CARDIOLOGY TECHNOLOGY

CARDIOLOGY SCIENCES DIPLOMA

Preceptor Clinical Handbook

BCIT®

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INTRODUCTION

WELCOME

BCIT would like to welcome you to the program, and extend its appreciation for your support of our clinical **Cardiology Technology** students. Your experience and skill as Cardiology Technologists will be relied upon greatly over the next weeks as you assist us in guiding our students though their clinical rotations.

This handbook contains information about the delivery of the program, clinical courses, program policies, and evaluation processes. This handbook combined with clinical orientation by the BCIT Clinical Education Coordinator will provide you with the necessary tools to help us facilitate the clinical time of instruction. Please feel free to contact the Education Coordinator, or Program Head directly if you require any assistance or additional information through the clinical course.

PROGRAM GOALS

The goal of the BCIT Cardiology Technology Program is to provide the knowledge and clinical experience required for graduates to enter and meet the challenges of the practicing Cardiology Technologist. Based on the learning outcomes found in the Canadian Society of Cardiology Technologists (CSCT) competency profile, every effort will be made to provide students with the most precise and current didactic and clinical knowledge required to succeed in the demanding field of Cardiology Technology.

CLINICAL LAYOUT

The clinical period of the BCIT Cardiology Technology Program will consist of 2 separate, full-time clinical courses (rotations) totaling 26 weeks of study (39 credits).

Students must successfully complete 11 courses in Terms 1 and 2, and CARD 3250 Diploma Lab on campus, before beginning CARD 3252. CARD 3252 is the first clinical placement totaling 375 hours. Students will also be required to successfully complete 400 ECGs, 30 Holter hook-ups, and 20 Stress Test observations within their 375 hours by the end of the first clinical placement (CARD 3252) to ensure clinical competency, and continuation of the program. Upon successful completion, students return to academic courses. After successful completion of the next 10 courses, they are eligible for CARD 4252. CARD 4252 is 16 weeks in length. Its competencies include ECG, Holter hook-up, Holter Scanning, Stress Testing, Interprofessional observation hours, and Pacemaker implant and clinic observation.

During the second clinical placement (CARD 4252), students are required to successfully complete a minimum of 100 ECGs, 50 Holter scans, 150 Stress Tests, 25 manual BP measurements and 15 Holter hook-ups during their 600 hours of clinical. A review of the expectations of the student during their clinical hours and the evaluation methods is covered in a later section of this manual.

The BCIT **Clinical Education Coordinator** will be responsible for coordinating the delivery of the clinical placements at the sites. This will include scheduling, ongoing follow up site visits, and virtual classrooms to share clinical experiences. The Education Coordinator will work to orientate preceptors, as well as provide ongoing support during the clinical.

Formative and Summative evaluations (daily clinical logs, preceptor feedback forms and CompTracker evaluations) will be completed during and at the end of clinical by the site preceptor for the student and Clinical Education Coordinator's review. A review of all evaluation tools used in the clinical is outlined later in this manual.

Students will also be required to successfully complete 400 ECGs, 30 Holter hookups, and observe 20 Stress Tests within their 375 hours by the end of the first clinical placement (CARD 3252) to ensure clinical competency, and continuation of the program.

PROGRAM POLICIES

The following is a list of BCIT's school, program and hospital policies governing the clinical rotation of the program. As preceptors supporting the program you must be made aware of these policies, as these policies are in place to protect the school, our patients, yourselves and our students throughout the program.

Specific policies have been indexed in **Appendix (A)** section.

CODE OF CONDUCT (NON-ACADEMIC)

BCIT is committed to the overall educational, personal and professional development of its students, and to the safety of its students, employees and visitors. It is equally committed to providing an environment, which fosters learning and supports respect, diversity, human rights, and the integrity of academic pursuits.

The Institute has established certain standards of behaviour and related administrative procedures to achieve these goals. These behavioral standards are based on the expectation that all persons will conduct themselves as members of a community of mature and mutually respectful individuals.

Misconduct related to professional practice will be regarded very seriously by the involved Cardiac Sciences faculty. Incidents will be investigated on an individual basis and action will be taken as appropriate. Misconduct may result in withdrawal from the clinical and/or denial of readmission to the Program.

* **Please read BCIT Policy 5102 and 5102-PR (Appendix A)** and review all sections of the policy, including misconduct reporting, violations, complaints and disciplinary action, and BCIT responses to student violation of conduct. Included is a section on fairness in reporting, and reviews the student's rights during any disciplinary process.

FREEDOM FROM HARASSMENT

BCIT, the program and its clinical affiliated sites are committed to ensuring that all students, staff, faculty, patients and visitors are able to study, work and be cared for in an environment of tolerance and respect, and that they shall be free form harassment and discrimination of any kind.

ATTENDANCE

Regular attendance is expected of all students, and is critical to get the most out of the clinical experience. Students are asked to schedule medical and dental appointments outside clinical hours, and follow the working hours and break periods as assigned.

Illnesses shall be reported to the applicable clinical site at which the student is scheduled to attend.

Students must report all absences to the clinical site and to the Clinical Education Coordinator as soon as possible. Send an email message to the Clinical Education Coordinator, indicating the reason for an absence at least one hour prior to starting time. (The only acceptable reasons for absenteeism are illness or a family emergency).

Students who suffer a prolonged absence of three or more consecutive days of clinical time must have a medical note submitted to the department, substantiating the reason for absence.

Students are required to make up any lost hours due to absenteeism, including statutory holidays at the discretion of the preceptor and the Clinical Education Coordinator.

HOURS OF WORK

Students can work 37.5 hours a week, 7.5 hours a day. If the staff at your hospital works 8 hour days, students are responsible for informing the Clinical Education Coordinator. Work days and times can vary, including weekends, STATs, afternoon and night shifts.

PATIENT CONFIDENTIALITY

Any information contained in the patient's record is considered personal and private, and students are expected to respect this confidentiality. Discussions including this confidential information can only be shared with the preceptor.

The student will not maintain any personal records of cases that can identify patients by name, or number. Failure to respect this confidentiality may result in dismissal from the program.

Students are required to sign a Pledge of Confidentiality from their student clinical logbook and submit it to their preceptor upon their start of clinical.

DRESS CODE

Students are required to wear a uniform or to dress in a manner acceptable to the agency/hospital. Please inform students of any specific dress code requirements of your site.

Some specific guidelines for clinical sites the students will be visiting in this program are:

- Scrubs are purchased by students.
- Shoes must be clean, closed toe and heel, and non-marking.
- Jewelry should be minimal.
- BCIT clinical photo ID must be worn at all times when at the clinical site. The Clinical Education Coordinator or site preceptor will help facilitate students getting their student and/or hospital ID prior to their first day at the clinical site.
- Absolutely NO perfume or cologne.

MOBILE DEVICES

The following information has been provided to all clinical students

SAFETY AND SECURITY

- Maintain patient confidentiality and privacy no patient data may be loaded into your device—do not use patient names, numbers or other identifying data.
- Students may not use camera, video or recording features in the clinical environment.

PROFESSIONAL CONDUCT

- Students are not permitted to engage in personal business while performing as a clinical student without faculty permission—this includes voice calls, texting, or Internet browsing for nonclinical information.
- Put your mobile device away (in secure space) and on quiet mode.
- Turn off all sounds when in clinical, class, meetings or conferences.

STUDENT SAFETY

Students whose health constitutes a hazard to patients will not be permitted to attend clinical experiences.

All BCIT student Cardiology Technologists are required to maintain up-to-date immunizations while in the program and must provide evidence of updated immunization when requested. Students need to prove they are TB negative. Students who do not comply with the immunization requirements of the BCIT Cardiology Technology Program may not be able to complete the clinical course.

