Medical School
Four Year Program Syllabi

In Accordance with the European Credit Transfer System (ECTS) and Learning Outcomes

Academic Year 2019-20
Ben-Gurion University of the Negev
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First year syllabi – Basic Science Courses
**Name of the course**: Biochemistry

**Number of course**: 481-8-1040

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<th>BGU Credits:</th>
<th>Course Description:</th>
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<tbody>
<tr>
<td>ECTS credits:</td>
<td></td>
</tr>
<tr>
<td>Academic year: 2019-20</td>
<td><strong>Aims of the course:</strong></td>
</tr>
<tr>
<td>Semester:</td>
<td>The overall objective of the biochemistry course is to provide the student with a broad picture of the molecular and cellular basis of life.</td>
</tr>
<tr>
<td>Hours of instruction: 62</td>
<td><strong>Objectives of the course:</strong></td>
</tr>
<tr>
<td>Lectures: 48</td>
<td>The students will learn the means by which living organisms transform energy and assemble molecules of great complexity to constitute the machinery of life.</td>
</tr>
<tr>
<td>Tutorials: 14</td>
<td>Emphasis on inherited metabolic diseases which disturb the normal homeostasis will be included in each topic.</td>
</tr>
<tr>
<td>Laboratories:</td>
<td><strong>Learning outcomes of the course:</strong></td>
</tr>
<tr>
<td>Location of instruction:</td>
<td>On successful completion of the course, the student should be able to:</td>
</tr>
<tr>
<td>Faculty of Health Sciences classroom</td>
<td>1. Know the various metabolic pathways in different organs with emphasis on regulation by metabolites and hormones</td>
</tr>
<tr>
<td>Language of instruction:</td>
<td>2. Comprehend the complex metabolic system as a whole</td>
</tr>
<tr>
<td>English</td>
<td>3. Be able to clinically analyze biochemical lab results</td>
</tr>
<tr>
<td>Cycle: 1st</td>
<td>4. Understand the pathophysiology of various metabolic diseases</td>
</tr>
<tr>
<td>Position:</td>
<td><strong>Attendance regulation:</strong></td>
</tr>
<tr>
<td>Mandatory course</td>
<td>Case study sessions (as indicated in the schedule) – Mandatory</td>
</tr>
<tr>
<td>Field of Education: MD</td>
<td>Lectures – Optional but recommended</td>
</tr>
<tr>
<td>Responsible department:</td>
<td><strong>Teaching arrangement and method of instruction:</strong></td>
</tr>
<tr>
<td>The department of clinical biochemistry and pharmacology and MSIH</td>
<td>The course is structured in the following way:</td>
</tr>
<tr>
<td>General prerequisites:</td>
<td>• Self-learning</td>
</tr>
<tr>
<td>Chemistry and organic chemistry</td>
<td>• Lectures</td>
</tr>
<tr>
<td>Grading scale:</td>
<td>• Discussion with the tutor on selective questions from the Units of Instruction.</td>
</tr>
<tr>
<td>Fail/Pass/Honors</td>
<td>• Case discussion</td>
</tr>
<tr>
<td><strong>Assessment:</strong></td>
<td><strong>Work and assignments:</strong> Optional- unit questions, cases and tutorials.</td>
</tr>
<tr>
<td>NMBE test</td>
<td><strong>Time required for individual work:</strong> in addition to attendance in class, the students are expected to do their assignments and individual work.</td>
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</table>
Course Content\ schedule and outlines:

1. Amino acids and protein structure - prerequisite\self-learning
2. Enzymes - prerequisite\self-learning
3. Mitochondria
4. Carbohydrates, Glycolysis
5. The Pentose Phosphate Pathway
6. Gluconeogenesis, galactose and fructose metabolism
7. Glycogen synthesis and degradation
8. Cell Signaling
9. Lipid metabolism, synthesis and oxidation
10. Cholesterol and lipoprotein metabolism
11. Complex carbohydrates – SELF STUDY
12. Urea cycle
13. Purine and pyrimidines
14. Feed Fast Cycle, Diabetes and Obesity
15. Integrative cases

Required reading: Principles of Biochemistry, Lehninger 4th, 5th or 6th editions.
Lippincott Biochemistry 4th, 5th or 6th editions.

