

**MODULE CMH3110: ADVANCES IN MEDICAL TECHNOLOGY****Level:** Advanced**Theme:** Health Sciences**Prerequisite:** None**Module Description:** Students focus on the social, emotional and economic impact of health technology. Related ethical issues are also examined.**Module Parameters:** No specialized equipment or facilities.**Curriculum and Assessment Standards**

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>compare and contrast past, present and future trends in health services</li> <li>identify services, diagnostic procedures and health technologies available in acute, rehabilitation and extended care centers</li> <li>identify and discuss emerging technologies, including description, availability, social and emotional impact, economics and ethical issues</li> </ul>	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> <li>comparing and contrasting past, present and future trends in health.</li> </ul> <p><i>Assessment Tool</i>  <i>CMH3110-1: Presentations/Reports: Trends in Health Services</i></p> <p><i>Standard</i>  <i>Performance rating of 3 on the rating scale</i></p>	20
	<ul style="list-style-type: none"> <li>describing the care, services, diagnostic procedures and technology available in acute, rehabilitation and extended care centres.</li> </ul> <p><i>Assessment Tool</i>  <i>CMH3110-2: Presentations/Reports: Health Services</i></p> <p><i>Standard</i>  <i>Performance rating of 3 on the rating scale</i></p>	30
	<ul style="list-style-type: none"> <li>researching two emerging technologies as to: <ul style="list-style-type: none"> <li>– description of the technology</li> <li>– availability of the technology</li> <li>– social and emotional impact</li> <li>– economic consideration</li> <li>– ethical issues.</li> </ul> </li> </ul> <p><i>Assessment Tool</i>  <i>CMH3110-3: Research Process: Emerging Technologies</i></p> <p><i>Standard</i>  <i>Performance rating of 3 on the rating scale</i></p>	40



**MODULE CMH3110: ADVANCES IN MEDICAL TECHNOLOGY (continued)**

Concept	Specific Learner Expectations	Notes
<p>Observation, Assessment and Application</p>	<p><i>The student should:</i></p> <ul style="list-style-type: none"> <li>• identify the elements of care available in treatment facilities (acute care, convalescent care, extended care, palliative care)</li> <li>• analyze availability and accessibility of services in acute, rehabilitation and extended care centres:               <ul style="list-style-type: none"> <li>– physicians, nursing, dietary , housekeeping, maintenance, business, volunteer, social work, rehabilitation, radiology, pathology, pharmacy, etc.</li> </ul> </li> <li>• research and analyze availability and accessibility of technology and diagnostic procedures in health care:               <ul style="list-style-type: none"> <li>– operative care (general surgery, laser, laparoscopy, plastic, fibre optics)</li> <li>– imaging services</li> </ul> </li> <li>• describe the purpose and the care of the patient before, during and after the following procedures:               <ul style="list-style-type: none"> <li>– general surgery</li> <li>– less invasive surgery (lasers, fibre optics)</li> <li>– imaging services</li> </ul> </li> <li>• identify options for anaesthetics.</li> </ul>	<p>Physiotherapy, Occupational Therapy, ECMO, emergency department, terminal, palliative care, pastoral care, convalescent care, elective, emergency, day surgery, day hospitals.</p> <p>Tours available. Alberta Heritage Research Council. Community-based. Pre-op and post-operative procedures. Anesthesia. Basic medical asepsis. Awareness of complications (pneumonia, infection, hemorrhage, etc.). Intrauterine survey. CAT scan, MRI (magnetic resonance imaging). Ultrasound. Nuclear medicine (assess organ function, liver, kidney, brain, etc.). Radiation therapy (cancer treatment). Dental X-ray (internal surface and roots).</p>
<p>Application</p>	<ul style="list-style-type: none"> <li>• research technological advancements for the 21st century, including an assessment of the social, emotional, economic and ethical issues raised by emerging technologies such as:               <ul style="list-style-type: none"> <li>– gene therapy</li> <li>– synthetic body parts</li> <li>– euthanasia</li> <li>– reproductive technology</li> <li>– computerized health care</li> <li>– robotics</li> <li>– transplants.</li> </ul> </li> </ul>	<p>Examine community agencies available to determine their client group, current medical data and recommended treatment plans. Tours, guest speakers, news media, clinics, labs or diagnostic centres. Community agencies.</p>

**MODULE CMH3110: ADVANCES IN MEDICAL TECHNOLOGY** (continued)

Concept	Specific Learner Expectations	Notes
Career Exploration	<p><i>The student should:</i></p> <ul style="list-style-type: none"><li>• research and evaluate career opportunities available in health technology including:<ul style="list-style-type: none"><li>– personal characteristics</li><li>– training/education required</li><li>– employment/entrepreneurial opportunities</li><li>– working conditions</li><li>– salary range and benefits.</li></ul></li></ul>	Job shadow, interview, research, facility tours.