describe the reproduction process of bacteria.
    - 1.6 Explain the four growth phases of bacteria and their relation to infection.
    - 1.7 Describe the characteristics of lipid and non-lipid viruses.
    - 1.8 Explain the multiplication process, possible effects on host cells and the control of viruses.

2. Describe the relationship between microbes and hosts in the infection processes.
    - 2.1 Explain the host-microbial relationship in terms of normal flora and non-normal flora.
    - 2.2 Describe the chain of infection.
    - 2.3 Relate the signs and symptoms of infection using appropriate terms.
    - 2.4 Describe the role of nosocomial infections in health care settings.
    - 2.5 Explain the impact and control of antibiotic-resistant organisms (AROs) in health care.
    - 2.6 Explain the role of infection prevention and control professionals in health care.

3. Describe the role of immunization in prevention and control of infection in health care settings.
    - 3.1 Describe the immune response in healthy individuals.
    - 3.2 Describe commonly used products for immunization.
    - 3.3 Explain rubella, hepatitis B and chickenpox immunization.
    - 3.4 Explain the purpose of testing for tuberculosis in health care workers.

4. Describe the transmission of blood borne viruses (BBVs) and other emerging infections.
    - 4.1 Describe the risks to health care workers when working with infected patients.
    - 4.2 Discuss hepatitis A, B and C.
    - 4.3 Discuss human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS).
    - 4.4 Explain the role of health care workers in preventing the transmission of bloodborne pathogens (BBPs).
    - 4.5 Discuss the transmission of emerging infections.

5. Apply national, provincial, and local guidelines to prevent transmission of microorganisms in health care settings.

5.1 Describe the purpose of routine practice.
5.2 Follow guidelines and procedures for hand washing and the donning and doffing of personal protective equipment (PPE).
5.3 Follow procedures for handling and disposing of needles and other sharps, spill cleanup and other biohazardous waste.
5.4 Follow the protocol required after a significant exposure to blood and body fluids.
5.5 Describe the purpose of additional precautions.

6. Differentiate sterilization, disinfection, and aseptic techniques.
6.1 Outline how sterilization, disinfection, antisepsis, sanitation, and cleaning are achieved.
6.2 Classify medical items using Spaulding's Classification System.
6.3 Distinguish between the least and most resistant microorganisms.
6.4 Describe the three levels of disinfection.
6.5 Explain the use of various modes of chemical and mechanical disinfection.
6.6 Describe aseptic techniques in health care settings.

7. Explain workplace rules and regulations outlined by occupational health and safety legislation.
7.1 Identify the provincial act related to occupational health and safety.
7.2 Outline the general responsibilities of the employer and employee for safety in health care settings including emergency response codes.
7.3 Describe the legislation, basic principles, and procedures for Workplace Hazardous Materials Information System (WHMIS).
7.4 Name the regulations governing the transportation of dangerous goods.
7.5 Describe waste handling in health care facilities.

COMMON STUDENT LEARNING OUTCOMES

Upon successful completion of Edenbrook College programs, the student will:

Learn
Students will actively and independently acquire, apply, and adapt skills and knowledge to develop expertise and a broader understanding of the world as lifelong learners.

Think
Students will think analytically and creatively to explore ideas, make connections, draw conclusions, and solve problems.

Communicate
Students will exchange ideas and information with clarity and originality in multiple contexts.

Integrate
Students will demonstrate proficiency in the use of technologies in the broadest sense related to their field of study.

Act
Students will act purposefully, reflectively, and respectfully in diverse and complex environments.

EVALUATION

COLLEGE GRADING SYSTEM

The student must achieve an overall minimum grade of 70% on course assessments to be successful.

Students who achieve a failing grade of less than 70% may be eligible to write a supplemental examination to gain course credit. Remedial assistance will be required prior to writing the supplemental examination. Students will not progress in the program without achieving a passing grade in the course.

COURSE EVALUATION

Quizzes (3)	70%
Final Exam	30%
TOTAL	**100%**

ASSESSMENT RATIONALE/ CRITERIA

Achievement of learning outcomes will be assessed through class participation, class work, group activity, assignment, tests, project, mid-semester examination, and end of semester examination. Assessment will require students to demonstrate understanding and application of all the topics taught.