* All learning material will be available to the students on the course’s website (Moodle)/ library/ electronic documents available to BGU students.
**Name of the course:** Biostatistics  
**Number of course:** 481-8-1020

**Course Description:**

**Aims of the course:**
The introductory level Biostatistics course is designed to introduce students to the basic statistical methods that are most often used in medical literature.

**Objectives of the course:**
1. Students will learn the underlying theory and logic of Biostatistics, fundamental concepts, hypothesis testing, and sample size determination of statistical methods.
2. Students will acquire the skills to critically read basic statistical results presented in medical literature and to perform basic data analysis.

**Learning outcomes of the course:** On successful completion of the course, the student should be able to:

**Attendance regulation:**
Lectures - optional  
Tutorials - mandatory

**Teaching arrangement and method of instruction:**
Frontal lectures  
Small group tutorials

**Assessment:**
Assignments – 10%  
Combined exam: Practical (SPSS program) and written- 90%

**Work and assignments:**
8 mandatory homework assignments

**Time required for individual work:** in addition to attendance in class, the students are expected to do their assignment and individual work: 3 hours per week.
Lecturer: Dr. Jacob Dreher

Contact details:
Office phone: Email:
jacod@bgu.ac.il

Office hours:
Days and hours when the lecturer and/or assistants are available at the office for the students.

Course evaluation:
Online student survey and debriefing at the completion of the course.

Confirmation:
The syllabus was confirmed by the faculty academic advisory committee to be valid September 2019-20

Last update:
August 2019

Course Content\ schedule and outlines:

Topics:
1. Intro., descriptive statistics, on. Adjustment
2. The normal data distribution, confidence intervals, hypothesis testing and sample size calculation
3. Chi square and correlations, repeated measures
4. T test and ANOVA
5. Linear and logistic regression
6. Survival analysis - Methodology of quality improvement
7. Critical appraisal of a research paper 4 (quality improvement)

Self study: Descriptive Statistics

Required reading:
- Basic & Clinical Biostatistics, Dawson & Trapp, 4th ed. (some sections of chapters 3-6, 8)
- Medical statistics, Kirkwood & Sterne, 2nd ed. 2004 - chapter on sample size determination
<table>
<thead>
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<th>Name of the course: Emergency Medicine - 1</th>
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<tr>
<td>Number of course: 481-8-1010</td>
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**Course Description:**
This Emergency Medicine course provides the student with the basic skills a physician needs in order to save lives in emergencies and in everyday situations. The course will focus on basic resuscitation skills that are required for the trained care-giver in both pre-hospital and in-hospital settings. Most of the studies will be conducted in small groups with a personal instructor.

**Aims of the course:** Teach basic concepts and techniques in first aid and emergency medicine.

**Objectives of the course:**
1. Recognize situations requiring CPR and provide Life Support at a high standard of care using both basic and intermediate life support skills to adults, children and infants.
2. Recognize and provide emergency care on the pre-hospital and basic in-hospital level to a variety of emergency situations.
3. Provide emergency care to trauma patients in the pre-hospital arena to a high standard of care, perform basic rescue techniques and provide pre-hospital trauma life support.
4. Basic Emergency medical skills including: Use of a semi-auto external defibrillator, insertion of I.V. lines, backboard extrications and immobilizations, bag-valve-mask devices, airway management and more.

**Learning outcomes of the course:**
On successful completion of the course, the student should be able to:

1. Perform high standard CPR using basic and intermediate life support skills in adults and pediatrics
2. Manage scene and provide quality treatment in trauma scenarios
3. Identify and treat a variety of medical emergencies, acquire patient history and perform basic physical examination

**Attendance regulation:**
Mandatory attendance. There may be an absence of justified reasons up to 20% of the course hours subject to the approval of the course coordinator.

**Teaching arrangement and method of instruction:**
Lectures will be given to the entire class, exercises will be conducted in small groups of 6-9 students and will be focused on practical practice.
Assessment:
50% of the grade- Faculty written exam – multiple choice questions
50% of the grade - OSCE (Objective Structured Clinical Exam)
Each component must pass.

Work and assignments:
Students will be required to answer online assignments regarding the material learned in class/ home.