All Cardiology Technology students are tested for Hepatitis B serology and a booster provided if required. Hepatitis B is highly prevalent, contagious and life threatening. Immunization for Hepatitis B is available through BCIT Student Health Services.

Students who have cared for patients with Active Pulmonary Tuberculosis must immediately:

- report this to the BCIT Clinical Education Coordinator
- contact BCIT Student Health Services at 604.432.8608

All students have access to a flu vaccine for winter. This service is provided by BCIT Student Health Services.

GUIDELINES FOR INJURIES OCCURRING TO STUDENTS DURING CLINICAL

Students participating in a provincially approved clinical or apprentice component of BCITs training or vocational programs are eligible for WorkSafeBC compensation coverage through the Ministry of Labour and Citizen's Services. In order to receive WorkSafe compensation coverage BCIT First Aid must be provided with documentation of the injury or illness in a timely manner. **This is provided only for students doing a clinical placement in BC.In all other provinces, students have personal liability insurance provided by a private insurance company by BCIT. Please inform the Clinical Education Coordinator immediately in the event of injury to direct you further.**

BC Students will:

1. Report to the immediate supervisor at clinical site.
2. Report to the Clinical Education Coordinator /site preceptor as soon as possible.
3. Call BCIT First Aid 604.432.8820 to report the incident as soon as possible. (Inform your instructor if you have difficulty in reporting the incident to BCIT First Aid.)
4. See a physician at the emergency department or BCIT Student Health Services or the occupational health nurse in the agency. The physician or occupational health nurse must complete the **WorkSafe BC form 6A (Worker's Report of Injury or Occupational** Disease) can be found at (**worksafebc.com/forms/assets/PDF/6a.pdf**) and fax it to the BCIT First Aid office at 604.435.6035.
5. If the injury is an exposure to blood and body fluids refer to the guidelines below.

The Clinical Education Coordinator will:

1. Ensure that the students are aware of the process for reporting injuries.
2. Follow-up with the student and First Aid to ensure student reporting procedure was carried out.
3. Fax a completed BCIT Accident Investigation Report to the Manager, Occupation Health and Safety. Fax number 604.431.5412.
4. Implement appropriate preventative and corrective actions.
5. If requested, participate in an investigation of the accident (or near-miss incident) with the BCIT Advisory Health and Safety Committee to determine the causes and prevent further incidents.

ACCIDENTAL EXPOSURE TO BLOOD AND BODY FLUIDS

Exposure to blood or body fluids places the student at risk for contacting disease, especially HIV, and Hepatitis B or C.

WHAT CONSTITUTES EXPOSURE?

Significant risk of transmission

Infectious body fluid AND an HIV positive source or high risk source:

1. Any percutaneous exposure to infectious body fluids.
2. Mucous membrane or non-intact skin exposure (i.e. more than a few drops of blood and/or duration of exposure of several minutes or more).
3. Prophylactic treatment may be offered with large prolonged exposure of blood on intact skin.

Negligible risk of transmission

Source known or presumed to be HIV negative, OR an injury not known to transmit HIV OR body fluid not known to transmit HIV:

1. Minor percutaneous, mucous membrane or skin exposure to non-infectious body fluid source HIV positive or negative.
2. Intact skin exposure to a small quantity of blood (less than three drops) or fluid visibly contaminated with blood of short duration (less than 3 minutes).
3. Bites — unless there has clearly been transmission of infected blood.
4. A superficial scratch, which does not bleed.
5. Injuries received in fights would rarely be appropriate indications for prophylaxis unless it is clear that transfer of infected blood has occurred.

Procedure following accidental exposure to blood and body fluids by staff and students

- Hepatitis B Immune Globulin (HBIG) and Hepatitis B vaccine are known to be effective in reducing the risk of transmission of Hepatitis B if given as soon as possible after exposure, preferably within 48hours.
- If antiretrovirals for HIV exposure are indicated, they are most effective if initiated within two hours of exposure. Delays in presenting to an Emergency Department should be avoided.
- Hepatitis C titre should be taken 2 weeks post exposure and treatment initiated as required.

Exposures occurring in the clinical area

1. In the event that a student or staff member is working in a clinical area and has an accidental exposure to blood or body fluids, the hospital or clinical area protocol should be followed. Students will inform their attending Cardiology Technologist, and/or Supervisor immediately. It is imperative that drug treatment, if required, start within two (2) hours of contact. Students are to go to the Emergency Room immediately and identify themselves. It is advised they take another Preceptor/faculty/supervisor who can advocate on their behalf.
2. Students will notify BCIT First Aid and provide copy of the hospital incident report.
3. Contact BCIT Student Health Services as soon as possible to ensure adequate follow up occurs.
4. Students must notify the Clinical Education Coordinator.

Students should be hyper-vigilant in their handling of blood/body fluids in the clinical setting and use appropriate safety equipment provided at all times (gloves/masks).

The BCIT website can be viewed for up to date forms and information at **bcit.ca/safetyandsecurity/safety**

EARLY ASSIST

Early Assist is a confidential service that provides students with an opportunity to work 1:1 with a case manager to:

- Navigate BCIT services and community resources.
- Identify potential solutions through coaching and problem-solving conversations.
- Understand your options for moving forward with your studies.
- Develop an action plan with clear next steps.
- Empower you to take action with professional support by your side.

CONFLICT OF INTEREST

Any conflict of interest, or perceived conflict of interest between the students and any BCIT employee, or hospital employee must be reported immediately to the program.

BCIT or Health Authority employees in teaching or evaluating positions, or who have influence, input or decision-making power over a student's marks, academic interests or other matters shall not become involved in a business or inappropriate personal relationship with a student. Additionally, in all dealings with students, employees shall ensure that their own behavior is consistent and appropriate.

BCIT or Health Authority Staff Employees who are direct relatives or who share the same household with a student in the program shall not be employed in situations where:

- a reporting relationship exists where the superior has influence, input, or decision-making power over an students performance evaluation, special permissions, potential for promotion, condition of work, and similar matters;or
- the relationship affords an opportunity for collusion between the employee and student which would have a detrimental effect on the Institute.

Employees are to disqualify themselves as participants in personnel decisions when their objectivity would be compromised for any reason. For example, employees shall not participate in staffing/evaluation actions involving direct relatives, persons married to direct relatives, or persons living in the same household.

STUDENT EVALUATION

Purpose of this policy is to provide consistent guidance to individuals responsible for the evaluation of students at BCIT. This policy includes information on how students will be evaluated as well as complete definitions of each different grade notation that could appear on the transcript of a BCIT student or graduate. ***Please refer to BCIT Policy #5103 – Appendix A**

Evaluations of students in a course will be based on the learning outcomes described in the course outline. ***Please refer to BCIT Policy #5004 –**

For Reference to BCIT Grading Policies, ***Please refer to BCIT Policy #5004 – to view the policy, please visit the following webpage bcit.ca/files/pdf/policies/5004.pdf.**

COURSE EVALUATIONS

The BCIT Cardiology Technology Program provides opportunity for students to complete course evaluations at the end of their clinical placement. Students have the right and the responsibility to evaluate courses.

Course evaluation promotes and maintains course quality and is often the stimulus for proposed changes and improvement. These course evaluation forms will be provided to the students and at the end of each clinical course. These will be reviewed by the Cardiac Sciences Program Head and Associate Dean.

Feedback from students and staff is important and valued by faculty. BCIT will not provide course evaluations to preceptors. However, the Clinical Education Coordinator is available for feedback, concerns, and suggestions for improvement. Annual Clinical Liaison Meetings will provide this opportunity. The Clinical Education Coordinator is available outside of the Clinical Liaison Meetings by email, phone, or in person to receive any program feedback.