LEARNING MATERIALS

REQUIRED TEXTS

N/A

SUGGESTED READINGS

To be determined by the instructor.

REFERENCE TEXTS AND MATERIALS

To be determined by the instructor.

TEACHING/LEARNING STRATEGIES

Lectures on all the topics, power point presentations, video presentations, classwork, assignments, groupwork. All the students are expected to familiarise themselves with foundational knowledge prior to class. Personal study before and after classes and use of online resources are essential.

COLLEGE POLICY STATEMENTS

Refer to the Edenbrook College Student Handbook for more information on the following policies.

ACADEMIC RESPONSIBILITY – STUDENTS

1. Each student must know the due dates for assignments, tests, and examinations.
2. Each student must maintain their own academic record of work covered each Unit/term.
3. Each student must maintain paper and electronic copies of assignments for the academic year.
4. Each student must arrange academic discussion time with a faculty member to discuss progress.
5. Each student must perform self-evaluation on progress in the course.

PERSONAL CONDUCT – STUDENTS

1. Students must arrive on time for class and be prepared to work when the instructor begins.
2. Students must be courteous to faculty and classmates.
3. Eating in classrooms and clinic is not allowed.
4. Cell phones, Text messengers and other electronic devices must be turned off during class time.

ACADEMIC ADVANCEMENT

At mid-point and at the end of each academic term, the members of the Faculty Team (FT) for the Medical Radiography Technology program meet to review the progress of all students. Following these meetings each student is advised orally and in writing of their status in the program.

Students experiencing difficulty will be counseled regarding assistance available to foster academic success.

At the end of each term, the Medical Radiography Technology Program Instructor and or Director of Education will make recommendations after deliberating on all relevant information. Decisions regarding each student may include (but are not limited to) the following. S/he has:

- Successfully completed all program requirements and can graduate.
- Successfully completed all requirements and is promoted to the next academic level in the program.
- Been granted supplemental privileges for courses not successfully completed and if successful will graduate or be promoted to the next academic level. **Supplemental privileges are not automatically granted and will be limited in number.**
- Not successfully completed all elements in the academic level but may remain in the program to repeat failed portions and continue toward program completion according to an individualized timetable.

- Experienced such difficulty that repetition of the entire academic level is required, and a space will be provided for the student in the program at the earliest opportunity if the student wants to return.
- Experienced such difficulty that the student is asked to leave the school and if s/he desires readmission must complete the admissions process in competition with other applicants.

ATTENDANCE

Attendance is mandatory – The College reserves the right to determine whether absences are excused or unexcused (may affect student funding) and to request any medical evidence that may be required. Student tardiness is unacceptable, and students are expected to demonstrate professional behaviour at all times, in class or on a clinical placement. Students are entirely responsible for catching up on their own or for missed material and demonstrations. A doctor's note may be requested for each absence.

Absence from Missed Test/Assignment Due Protocol

Upon return to school, the student is to provide a doctor's note or approved excusable absence to the instructor prior to admission to the make-up test/submission of late assignments. Failure to submit an approved excuse within 5 school Units upon return, the student will receive a zero for all missed, tests and late assignments.

Absence from Class Protocol

The College monitors attendance closely. A student who is absent from a class more than 3 times in a term, will be identified at risk and required to submit a doctor's note or approved excusable absence to their instructor(s) and the Program Instructor prior to readmission to the class.

Make-Up Procedure

All students are expected to take exams at the scheduled time. Make-up exams will be arranged only in recognized emergency cases. The instructor must be informed before or during the exam, to be eligible. Refer to the Edenbrook College Student Handbook for protocols. Quizzes are taken in class and at the time
specified by the instructor. Late students will be given no extra time for the quiz. Quizzes given in the classroom cannot be made-up.

CHEATING AND PLAGIARISM

Any evidence of cheating will result in a failure for the course. Evidence of plagiarism will result in a failure for all students involved in the plagiarism. Plagiarism is turning in the work of someone else as if it was your own. When working on assignments in a group setting, students must submit their assignments using their own words. Identically worded assignments submitted by multiple students are acts of plagiarism.

MOBILE PHONES

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Mobile phones are to be turned completely OFF while class is in session. Please use laptop computers responsibly. Web browsing, messaging, emailing, and recording are otherwise prohibited during class. Students who abuse the privilege of using their laptops will be asked to put it away for the duration of the class.