

Department of Medical Imaging Sciences

Faculty of Health Sciences

American University of Beirut

Course number: MIMG210B

Course name: Research in Medical Imaging

Spring semester AY 2019 - 2020

Course Administration

Primary Instructor: Dr. Charbel Saade (Assistant Professor)

Office: 3rd Floor, Van Dyke – Room 329

Phone: 2964

Office Weekly appointments

Email: cs39@aub.edu.lb

Class Time and Location

There are no classes for this subject. Time allocation to meet with the instructor of the course is on Mondays by appointment only during the spring semester

Course Description

The course will help the students to effectively analyze data from various resources to evaluate and improve professional practice, and to promote growth in the profession. Students will write a research manuscript in which they will consider in their research, amongst others, ethical issues related to clinically based research, and the importance of enquiry into issues which cross professional boundaries. The process of writing this paper will include multiple drafts with feedback from the professor.

Course Objectives

At the end of this course the student will have performed all the necessary work to write a research manuscript, including the following:

- Explore the research needs of the profession
- Analyze research articles to determine the accuracy and validity of findings.
- Integrate information literacy concept into research project
- Critique research projects to determine appropriateness and usefulness to the profession.
- Apply knowledge to everyday clinical practice
- Develop ideas to improve patient care

Required Readings

1. Bannas P, Reeder SB. How to write an original radiological research manuscript. *European Radiology*. 2017;27(11):4455-4460.
2. Anvari A, Halpern EF, Samir AE. Statistics 101 for Radiologists. *RadioGraphics*. 2015;35(6):1789-1801
3. Psoter KJ, Roudsari BS, Dighe MK, Richardson ML, Katz DS, Bhargava P. Biostatistics Primer for the Radiologist. *American Journal of Roentgenology*. 2014;202(4):W365-W375.
4. Moher D, Liberati A, Tetzlaff J, Altman DG, The PG. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLOS Medicine*. 2009;6(7):e1000097.

Credits Allocated

3

Prerequisites

EPHD 213, Survey Methods

Assignments

Research Project – 100%

Student Assessment / Basis of Grade determination

Grades for this course will be based on the following criteria:

Proposal (30%)		
	Originality	5
	Methodology	10
	Statistical Tests	15
Manuscript (70%)		
	Introduction <ul style="list-style-type: none"> • Why you did what you did • Relevance: statement of the issue • Need for the study • Hypothesis to be tested 	5
	Materials and Methods <ul style="list-style-type: none"> • What you did • Study design and subjects • Imaging techniques • Image analysis • Statistical analysis 	5
	Analysis and Results	10

	<ul style="list-style-type: none"> • What you found 	
	Discussion <ul style="list-style-type: none"> • What the study means • Synopsis of the most relevant results • Interpretation of your own results • Interpretation of your data in the context of previous studies • Clinical significance of the study • Limitations of your study 	30
	Conclusion <ul style="list-style-type: none"> • Summary, conclusion and future directions 	5
	Formatting and Mechanics	15
Total Score		100
The results of this Assessment is 100% of the final mark		

N.B.: The passing grade for the course is 70

General Education Knowledge Goals and Skills

General Education Knowledge Goals

1. Communication: Students will communicate effectively in both speech and writing.
2. Technology: Students will use computer systems or other appropriate forms of technology to achieve educational and personal goals.
3. Diversity: Students will understand the importance of a global perspective and culturally diverse peoples.
4. Ethical Reasoning and Action: Students will understand ethical issues and situations.

General Education Knowledge Skills

1. Written and Oral Communication in English: Students will communicate effectively in speech and writing, and demonstrate proficiency in reading.
2. Critical Thinking and Problem-solving: Students will use critical thinking and problem solving skills in analyzing information.

3. Ethical Decision-Making: Students will recognize, analyze and assess ethical issues and situations.
4. Computer Literacy: Students will use computers to access, analyze or present information, solve problems, and communicate with others.
5. Collaboration and Cooperation: Students will develop the interpersonal skills required for effective performance in group situations.
6. Intra-Cultural and Inter-Cultural Responsibility: Students will demonstrate an awareness of the responsibilities of intelligent citizenship in a diverse and pluralistic society, and will demonstrate cultural, global, and environmental awareness.

Moodle

Students are expected to check for updates on Moodle on a daily basis. Announcements, course handouts, and assignments will be available in “pdf” format from Moodle.

Course Policy

1. **Attendance:** Attendance is not mandatory.
2. **Academic integrity:** Education is demanding, and time management is essential. Do not hesitate to use the resources around you but do not cut corners. Cheating and plagiarism will not be tolerated. Please review the Student Code of Conduct in your handbook available on the following web page:
<https://www.aub.edu.lb/sao/Documents/Student%20Handbook%202016-2017.pdf>
and familiarize yourself with definitions and penalties (p. 33).

If you're in doubt about what constitutes plagiarism, ask your instructor because it is your responsibility to know. The American University of Beirut has a strict anti-cheating and anti-plagiarism policy. Penalties include failing marks on the assignment in question, suspension or expulsion from University and a permanent mention of the disciplinary action in the student's records.

3. **Missed manuscript submission:** All manuscripts must be completed within the time period specified; zero points will be given for an manuscript if the student does not adhere to the time guidelines. The only delays for manuscript submission that will be

considered by the instructor are for documented illness, death in the family, and personal/family emergency.

4. **Students with Disabilities:** AUB strives to make learning experiences accessible for all. If you anticipate or experience academic barriers due to a disability (such as ADHD, learning difficulties, mental health conditions, chronic or temporary medical conditions), please do not hesitate to inform the Accessible Education Office. In order to ensure that you receive the support you need and to facilitate a smooth accommodations process, you must register with the Accessible Education Office (AEO) as soon as possible: accessibility@aub.edu.lb; [+961-1-350000](tel:+961-1-350000), x3246; West Hall, 314.

5. **Non-Discrimination – Title IX – AUB:** AUB is committed to facilitating a campus free of all forms of discrimination including sex/gender-based harassment prohibited by Title IX. The University’s non-discrimination policy applies to, and protects, all students, faculty, and staff. If you think you have experienced discrimination or harassment, including sexual misconduct, we encourage you to tell someone promptly. If you speak to a faculty or staff member about an issue such as harassment, sexual violence, or discrimination, the information will be kept as private as possible, however, faculty and designated staff are required to bring it to the attention of the University’s Title IX Coordinator. Faculty can refer you to fully confidential resources, and you can find information and contacts at www.aub.edu.lb/titleix. **To report an incident**, contact the University's Title IX Coordinator Trudi Hodges at 01-350000 ext. 2514, or titleix@aub.edu.lb. An anonymous report may be submitted online via EthicsPoint at www.aub.ethicspoint.com.