"The mandate of the Clinical Liaison Committee is to ensure a viable conduit for dissemination of information between the BCIT Clinical Education Coordinator and the clinical sites. This platform will provide BCIT with ongoing feedback around clinical delivery and clinical sites with information updates and changes."

CSCT EXAMINATION

The Canadian Society of Cardiology Technologists certification examination can only be written by successful graduates of a recognized Accreditation Canada accredited training program

Accreditation ensures programs are meeting the highest academic standard, and that program learning objectives meet the nationally recognized competencies of the profession. Course outlines for CARD 3252 and 4252, including course learning outcomes, can be viewed in **Appendix B**.

The program is currently accredited with Accreditation Canada, and is valid until 2025.

For more information regarding the CSCT guidelines for practice, competency profile or certification process please visit **csct.ca**

For more information about Accreditation Canada, and the accreditation process please visit **https//accreditation.ca/become-accredited**

PRECEPTOR ROLES/RESPONSIBILITIES

The primary role of the Cardiology Technologist preceptor is to provide supervision and guidance to the students as they complete their clinical hours. Preceptors also evaluate student performance and provide feedback for improvement. In order to qualify for this role, preceptors should have the following two credentials:

REGISTERED CARDIOLOGY TECHNOLOGIST

All preceptors of the BCIT Cardiology Technology program must be a registered Cardiology Technologist in good standing with the CSCT.

PRECEPTOR TRAINING

All preceptors of the BCIT Cardiology Technology Program are invited to advance their skill set through varied resources.

BCIT Cardiology Technology
Resources for Clinical Preceptor Education

BCIT SCHOOL OF HEALTH SCIENCES

Resource	Description	Location
Clinical Trainers Workshop	**Overview:** Annual spring one-day interprofessional workshop with keynote speakers and activities to support preceptors in the clinical setting. Agenda and registration details distributed by your program's Clinical Education Coordinator. **Duration:** 7 hours **Cost:** Free	**In Person:** BCIT Burnaby campus
Giving and Receiving Feedback	**Overview:** This course is intended to increase your competency in giving and receiving feedback to learners in practice. **Duration:** 1 hour online **Cost:** None to PHSA employees	**Online:** PHSA Learning Hub
Educator Pathway	**Overview:** Learn how to share your valuable expertise with colleagues and students – become a mentor! In Fraser Health, mentorship is viewed as a 1:1 learning partnership between experienced staff/employees and a new employee or student. **Duration:** See website for full details **Cost:** None to PHSA employees	**In Person and online:** PHSA Learning Hub
E-tips Practice for Education	**Overview:** Online modules that provide practical and interactive learning through the use of animations, quizzes, videos, and reflective exercises. **Duration:** 10 – 20 minutes per module **Cost:** Free	**Online:** E-tips
Preceptor Education Program for Health Professionals and Students	**Overview:** Online interprofessional self-directed modules, including downloadable resources, exercises, case scenarios, and references. Eight modules and certificate of completion available for each module. **Duration:** 30 – 45 minutes per module **Cost:** Free	**Online:** preceptor.ca

BCIT CLINICAL SITE ORIENTATION

The Clinical Education Coordinator will review all clinical sites and provide hands on orientation to the clinical by reviewing the clinical handbook and evaluation tools. Preceptors are to complete Preceptor/Student Agreement in the first week of clinical **(Appendix E)**, and complete a Clinical Orientation **(Appendix C)** with the student upon their start.

STUDENT EVALUATIONS

Preceptoring staff will be responsible for completing clinical evaluations of their student. The Cardiology Technology Program uses Comptracker [**studentlogbook.com**] for its evaluation of students at the midpoint and end of the clinical course. Each area of skill-ECG, etc. has its own evaluation, and can be done at the appropriate time. It is the student's responsibility to request that preceptors be added to their evaluation. They need to provide the Clinical Education Coordinator with the name, and email addresses of preceptors. Preceptors will be emailed their log in information.

Students are responsible for "creating" their own evaluations on Comptracker, and submitting them to their preceptor. After an evaluation has been created and submitted, the preceptor will receive an email of notice. The preceptor then needs to log on to Comptracker, complete the evaluation, and sign it off. **See Appendix I**.

Daily log books are maintained by the student.

There are one or two site preceptors at each affiliated hospital site. The responsibilities of the site preceptor are:

1. Coordinate clinical teaching of students with other Cardiology Technologists. Complete a preceptor feedback form, intermediate and final evaluations using CompTracker. [studentlogbook.com]
2. Consult with Clinical Education Coordinator on the completion of Student Performance Contract as necessary.
3. Attend Clinical Liaison meetings with other site preceptors and BCIT's Clinical Education Coordinator to review various aspects of clinical delivery, and make recommendations based on any deficiencies found.

"The mandate of the Clinical Liaison Committee is to ensure a viable conduit for dissemination of information between the BCIT Clinical Education Coordinator and the clinical sites. This platform will provide BCIT with ongoing feedback around clinical delivery and clinical sites with information updates and changes.

WHAT IS REQUIRED TO BE AN EFFECTIVE PRECEPTOR?

There are six distinct skill sets that are required in order to become a proficient and effective preceptor:

CLINICAL COMPETENCE

Highly respected preceptors must be clinically competent and proficient in the work they do. They are knowledgeable about Cardiology Technology, skillful and professional, and be advocates for the patients they care for. They must have a sound understanding of the equipment and procedures they are performing, be able to use effective reasoning skills and make appropriate clinical (therapeutic/diagnostic) decisions. All BCIT preceptors must be certified by the CSCT.

WILLINGNESS TO TEACH

If the preceptor is not willing to teach, effective teaching will not occur. The Cardiology Technology Preceptor wants to teach and is prepared to take the time to do so.

RESPECT FOR LEARNERS

All current practicing Cardiology Technologists had at one time, preceptors that guided them through their clinical training. Patience, respect and understanding of challenges the learners face is vital if the preceptors are to develop effective 2-way communication during the learning process.

The best preceptors are willing to go beyond their own interests to address issues of importance to the learners.

ORGANIZATIONAL SKILLS

Preceptors should approach their clinical preceptorship, and student's evaluations with the same level of organization that guides their clinical practice.

COMMUNICATION

Perhaps the single most important skill set required of a preceptor. Clear and consistent communication will promote an environment conducive to learning, and will bypass many obstacles in developing a sound relationship with learners.

CONFIDENTIALITY

The preceptors must respect student confidentiality with regards to the clinical performance. Clinical performance should not be discussed amongst clinical sites.

If a preceptor creates student records or documentation during a clinical placement, it should be stored in a confidential area and either destroyed or submitted to Clinical Education Coordinator upon clinical end.

BCIT CLINICAL EDUCATION COORDINATOR ROLE/RESPONSIBILITIES

1. Coordinate the delivery of the clinical placement between sites (if necessary), including schedules, student clinical assignments and additional observation days for special procedures.
2. Provide student instruction in the form of lectures, and simulations prior to clinical start.
3. Ensure that all pre-clinical documentation including N95 FIT test, CPR "C", immunizations, and criminal record check are completed.
4. Reviews communication and expectations with students.
5. Act as liaison between clinical sites, students and BCIT.
6. Reviews all evaluation tools provided by the clinical site, and acts as the final sign off for BCIT to provide credentials.Provide BCIT program support to clinical sites as required.
7. Maintains/updates clinical course outlines, student clinical manual and preceptor manuals.
8. In conjunction with BCIT policies, reviews and provide feedback on any disciplinary action plans.
9. Coordinates Clinical Liaison Meetings.
10. Participates in the preparation required for program accreditation with BCIT.