Time required for individual work:
In addition to attendance in class, the students are expected to be familiar with the material learned in earlier lectures as to be prepared for exercises.

Course Content/ schedule and outlines:
9 sessions of 5 hours lecture + exercise, covering CPR, Medical emergencies and trauma patient care.

Course literature:
BLS for health care providers, American Heart Association, 2016
2015 AHA Guidelines for CPR & ECC, American Heart Association
2018 Focused updates of the American Heart Association Guidelines for CPR & ECC
PHTLS: Prehospital Trauma Life Support, 9th Edition 2019 , National Association of Emergency Medical Technicians (NAEMT)

* All learning material will be available to the students on the course’s website (Moodle)/ library/ electronic documents available to BGU students.
| **Name of the course:** Endocrine System |
| **Number of course:** 481-8-1005 |

| **BGU Credits:** 4.75 |
| **ECTS credits:** |
| **Academic year:** 2019-20 |
| **Semester:** 2 |
| **Hours of instruction:** 77 |
| Lectures: |
| Tutorials: |
| Laboratories: |
| **Location of instruction:** Faculty of Health Sciences classroom |
| **Language of instruction:** English |
| **Cycle:** 1st |
| **Position:** Mandatory System |
| **Field of Education:** MD |
| **Responsible department:** MSIH |
| **General prerequisites:** None |
| **Grading scale:** Honors/Pass/Fail |

**Course Description:**

**Aims of the course:**
The endocrine system is the method by which the body communicates among its organs via messenger molecules. The course is an integrative course which will cover the anatomy, histology, physiology, pathophysiology and pathology and treatment of endocrine disorders.

**Objectives of the course:**
The intention of the course is to prepare the medical student to identify and treat endocrine disorders through an integrative approach.

**Learning outcomes of the course:** On successful completion of the course, the student should be able to:

1. Describe the normal anatomy, histology and physiology of the major endocrine organs and systems including the pituitary, adrenal, thyroid glands, calcium and energy metabolism and normal growth process.
2. Identify abnormal physical symptoms and signs and laboratory findings and to relate them to their respective pathologic syndromes and diseases.
3. Discuss the differential diagnosis of common endocrine disorders, specifically in the fields of pituitary, adrenal, thyroid, parathyroid, bone, growth, energy metabolism including diabetes mellitus and obesity.
4. Discern between primary, secondary and tertiary endocrine disorders based on the clinical symptoms and signs and laboratory findings.
5. Recognize and diagnose multiple endocrine neoplasia and autoimmune syndromes, discuss their components and relationships.
6. Offer treatment plans for major endocrine disorders and diseases.
7. Reproductive endocrinology *will not* be discussed in this course.

**Attendance regulation:**
Lectures – mandatory
Laboratories - mandatory

**Teaching arrangement and method of instruction:**
Frontal lectures, case discussions, histology and pathology lab
Lecturer: Dr. Jonathan Arbelle

Assessment:
NBME test - 100%

Contact details:
Office phone: 050-9123007
Email: arbelle@bgu.ac.il

Work and assignments:
Students are expected to review material guided by each teaching unit.

Office hours:
To be announced at the first session

Time required for individual work:
Students are required to study and review the lectures at home - roughly 30 minutes per an hour lecture.

Course evaluation:
Online student survey and debriefing at completion of course

Module Content/schedule and outlines:
The course starts out with lessons on hormonal action at the cellular and molecular level, and then is divided by the discrete endocrine systems: The hypothalamic-pituitary-target organ axis, anterior and posterior pituitary function; normal and pathologic growth and pubertal development; the thyroid gland; the adrenal gland, metabolism of calcium and bone, obesity and diabetes mellitus.

Confirmation:

Required reading:

Additional literature:
Melmed: Williams Textbook of Endocrinology 12th ed (ebook on MDConsult)
Both available through the BGU Medical library internet site.

* All learning material will be available to the students on the course's website (Moodle)/library/electronic documents available to BGU students.

Last update: September 2019
**Name of the course:** Epidemiology  
**Number of course:** 481-8-1090

**Course Description:**

**Aims of the course:**
A 52-hour introductory course of the principles and methods used in clinical Epidemiological studies. Since Epidemiology is the basic science of Public Health, which is a basic component of International Health and Medicine (IMH), this course is given during the second semester of the first year as an essential introduction to IMH.

