

2020-21 UGME Research and Evidence Based Medicine (EBM) Vertical Theme Outline

	Year One	Year Two	Year Three	Year Four
Term One	Scientific Method & Overview of core research methodologies	Information Literacy	<i>Selected Topics in Medicine: Mixed Methods Research</i>	Research Elective Block
	Medicine & Society I (1 hour)	Clinical Integration III (3 hours)		
	Information Literacy	Applied epidemiology II: Diagnostic testing in MSK	<i>Critical Appraisal</i>	
	Clinical Integration I (4.5 hours)	Foundations of Clinical Medicine II: (1 hour)	<i>Core Rotations: IM, Psych.</i>	
	Ethics (large & small group sessions)	Critical Appraisal	SLIC	
	Clinical Integration I (4 hours)	Foundations of Clinical Medicine II: (KUT)		
	Quantitative Research	Organization of science agencies and research funding		
	Medicine & Society I (2 hours)	Medicine and Society III (1 hour)		
Quantitative Research Project Critical Appraisal Group Sessions				
Medicine & Society I (3 hours)				
Term Two	Epidemiology	Information Literacy		
	Medicine & Society II (2 hours)	Clinical Integration IV (2 hours)		
	Public Health Ethics	Knowledge Translation and Patient Education		
	Medicine & Society II (2 hours)	Medicine & Society IV		
	Biostatistics	Patient Safety online modules (IHI)		
	Medicine & Society II (1 hour)	Medicine & Society (Terms One and Two)		
	Hands-on Group Critical Appraisal Session	Qualitative Research		
	Medicine & Society II (2 hours)	Medicine & Society IV		
	Information Literacy	Qualitative Research Project Data Analysis Small Group Sessions		
	Clinical Integration II (4 hours)	Medicine & Society IV		
Applied epidemiology I: NNT in Cardiovascular	Critical Appraisal			
Foundations of Clinical Medicine I: (1 hour)	Foundations of Clinical Medicine III (Mental Health)			
Ethics: online certificate TCPS2 Core Tutorial on the Tri-council policy statement: ethical conduct for research involving humans	Applied epidemiology III: Population rates and aggregate measures in Reproductive Health			
	Foundations in Clinical Medicine III (1 hour)			

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	McMaster University On-Line Chart Review Tutorial			
	Medicine & Society II (3 hours)			
	Dean's Summer Research Projects	Dean's Summer Research Projects		

The vertical research theme aims to help students gain knowledge and skills so they can demonstrate an understanding of the scientific principles of research and scholarly inquiry and the role of research evidence in health care as well as to critically appraise scientific articles as a research user.

This is completed through:

1. Exposing students to different fields of research and research methodologies
2. Supporting students in the development of rudimentary research knowledge and skills
3. Encouraging students to gain confidence with participating in research during their UGME program
4. Involving students in knowledge translation relevant to patient care
5. Conducting critical appraisals of the scientific literature and considering the application of research results.

Research Theme Sessions fall into the following sub-theme categories: **1. Research Questions and Study Methodologies, 2. Ethics, 3. Information Literacy and Critical Appraisal, 4. Knowledge Translation.**

Learning around research methodologies encourages participation in experiential research activities, but also supports acquisition of skills in critical appraisal of medical literature and promotes development of evidence based medicine approaches for clinical practice. During the first year of the vertical theme, the focus is on fundamental scientific methods with development of research questions, understanding basic research study designs/analysis strategies and participation in hands on critical appraisal exercises. During the second year the focus shifts towards learning about and participating in a qualitative research exercise. Within year 1 and year 2, there are multiple applied epidemiology sessions. These sessions provide a background on a specific research topic and how it may be used in clinical practice. The summers following Years One and Two, students are eligible to apply for Dean's Summer Studentship Research Awards.

Within the Clerkship Years, the application of a mixed methods approach to research is the topic of a seminar in Year Three, and all students are eligible to undertake a supervised research elective in Year Four.

Quality improvement/assurance are included in the Quality Improvement, Patient Safety, and Resource Stewardship theme and not included here.

Assessment:

Participation in various sessions is considered a requirement as is completion of the online ethical training in year 1. In year 1, assessment is based on completion of a quiz(zes) and assignments around the completion of critical appraisals and related content focused on quantitative research. In year 2,

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assessment is based on work around qualitative research and includes a group project. The applied epidemiology sessions will each have a short assignment as part of the learning and assessment.