DIDACTIC AND CLINICAL DELIVERY

The program consists of two separate clinical courses spanning 26 weeks of study. Each course is delivered in sequence and must be successfully completed in order to move onto the next. Following is a Clinical Year Flow chart showing student progression through this final clinical year

TERM 1	
CARD 1103	Medical Terminology
BHSC 1119	Anatomy and Physiology
CARD 1101	Introduction to Cardiology
BMET 1107	Basic Cardiac Instrumentation
CARD 1285	Communication for Allied Health Professionals
NMED 1117	Basic Venipuncture
TERM 2	
BHSC 2219	Anatomy and Physiology for Cardiology
CARD 1186	Patient Care for Allied Health
CARD 1187	Introduction to Statistics for Health
CARD 2201	ECG Interpretation
CARD 2202	Cardiology Diagnostic Methodology
TERM 3	
CARD 3250	Cardiology Diploma Lab
CARD 3252 (375 hours)	
TERM 4	
BHSC 3302	Cardiac Pathophysiology
CARD 3280	Introduction to Cardiac Rehabilitation
CARD 3330	Electrocardiography and Pacemakers
CARD 3360	Cardiac Pharmacology
CARD 3365	Interprofessional Practice for Cardiac Sciences
TERM 5	
BHSC 1146	Human Behaviour
CARD 4201	Concepts in Ambulatory Monitoring
CARD 4202	Concepts in Exercise Tolerance Testing
CARD 4203	Concepts in Pacemakers
CARD 5301	Concepts in Electrophysiology
CARD 4252 (600 hours)	

COURSE DESCRIPTIONS/LEARNING OBJECTIVES

Listed is a description of each of the clinical courses, and their respective evaluation requirements. Please refer to the official course outlines (Appendix B) for detailed information on course learning objectives.

CARD 3250

Cardiology Diploma Lab (2 weeks full-time)

This course takes place in the academic learning environment and will introduce students to the skills and equipment to be practiced in the clinical portion of the program. Students will gain introductory skills in the areas of Electrocardiograms, Holter monitor hook-ups, Holter Scanning, manual Blood Pressure measurements, Exercise Tolerance Testing, patient care, communication and professional practice incorporating knowledge gained in academic courses. The course is delivered through classroom, lab environment, and simulation lab experience.

Prerequisite Successful completion of all Pre-Clinical 1 courses listed.

CARD 3252

Cardiology Technology Diploma 1 (375 hours full-time)

Description

CARD 3252 will concentrate on observing, assisting, and independently performing ECGs, Holter hook-ups, and Stress Testing observation, including manual resting blood pressure measurements.. It will be an introduction to the hospital environment and other staff members with whom the Cardiology Technologist may work on a regular basis. Students are required to observe 20 Stress Tests during their clinical placement and complete the observation sheets provided. These will be collected with all patient indicators removed to the Clinical Education Coordinator at the end of the clinical.

This course is an introduction to the hospital environment including both inpatient and outpatient areas. Students will continue their work on ECG interpretation. It will also put emphasis on the foundations of professionalism, communication, ethics, and patient care aspects of the Canadian Society of Cardiology Technologists Ethics and Professional Standards.

Evaluation

For CARD 3252, the students will be required to participate in the Cardiology Department. The Comptracker is an online tool designed to mark each competency on a rating scale of 1 through 5. An overall mark of 4's and 5's will be considered satisfactory, and must be achieved in order to carry on to term 5 academic courses.

CARD 4252

Cardiology Technology Diploma 2 (600 hours full-time)

Description

CARD 4252 will concentrate on observing, assisting, and independently performing Stress Tests and Holter Scanning. It will review the procedures of doing ECGs and Holter hook-ups mastered in CARD 3252. Students in CARD 4252 are introduced to other hospital disciplines with the requirement of hours dedicated to observing interprofessional observations done outside of the Cardiology Department. Students are given an introduction to pacemaker procedures by observing in both implants and clinic follow-ups. Students will be required to present case studies encountered during their clinical experience to be shared with their cohort over virtual classes.

This course takes place in the hospital environment including both impatient and outpatient areas. Students will continue their work on ECG interpretation. It will also put emphasis on the foundations of professionalism, communication, ethics, and patient care aspects of the Canadian Society of Cardiology Technologists Ethics and Professional Standards.

Evaluation

For CARD 4252, the students will be required to participate daily in the Cardiology Department.

Evaluations are broken into daily log books, one student self-evaluation, and an intermediate and final evaluation on Comptracker.

Daily log books are maintained by students to document the amount of hours and procedures they do daily. Hours and procedures need to be satisfied and are calculated based on the daily log book information.

A self-evaluation is required in week 8 of CARD 4252. This evaluation is completed in the Assignments area of the Learning Hub for the Clinical Education Coordinator to review.

The Comptracker (**studentlogbook.com**) will be used to complete preceptor feedback forms, intermediate and final evaluation of the student competencies required. The Comptracker is an online tool designed to mark each competency on a rating scale of 1 through 5. An overall mark of 4's and 5's will be considered satisfactory, and must be achieved in order to pass clinical and therefore complete the Cardiology Technology Program. **See Appendix** I for the rating scales.

COURSE GRADING/EVALUATIONS

CLINICAL LOGBOOK

Students will be responsible for maintaining a clinical logbook. The purpose of the logbook is to provide a list of case procedures that the students has been exposed to during their clinical rotations, and allow for the Clinical Education Coordinator to ensure the student has been exposed to a wide variety of clinical cases. It is also used to review the amount of cases a student is performing and assess the amount of tests done Assisted (A), Unassisted (U), or Observed (O).

Students will be required to keep this logbook current, and will need to present it to the Clinical Education Coordinator at site visits.

VIRTUAL CLASSES

Students may be required to attend virtual classes as organized by the Clinical Education Coordinator. They may be asked to bring case studies or share their learning experiences with their cohort.

COMPTRACKER

The Comptracker is an on-line evaluation tool that is used for both CARD 3252 and CARD 4252. It provides a list of all competencies that a student is required to perform while in clinical. A student is graded in each competency using a scale of 1-5. Please see **Appendix I** for more information and the details of the rating scale.

The website is **studentlogbook.com**. When a student starts clinical, they are given a user name, and log in information. Preceptors receive the same information with their first student, and use the same log in information with subsequent students.

STUDENT PERFORMANCE CONTRACTS

Student performance contracts outline a formal process of committed improvement by a student in deficient areas of clinical.

These contracts are meant to outline student academic and non-academic weaknesses and provide for a planned progression of improvement.

Actions taken to improve areas of weakness will be outlined within the contract and agreed upon by the student and Clinical Education Coordinator. Follow up will occur by the Clinical Education Coordinator to ensure the student is meeting the agreed upon actions.

Student performance contracts will be initiated by the Clinical Education Coordinator when:

Non-Academic

- A student has been found negligent in their actions, and placed themselves or a patient at risk.

- A student has been found to be acting in a manner that is not supported by the professional and ethical expectations of the school and/or hospital.

Academic

- A student regularly receives an unsatisfactory evaluation in rhythm recognition despite having received feedback and guidance for improvements.
- A student has received 20 or more competencies ranked 2 or less in their Intermediate CompTracker evaluation.

Failure to achieve the action items of the student performance contract may result in a subsequent student performance contract, extended clinical time, or a grade of unsatisfactory of the clinical course.

