

Course title	Selective Projects (1): Critical Appraisal of Literature				
Course code	GEMD-P001				
Course type	Required				
Level	Undergraduate				
Year / Semester	Year 1, Semester 1				
Teacher's name	Dr Nicoletta Nicolaou				
ECTS	4	Teaching Periods per Week			
		Large Group Learning	Small Group Learning	Laboratories & Skills	Clinical Practice
		1	1-2	1-2	0
Course purpose and objectives	<p>The aim of the hands-on, skills-based projects is to enable the students to develop a well-rounded understanding of the importance of critically appraising literature and the tools that can be used for such purposes.</p> <p>By the end of the projects, students will be able to:</p> <ul style="list-style-type: none"> • Understand the concept of “evidence-based medicine” • Describe the main types of research study designs • Understand the significance of critical appraisal in clinical practice • Familiarize themselves with tools developed specifically for critical appraisal of literature • Eliminate irrelevant or weak studies, thus reducing information overload • Distinguish evidence from misreporting and opinions • Recognize study potential for usefulness and applicability in a clinical context • Recognize any study bias 				
Learning outcomes	<p>At the end of the projects the student will be able to:</p> <ol style="list-style-type: none"> 1. Discuss the concept of “evidence-based medicine”. 2. Understand, compare and contrast different types of study design. 3. Derive objective measures of a study’s trustworthiness, scientific validity and relevance / generalizability to the specific patient population. 4. Compare, and choose the appropriate, tools for critical appraisal of literature based on the study design. 5. Understand and explain basic measures of outcome comparison. 6. Understand how forest plots are constructed. 7. Interpret outcomes displayed as forest plots. 8. Understand the concepts of bias, validity, efficacy, effectiveness and confounding. 				
Prerequisites	None	Required	None		
Course content	<ul style="list-style-type: none"> • Introduction to evidence-based medicine 				

	<ul style="list-style-type: none"> • Introduction to critical appraisal of literature: why and how • Types of studies (e.g. case control, cohort, randomized control trial, systematic reviews & meta-analyses), and examples of critical appraisal of literature studies • Research hypotheses, PICO • Searching for relevant literature: databases, constructing searches • Reporting guidelines: PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), CONSORT (Consolidated Standards of Reporting Trials) • Interpreting results expressed as: a mean difference, a ratio, relative Vs absolute measures • Interpreting statistical significance of results (histogram, probability distribution, confidence intervals, p-values) • Graphical display of mean differences and confidence intervals via Forest plots • Guidelines for critical appraisal of systematic reviews (evaluation of the validity of the review, interpretation of the results of the review, applicability of the results of the review in clinical practice) • Appraisal tools: CASP (Critical Appraisals Skills Programme), SORT (rating the strength of evidence), Newcastle-Ottawa Scale (NOS) for assessing quality of non-randomised studies, CEBM critical appraisal tools 																								
Teaching methodology	<p>Lectures – maximum one-hour p/week</p> <p>Tutorials / workshops – small group sessions, maximum 3 hours p/week</p> <p>Student centered learning/self-study, maximum 3 hours p/week</p>																								
Bibliography	<p>Required textbooks/reading</p> <table border="1" data-bbox="376 1211 1420 1753"> <thead> <tr> <th>Authors</th> <th>Title</th> <th>Edition</th> <th>Publisher</th> <th>Year</th> <th>ISBN</th> </tr> </thead> <tbody> <tr> <td>IK Crombie</td> <td>The Pocket Guide to Critical Appraisal</td> <td>2nd</td> <td>BMJ Publishing Group</td> <td>2022</td> <td>9781119835240</td> </tr> <tr> <td>T Greenhalgh</td> <td>How to read a paper: the basics of evidence-based medicine</td> <td>6th</td> <td>Wiley-Blackwell</td> <td>2019</td> <td>9781119484745</td> </tr> <tr> <td>SA Strite & ME Stuart</td> <td>Basics for evaluating medical research studies</td> <td>1st</td> <td>Delfini Group LLC</td> <td>2013</td> <td>9781490926193</td> </tr> </tbody> </table>	Authors	Title	Edition	Publisher	Year	ISBN	IK Crombie	The Pocket Guide to Critical Appraisal	2 nd	BMJ Publishing Group	2022	9781119835240	T Greenhalgh	How to read a paper: the basics of evidence-based medicine	6 th	Wiley-Blackwell	2019	9781119484745	SA Strite & ME Stuart	Basics for evaluating medical research studies	1 st	Delfini Group LLC	2013	9781490926193
Authors	Title	Edition	Publisher	Year	ISBN																				
IK Crombie	The Pocket Guide to Critical Appraisal	2 nd	BMJ Publishing Group	2022	9781119835240																				
T Greenhalgh	How to read a paper: the basics of evidence-based medicine	6 th	Wiley-Blackwell	2019	9781119484745																				
SA Strite & ME Stuart	Basics for evaluating medical research studies	1 st	Delfini Group LLC	2013	9781490926193																				
Assessment	<p>The course will be assessed at the end of Semester 1 with a Summative Assessment comprising the submission of a written report in the style of a journal article (critical appraisal of 7-10 studies on a topic chosen from a fixed list of areas).</p> <p>Formative assessment will include submission of worksheets following the workshops / tutorials (where applicable).</p>																								
Language	English																								