APPENDIX A

BCIT POLICIES AND PROCEDURES

Policy #1500 Code of Conduct

The British Columbia Institute of Technology is committed to providing a learning and working environment characterized by respect for others, honesty and professionalism. As such, BCIT requires individual conduct that meets the highest standards of ethics and integrity from all Institute employees. This Code provides guidance to all employees on the Institute's expectations in this regard

bcit.ca/files/pdf/policies/1500.pdf

Policy #1504 Standards of Conduct and Conflict/Interest Policy

The objectives of this policy are to describe the standards of conduct expected of employees and to define employer and employee responsibilities related to them. Employees who breach this policy may be subject to disciplinary action up to and including dismissal.

bcit.ca/files/pdf/policies/1504.pdf

Policy #5100-PR1 Student Reports/Student Performance Contracts

This procedure outlines the processes for Student Records and Student Performance Contracts, which are used in dealing with inappropriate behaviour, unsatisfactory academic performance, or attendance issues.

bcit.ca/files/pdf/policies/5100_pr1.pdf

Policy #5101 Student Regulations

The purpose of this policy is to set forth regulations and conditions regarding student attendance, uniforms (attire), and ownership of works produced by students.

bcit.ca/files/pdf/policies/5101.pdf

Policy #5102 Response to Violations of Student Code Of Conduct (Non-Academic)

The purpose of this policy is for BCIT's commitment to the overall educational, personal, and professional development of its students, and to the safety of its students, employees and visitors. It is equally committed to providing an environment which fosters learning and supports respect, diversity, human rights, and the integrity of academic pursuits.

https//www.bcit.ca/files/pdf/policies/5102.pdf

Policy #5103 Student Evaluation

The purpose of this policy is to provide consistent guidance to individuals responsible for the evaluation of students at BCIT. This policy includes information on how students will be evaluated as well as complete definitions of each different grade notation that could appear on the transcript of a BCIT student or graduate

bcit.ca/files/pdf/policies/5103.pdf

Policy #5103-PR1 Grading

Evaluations of students in a course will be based on the learning outcomes described in the course outline.

bcit.ca/files/pdf/policies/5103_pr1.pdf

Policy #5104 Academic Integrity and Appeals

This policy describes

BCIT's expectations and requirements regarding appropriate academicbehaviour

Consequences of inappropriate academic behaviour

The procedure to follow when dealing with appeals of decisions affecting academic standing such as grade-related matters and academic misconduct.

bcit.ca/files/pdf/policies/5104.pdf

Policy #7507 Harassment and Discrimination

All members of the BCIT community are expected to promote a learning and working environment of mutual trust and respect. Nothing in this policy or its associated Procedure 7507-PR1, Harassment and Discrimination Policy and Procedure derogates from the responsibility or the role of managers of BCIT to ensure a work and educational environment that is free from harassment and discrimination. BCIT is responsible to remedy situations of harassment and/or discrimination as they occur.

bcit.ca/files/pdf/policies/7507.pdf

APPENDIX B

COURSE OUTLINE

Course Number	CARD 3252			
Course Title	Cardiology Diploma Clinical 1			
School	School of Health Sciences			
Program	Cardiology Technology			
Course Credits	15			
Total Hours	375			
Total Weeks	10			
Total Hours/ Week	37.5			
Delivery Type (hrs/wk)	Lecture [xxx]	Laboratory [xxx]	Tutorial [xxx]	Seminar [xxx]
	Field Work [xxx]	Practicum [375]	Directed Studies [xxx]	Online [xxx]
	Other [specify] [xxx]			
Prerequisites	CARD 1101 Introduction to Cardiology CARD 1103 Medical Terminology BHSC 1119 Essentials of Anatomy and Physiology BMET 1107 Basic Cardiac Instrumentation and Electricity CARD 1103 Medical Terminology CARD 1187 Introduction to Statistics for Health CARD 1186 Patient Care for Allied Health NMED 1117 Venipuncture for Allied Health Professionals CARD 2201 ECG Interpretation CARD 2202 Cardiology Diagnostic Testing Methodology CARD 3250 Cardiology Diploma Lab			
Prerequisite for	CARD 3302 Cardiac Pathophysiology CARD 3330 Electrocardiography and Pacemakers CARD 3360 Cardiac Pharmacology CARD 3280 Introduction to Cardiac Rehabilitation CARD 3365 Interprofessional Practice for Cardiac Sciences CARD 4201 Concepts in Ambulatory ECG CARD 4202 Concepts on Exercise Tolerance Testing CARD 4203 Concepts in Pacemakers CARD 5301 Concepts in Electrophysiology			

COURSE DESCRIPTION

This course rotates students through the Cardiology department of an affiliated hospital to obtain clinical experience in electrocardiograms and ambulatory ECG hook-up (10 weeks **full-time**, 375 hours, students must not exceed a 37.5 hour week). CARD 3252 is offered in spring and fall each year.

Prerequisite Successful completion of all Pre-Clinical 1 courses listed, CARD 3250 and Clinical Instructor approval.

COURSE LEARNING OUTCOMES/COMPETENCIES

Upon successful completion, the student will be able to:

1. interact and communicate in a professional manner with patients, technologists, physicians, and all other allied health professionals.
2. apply theory knowledge to obtain patient history and adequate patient assessment prior to procedure
3. operate, calibrate, troubleshoot, and maintain equipment.
4. record and analyze electrocardiograms.
5. apply AECG monitors, instruct patient, and disconnect recorder at end of recording.
6. apply theory knowledge of patient care skills and maintain universal precautions.
7. perform computer skills; understand management systems and informatics.
8. maintain patient care skills and practice universal precautions.
9. practice proper documentation and reporting of all cardiac procedures.
10. apply professional standards, ethics, and legalities.
11. comply with facility (clinical sites) and BCIT's directives.
12. apply effective communication skills in the clinical environment.

EVALUATION CRITERIA

Criteria		Comments
Daily log books		▪ All hours and procedures need to be met. ▪ Intermediate and final evaluation uses rating guide for skills 1-5. ▪ For passing grade, all skills must be scored 4's and 5's to receive Satisfactory grade.
375 hours to include Minimum of 400 ECGs Minimum of 30 Holter hook-ups Observation of 20 stress tests.		
Intermediate evaluation	Complete/not complete	
Final evaluation	Satisfactory/ Unsatisfactory	
TOTAL		

LEARNING RESOURCES

[Recommended to review course material and texts from prerequisite courses.]

National Occupational Profile Competencies Covered in the "C" (Clinical) performance environment.

Area 1 Cardiac Procedures

1.1 **Record and analyze electrocardiograms.**
- a. Select electrode sites for 12-lead ECG.
- b. Select alternate sites to accommodate patient special needs.
- c. Select electrode sites for right-side, posterior, and pediatric leads.
- d. Obtain artifact-free and technically-correct tracing.
- e. Record ECG.
- f. Analyze recording and relate to patient symptoms and medications.
- g. Determine need for additional tracings and/or rhythm strips.
- h. Optimize instrument settings to enhance clinical data.
- i. Compare current and previous tracings where applicable.
- j. Perform basic maintenance and troubleshoot electrocardiograph

1.2 **Apply monitor and analyze ambulatory ECG recordings.**
- a. Select monitor parameters.
- b. Select electrode sites for ambulatory ECG.
- c. Instruct patient on diary entries relative to symptoms and activities.
- d. Perform basic maintenance and troubleshoot ambulatory ECG recorder/monitor

Area 2 Patient Care

2.1 **Establish professional relationship with patient.**
- a. Introduce self to patient and family/caregivers.
- b. Explain procedures and respond to questions.
- c. Provide reassurance and support to patient.
- d. Treat patient with care and compassion.
- e. Enhance patient comfort.
- f. Display unconditional positive regard toward patient.
- g. Maintain patient confidentiality.
- h. Respect patient privacy.
- i. Maintain patient dignity.
- j. Show tolerance and patience when interacting with patients.
- k. Maintain professional boundaries in relationship with patient and family/caregivers.

2.2 **Obtain patient history.**
- a. Verify patient identification and requested procedure(s).
- b. Obtain cardiac history and pertinent symptoms.
- c. Integrate history and symptoms with procedure ordered.
- d. Obtain list of current medications.

- e. Obtain history of cardiac surgery and procedures.

2.3 **Assess patient status.**
- a. Assess patient signs and symptoms and act on situations requiring immediate response.

2.4 **Apply aseptic technique.**
- a. Use standard (universal) precautions.

2.5 **Provide emergency life support.**
- a. Locate drugs, airway management devices, and suction apparatus in resuscitation cart.

2.6 **Apply and remove electrodes.**
- a. Shave body hair.
- b. Clean and dry skin.
- c. Abrade skin.
- d. Apply electrodes.
- e. Attach leads and ensure integrity.
- f. Remove leads and electrodes; clean electrode sites.
- g. Assist patient with dressing if required.

2.7 **Document results of procedure.**
- a. Record patient demographics, signs and symptoms, non-standard electrode placement, and patient positioning.
- b. Prepare test results for physician's review.
- c. Prepare test results for cardiac information management system.

Area 3 Professional Standards

3.1 **Comply with institutional directives.**
- a. Practice within bounds of job description.
- b. Follow institutional and departmental directives.
- c. Follow established lines of communication and authority.

3.2 **Behave professionally.**
- a. Maintain personal hygiene and appropriate apparel.
- b. Prioritize activities and use time management skills.
- c. Accept accountability for decisions and actions.
- d. Practice in a manner that is non-prejudicial and that respects diverse cultural, ethnic, and religious beliefs.

3.3 **Communicate effectively.**
- a. Speak clearly and concisely.
- b. Write clearly and concisely.
- c. Use terminology appropriate to the purpose and targeted audience.
- d. Use and interpret general medical terminology.
- e. Use and interpret medical terminology unique to cardiology.
- f. Monitor effectiveness of communication and take action to enhance

understanding where required.

g. Employ appropriate non-verbal communication.
h. Recognize and respond appropriately to non-verbal communication of others.

3.4 Maintain professional relationships

a. Show respect for co-workers
b. Create and sustain effective working relationships with co-workers.
c. Contribute effectively to collaborative care.
d. Represent the profession in a positive manner.

3.5 Provide quality service

a. Practice within the bounds of personal limitations and expertise.
b. Seek advice or assistance where necessary.
c. Apply a logical thought process to solve problems and make professional judgment.

3.6 Maintain professional competence.

a. Self-evaluate performance and set goals for improvement.

Note: Should changes be required to the content of this course outline, students will be given reasonable notice.

LEARNING RESOURCES

Required Ongoing revision of all prerequisite courses.

INFORMATION FOR STUDENTS

The following statements are in accordance with the BCIT Policies 5101, 5102, 5103, and 5104, and their accompanying procedures. To review these policies and procedures, please refer to **bcit.ca/about/administration/policies.shtml**

ATTENDANCE/ILLNESS

In case of illness or other unavoidable cause of absence, the student must communicate as soon as possible with the clinical site and to the Clinical Education Coordinator, indicating the reason for the absence. Prolonged illness of three or more consecutive days must have a BCIT medical certificate sent to the department. Excessive absence may result in failure or immediate withdrawal from the course or program. Please see Policy 5101 — Student Regulations, and accompanying procedures **bcit.ca/files/pdf/policies/5101.pdf**

ACADEMIC INTEGRITY

Violations of academic integrity, including dishonesty in assignments, examinations, or other academic performances are prohibited and will be handled in accordance with Policy 5104 — Academic Integrity and Appeals, and accompanying procedures **bcit.ca/files/pdf/policies/5104.pdf**

ATTEMPTS

Students must successfully complete a course within a maximum of three attempts of the course. Students with two attempts in a single course will be allowed to repeat the course only upon special written permission from the Associate Dean. Students who have not successfully completed a course within three attempts will not be eligible to graduate from their respective program.

ACCOMMODATION

Any student who may require accommodation from BCIT because of a physical or mental disability should refer to BCIT's Policy on Accommodation for Students with Disabilities (Policy #4501), and contact BCIT's Accessibility Services (NE1–308, 604.451.6963) at the earliest possible time. Requests for accommodation must be made to the Accessibility Services, and should not be made to a course instructor or Program area.

ASSIGNMENT DETAILS

Participate regularly on Learning Hub Cardiology Clinical site.

Ongoing daily clinical case log completion of procedures and other activities related to successful clinical experiences.

Practice ECG interpretation (10-15 ECGs) daily to develop interpretation skills.

COURSE OUTLINE DEVELOPMENT

Authoring Instructor [Lisa Gowans]

Date (March 21, 2021)

COURSE OUTLINE

Course Number	CARD 4252			
Course Title	Cardiology Diploma Clinical 2			
School	School of Health Sciences			
Program	Cardiology Technology			
Course Credits	24			
Total Hours	600			
Total Weeks	16			
Total Hours/ Week	37.5			
Delivery Type (hrs/wk)	Lecture [xxx]	Laboratory [xxx]	Tutorial [xxx]	Seminar [xxx]
	Field Work [xxx]	Practicum [600]	Directed Studies [xxx]	Online [xxx]
	Other [specify] [xxx]			
Prerequisites	CARD 1101 Introduction to Cardiology CARD 1103 Medical Terminology BHSC 1119 Essentials of Anatomy and Physiology BMET 1107 Basic Cardiac Instrumentation and Electricity CARD 1103 Medical Terminology BHSC 1146 Human Behaviour CARD 1186 Patient Care for Allied Health CARD 1186 Patient Care for Allied Health NMED 1117 Venipuncture for Allied Health Professionals CARD 1187 Introductory Statistics for Health CARD 2201 ECG Interpretation CARD 2202 Cardiology Diagnostic Testing Methodology CARD 3205 Introduction to Health Informatics CARD 2202 Cardiology Diagnostic Testing Methodology CARD 3250 Cardiology Diploma Lab CARD 3302 Cardiac Pathophysiology CARD 3330 Electrocardiography and Pacemakers CARD 3360 Cardiac Pharmacology CARD 3280 Introduction to Cardiac Rehabilitation CARD 3365 Interprofessional Practice for Cardiac Sciences CARD 4201 Concepts in Ambulatory ECG CARD 4202 Concepts on Exercise Tolerance Testing CARD 4203 Concepts in Pacemakers CARD 5301 Concepts in Electrophysiology			
Prerequisite for	None			

COURSE DESCRIPTION

Rotates students through the Cardiology departments of various hospitals, professional labs, and doctors' offices to obtain clinical experience in performing electrocardiograms, exercise tolerance testing, Holter hook-up and analysis and observing programming and implantation of various pacemakers and other interprofessional observations. (16 weeks **full-time** 600 hours). CARD 4252 is offered in Spring and Fall each year.

Prerequisite Successful completion of all Cardiology Technology Diploma courses plus Clinical Instructor approval.

Course Learning Outcomes/Competencies

Upon successful completion, the student will be able to:

1. interact and communicate in a professional manner with patients, technologists, physicians, and all other allied health professionals.
2. apply theory knowledge to obtain patient history and adequate patient assessment prior to cardiac procedures.
3. operate, calibrate, troubleshoot, and maintain equipment.
4. record electrocardiograms and review the recording and analyzing of electrocardiograms.
5. apply AECG monitors, instruct patient, and disconnect recorder at end of recording.
6. apply theory knowledge to the performance of AECG monitor scanning techniques.
7. apply theory knowledge to the performance of Exercise Tolerance Testing techniques and procedures.
8. observe pacemaker and/or other implantable devices.
9. understand pacemaker assessment and programming.
10. obtain and analyze pacemaker trans-telephonic monitoring.
11. apply knowledge of indication for pacing.
12. describe the various pacing modes/timing cycles.
13. apply knowledge and analyze skill in normal/abnormal pacemaker rhythm.
14. describe functional non-capture and non-sensing.
15. identify indication and contraindication for use of magnet.
16. observe the assessment of lead placement at implant.
17. apply theory knowledge of patient care skills and maintain universal precautions.
18. perform computer skills; understand management systems and informatics.
19. maintain patient care skills and practice universal precautions.
20. practice proper documentation and reporting of all cardiac procedures.
21. apply professional standards, ethics, and legalities.

22. comply with facility (clinical sites) and BCIT's directives.
23. apply effective communication skills in the clinical environment.
24. apply theory knowledge to complete projects relevant to the profession.
25. demonstrate the ability to self-evaluate.

Evaluation Criteria

Criteria		Comments
Daily log books		▪ All hours and procedures need to be met. ▪ Intermediate and final evaluation uses rating guide for skills 1-5. ▪ For passing grade, all skills must be scored 4's and 5's to receive Satisfactory grade. ▪ Self-evaluation and student chosen project to be submitted to Clinical Instructor.
600 hours to include Minimum of 150 ECGs Minimum of 150 ETTs Minimum of 50 Holter scans Interprofessional observation Pacemaker clinic observation Pacemaker implant observation		
Student chosen presentation	Complete/not complete	
Self-evaluation	Complete/not complete	
Intermediate evaluation	Complete/not complete	
Final evaluation	Satisfactory/Unsatisfactory	
TOTAL		

LEARNING RESOURCES

[Recommended to review course material and texts from prerequisite courses.]

National Occupational Profile Competencies Covered in the "C" (Clinical) performance environment.

Area 1 Cardiac Procedures

1.1 Record and analyze electrocardiograms.

a. Select electrode sites for 12-lead ECG.
b. Select alternate sites to accommodate patient special needs.
c. Select electrode sites for right-side, posterior, and pediatric leads.
d. Obtain artifact-free and technically-correct tracing.
e. Record ECG.
f. Analyze recording and relate to patient symptoms and medications.
g. Determine need for additional tracings and/or rhythm strips.
h. Optimize instrument settings to enhance clinical data.
i. Compare current and previous tracings where applicable.
j. Perform deep inspiration/expiration to identify significant Q waves.

1.2 Apply monitor and analyze ambulatory ECG recordings.

a. Select monitor parameters.
b. Select electrode sites for ambulatory ECG.
c. Instruct patient on diary entries relative to symptoms and activities.

Area 2 Patient Care

2.1 Establish professional relationship with patient.

a. Introduce self to patient and family/caregivers.
b. Explain procedures and respond to questions.
c. Provide reassurance and support to patient.
d. Treat patient with care and compassion.
e. Enhance patient comfort.
f. Display unconditional positive regard toward patient.
g. Maintain patient confidentiality.
h. Respect patient privacy.
i. Maintain patient dignity.
j. Show tolerance and patience when interacting with patients.
k. Maintain professional boundaries in relationship with patient and family/caregivers.

2.2 Obtain patient history.

a. Verify patient identification and requested procedure(s).
b. Obtain cardiac history and pertinent symptoms.
c. Integrate history and symptoms with procedure ordered.
d. Obtain list of current medications.
e. Obtain history of cardiac surgery and procedures.

2.3 Assess patient status.

a. Assess patient signs and symptoms and act on situations requiring immediate response.
f. Ensure that patient aids, monitoring and life-support systems are maintained.
g. Identify life-threatening conditions and take appropriate action.

2.4 Transfer patient.

a. Assist in patient transfer.
b. Position patient, accommodating special needs.

2.5 Apply aseptic technique.

a. Use standard (universal) precautions.
b. Use isolation and reverse isolation techniques as applicable.
c. Follow sterile field and operating room protocols.
d. Decontaminate and clean equipment and self.

2.6 Provide emergency life support.

a. Maintain Basic Cardiac Life Support (BCLS) certification.
b. Locate drugs, airway management devices, and suction apparatus in resuscitation cart.

2.7 Apply and remove electrodes.

a. Shave body hair.
b. Clean and dry skin.
c. Abrade skin.

d. Apply electrodes.
e. Attach leads and ensure integrity.
f. Remove leads and electrodes; clean electrode sites.
g. Assist patient with dressing if required.

2.8 Document results of procedure.

a. Record patient demographics, signs and symptoms, non-standard electrode placement, and patient positioning.
b. Prepare test results for physician's review.
c. Prepare test results for cardiac information management system.

Area 3 Professional Standards

3.1 Behave professionally.

a. Identify and comply with relevant government legislation and regulations.
b. Identify and comply with relevant Code of Ethics.
c. Identify and comply with relevant Scope of Practice.
d. Identify and comply with relevant Standards of Practice.

3.2 Comply with institutional directives.

a. Practice within bounds of job description.
b. Follow institutional and departmental directives.
c. Follow established lines of communication and authority.

3.3 Behave professionally.

a. Maintain personal hygiene and appropriate apparel.
b. Prioritize activities and use time management skills.
c. Accept accountability for decisions and actions.
d. Practice in a manner that is non-prejudicial and that respects diverse cultural, ethnic, and religious beliefs.

3.4 Communicate effectively.

a. Speak clearly and concisely.
b. Write clearly and concisely.
c. Use terminology appropriate to the purpose and targeted audience.
d. Use and interpret general medical terminology.
e. Use and interpret medical terminology unique to cardiology.
f. Monitor effectiveness of communication and take action to enhance understanding where required.
g. Employ appropriate non-verbal communication.
h. Recognize and respond appropriately to non-verbal communication of others.

3.5 Perform computer skills.

a. Use a keyboard accurately and efficiently.
b. Access data from databases, network, and Internet.

3.6 Maintain professional relationships

a. Show respect for co-workers
b. Create and sustain effective working relationships with co-workers.

c. Contribute effectively to collaborative care.
d. Represent the profession in a positive manner.

3.7 Provide quality service

a. Practice within the bounds of personal limitations and expertise.
b. Seek advice or assistance where necessary.
c. Apply a logical thought process to solve problems and make professional judgment.

3.9 Maintain professional competence.

a. Maintain knowledge of emerging cardiac therapies and technologies.
b. Participate in continuing education activities.
c. Self-evaluate performance and set goals for improvement.
d. Maintain relevant memberships and professional affiliations.
e Contribute to development of profession.

INSTRUCTOR(S)

Refer to contact information on inside cover of this handbook

LEARNING RESOURCES

Required Ongoing revision of all prerequisite courses.

INFORMATION FOR STUDENTS

The following statements are in accordance with the BCIT Policies 5101, 5102, 5103, and 5104, and their accompanying procedures. To review these policies and procedures, please refer to **bcit.ca/about/administration/policies.shtml**

ATTENDANCE/ILLNESS

In case of illness or other unavoidable cause of absence, the student must communicate as soon as possible with the clinical site and to the Clinical Education Coordinator, indicating the reason for the absence. Prolonged illness of three or more consecutive days must have a BCIT medical certificate sent to the department. Excessive absence may result in failure or immediate withdrawal from the course or program. Please see Policy 5101 — Student **Regulations, and accompanying procedures bcit.ca/files/pdf/policies/5101.pdf**

ACADEMIC INTEGRITY

Violations of academic integrity, including dishonesty in assignments, examinations, or other academic performances are prohibited and will be handled in accordance with Policy 5104 — Academic Integrity and Appeals, and accompanying procedures **bcit.ca/files/pdf/policies/5104.pdf**

ATTEMPTS

Students must successfully complete a course within a maximum of three attempts of the course. Students with two attempts in a single course will be allowed to repeat the course only upon special written permission from the Associate Dean. Students who have not successfully completed a course within three attempts will not be eligible to graduate from their respective program.

ACCOMMODATION

Any student who may require accommodation from BCIT because of a physical or mental disability should refer to BCIT's Policy on Accommodation for Students with Disabilities (Policy #4501), and contact BCIT's Disability Resource Centre (NE1–308, 604.451.6963) at the earliest possible time.

Requests for accommodation must be made to the Disability Resource Centre, and should not be made to a course instructor or Program area.

Any student who needs special assistance in the event of a medical emergency or building evacuation (either because of a disability or for any other reason) should also promptly inform their course instructor(s) and the Disability Resource Centre of their personal circumstances.

ASSIGNMENT DETAILS

Students may be required by their clinical facility to complete assignments. These assignments must be completed at time and place designated by their clinical site preceptor.

Student must complete a self-evaluation at Week 8.

Student chosen Cardiology presentation must be completed during clinical time and submitted to Clinical Instructor. Clinical Instructor will provide further details.

Ongoing daily clinical case log completion of procedures and other activities related to successful clinical experiences.

Practice ECG interpretation (3–5 ECGs) daily to develop interpretation skills.

COURSE OUTLINE DEVELOPMENT

Authoring Instructor [Lisa Gowans]

Date [March 21, 2021]

BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

APPENDIX C

STUDENT ORIENTATION CHECKLIST

ADMINISTRATIVE

- Submit Confidentiality Agreement/Student Orientation certificate if required.
- Complete Student/Preceptor agreement
- Show preceptor student ID, FIT card, immunizations (if requested)
- Tour of hospital
- Discuss student schedule, coffee breaks, lunch times
- Parking

COMMUNICATION EXPECTATIONS

- Introduction to staff
- Sick procedure
- Review clinical manuals together

SECURITY

- Storage of personal belongings
- Explain any alarms or security codes to department

POLICIES AND PROCEDURES

- Location of policy and procedure manuals

HEALTH AND SAFETY

- Locate and review OH&S manual
- Review work-related injury reported procedure
- Review process if exposed to blood or reportable diseases
- Locate personal protective equipment barrier protection
- Locate sharps containers
- Location and use of lead protection

EMERGENCY RESPONSE

- Discuss different codes in the hospital
- Location of code blue buttons or emergency phone number
- Location of emergency response manual
- Location of fire pull stations
- Location of fire extinguishers
- Evacuation and fire safety plan

APPENDIX D

CARDIOLOGY TECHNOLOGY PROGRAM PLEDGE OF CONFIDENTIALITY

By signing this document, I am certifying that I will respect the confidentiality of all matters pertaining to patients, colleagues, and other health care workers.

I agree to follow all related policies, procedures, and regulations established by the health care facility that has elected to support me during my clinical placement period.

Health care facility name: _____

Signature of student: _____

Date signed: _____

This page must be torn out (or photocopied) and submitted to your clinical preceptor.

APPENDIX E

STUDENT/PRECEPTOR CLINICAL AGREEMENT

Student: _____

Preceptor: _____

Start date: _____

Approximate date of intermediate evaluation: _____

Approximate end date: _____

The best phone number or email for student:

_____

Student emergency contact name:_____

Student emergency contact number: _____

The best phone number or email address for preceptor:

_____

We have reviewed and discussed the clinical orientation checklist:

Preceptor signature _____

Student signature _____

APPENDIX F

DAILY CLINICAL LOG – PART A

Location: .....

Date: .....

Notes: .....

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DAILY CLINICAL LOG – PART B

# of Hrs	Procedure or other activity* (1 per line)	O	A	U
	TOTALS			

* Examples of other activities include in-services, meetings, ECG interpretations.
O - Observed, A - Assisted, U - Unassisted

SAMPLE COPY OF DAILY CLINICAL LOG SHEET (PART A)

DAILY LOGGING, SAMPLE ENTRIES

DAILY CLINICAL LOG – PART A

Location: BCIT Health Sciences Hospital

Date: Feb. 30, 2099

Goals:

1. To make sure patients understand my instructions by speaking louder and looking them in the eyes
2. Encourage patients to get to target HR if safe to do so
3. To make sure the ectopic counts are accurate in my Holter reports by adjusting the prematurity percentage

SAMPLE COPY OF DAILY CLINICAL LOG SHEET (PART B)

DAILY LOGGING, SAMPLE ENTRIES
ASSISTED (A), UNASSISTED (U), OR OBSERVED (O)

DAILY CLINICAL LOG – PART B

# of Hrs	Procedure or other activity* (1 per line)	O	A	U
1	ECGs - 1 sVT - patient in wheelchair, documented on ECG	III	II	|||
	- Pt dizzy with junctional rhythm - Busy managing several pages in short time			II
4.0	ETTs – One positive test (ST depression in II, III, aVF)		II	IIII
	- PACs, PVCs			
	- One patient not able to reach target, physician notified and plans to do Persantine			
	- Two Persantines, both patients needed Aminophylline for headache			
2.5	Holter Scanning – Sinus Arrhythmia, over calling PACs, needed to adjust percentage on prematurity		II	
7.5	TOTALS 12 ECGs, 6 ETTs, 2 Scans	3	6	11

APPENDIX G

CLINICAL EXPECTATIONS AGREEMENT

Please initial each statement to demonstrate that you agree to the following expectations of your CARD 3252 following your Clinical Prep meeting.

_____ I agree to inform both the clinical site **AND** my Clinical Instructor/Education Coordinator for each day that I am absent due to illness or an emergency. I understand that good attendance is integral for clinical success.

_____ I agree that the **only** acceptable reasons for being absent are illness, and family emergencies. Any other requests for days off will require special permission from my Clinical Instructor/Education Coordinator.

_____I agree to check the News section on the CARD Clinical Learning Hub (LH) course **weekly** for updates and communication, regularly check my email messages (mybcit email) and to submit assignments on time.

_____ I agree it is my responsibility to keep track of my clinical hours on a regular basis, and to notify my preceptor and Clinical Instructor/Education Coordinator if there are any areas that are short or above the hours required as outlined in my clinical handbook and course outline. These hours may only vary if I am on a pre-determined Compressed Time Frame (CTF) verified by my Clinical Instructor/Education Coordinator.

_____I agree I will only work on Stat holidays (or off shifts) **IF** there is a registered Cardiology Technologist on shift to supervise me, and if the tests being performed are tests for which I still require hours. Otherwise, I will take the Stat holiday off and make up the hours at the end of clinical.

_____I agree my clinical may need to be extended beyond 375 hours if I do not meet competencies or if I am short hours in any area of competency

_____ I agree it is my responsibility to create and submit attendance, preceptor feedback forms and competency evaluations to my preceptor via CompTracker.

_____ I agree it is my responsibility to request preceptors to be added to CompTracker if any of them are not already on file.

_____ I agree that cell phone usage is limited to break times and not in use during clinical hours (especially in patient care areas and shared office spaces).

Date: _____

Name: _____ Signature: _____

APPENDIX H

CARD CLINICAL COMPETENCY LIST

Refer to CompTracker to familiarize with all competencies designated to each modality for CARD 3252 and CARD 4252.

COMPTRACKER INSTRUCTIONS

RATINGS SCALE FOR BCIT CARDIOLOGY TECHNOLOGY DIPLOMA COMPTRACKER EVALUATION

Ratings of 1-5 are defined as below

1. Does not meet competency/skill at this time.
2. Developing competency/skill inconsistently, with assistance.
3. Meeting competency/skill consistently, with assistance.
4. Meeting competency/skill consistently, without assistance.
5. Exceeds competency/skill without assistance, consistently, and with excellence

In the intermediate evaluation, 20 or more scores of 2 will result in a student and preceptor consultation with the Clinical Education Coordinator. A student performance contract may be required.

In the final evaluation, scores must be 4's and 5's in all competencies to receive a passing grade. Any scores less than 4 will be addressed with the Clinical Education Coordinator to determine a Student Perfomance Contract.

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