**Objectives of the course:**
The course lectures cover the basic components of disease transmission, measures of morbidity such as incidence and prevalence and the various ways of measuring mortality, including survival analysis. The principles of measuring the validity and reliability of diagnostic and screening tests are also taught. The second part of the course deals primarily with study design, from randomized clinical trials to observational studies such as cohort, case-control, cross-sectional and ecological studies. The importance of evaluation studies is presented with regard to screening programs and health services research. The problems that are studied through homework assignments as well as the problems studied through class exercises cover the course material and allow the students to cope with real life examples of topics such as investigation of a food borne outbreak, adjustment of mortality rates, etc. as well as to critically read epidemiological literature.

**Learning outcomes of the course:** On successful completion of the course, the student should be able to:
1. Understand and evaluate different measures of disease burden.
2. Understand and be able to evaluate screening procedures and their effectiveness.
3. Know and be able to use different study designs, and evaluate the strength and weaknesses of each study design.
4. Using all of the above will be able to read and understand research articles and evaluate the strength and weaknesses of each article.

**Attendance regulation:**
Lectures: Optional  
Exercises: Mandatory

**Teaching arrangement and method of instruction:**
The course is composed of 26 hours of lectures. In addition, 24 hours of tutorials, 2 hours per assignment, are provided to assist students in solving these problems and deepen their understanding through class discussion. A final exercise is used to summarize the taught material.
Assessment:
Final test (made up Faculty written multiple choice questions as well as open-ended questions) 90%
Homework assignments: 10%

Work and assignments:
10 Homework assignments

Time required for individual work: in addition to attendance in class, the students are expected to do their assignment and individual work: It seems that tutorials need an hour of solving the assignments, which means 20 hours per the whole course.

Course Content, schedule and outlines:

Lectures:
1. Introduction & Disease Transduction
2. Measuring Morbidity and Mortality
3. Evaluation of Diagnostic and Screening Tests
4. Natural History of Diseases
5. Experimental Study Design
6. Cohort, Case Control and Cross-sectional Studies
7. Measuring Risks
9. Evaluation of Screening Programs
10. Health Services Evaluation

Required reading: Epidemiology, Gordis 2004

Additional literature:
Important articles from NEJM, JAMA and Lancet using or discussing epidemiological issues will be presented and a special section is devoted for reading scientific articles.

* All learning material will be available to the students on the course's website (Moodle)/ library/ electronic documents available to BGU students.
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<th>Name of the course:</th>
<th>Genetics</th>
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<td>Number of course:</td>
<td>481-8-1038</td>
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<tr>
<th>BGU Credits:</th>
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<tr>
<td>ECTS credits:</td>
<td></td>
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<td>Academic year:</td>
<td>2019-20</td>
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<td>Semester:</td>
<td>2</td>
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<tr>
<td>Hours of instruction:</td>
<td>36</td>
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<tr>
<td>Lectures:</td>
<td>23</td>
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<tr>
<td>Tutorials:</td>
<td>13</td>
</tr>
<tr>
<td>Location of instruction:</td>
<td>Faculty of Health Sciences classroom</td>
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<tr>
<td>Language of instruction:</td>
<td>English</td>
</tr>
<tr>
<td>Cycle:</td>
<td>1st</td>
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<td>Position:</td>
<td>Mandatory system</td>
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<tr>
<td>Field of Education:</td>
<td>MD</td>
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<td>Responsible department:</td>
<td>MSIH</td>
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<tr>
<td>General prerequisites:</td>
<td>None</td>
</tr>
<tr>
<td>Grading scale:</td>
<td>Honors/Pass/Fail</td>
</tr>
</tbody>
</table>

### Course Description:

#### Aims of the course:

The goal of the genetics course is to introduce and teach basic principles and practice in modern genetics.

#### Objectives of the course:

Objectives are to establish basic understanding of the fundamentals of human genetics with emphasis on relevance to clinical human genetics, genetic testing, and counseling.

#### Learning outcomes of the course:

On successful completion of the course, the student should be able to:

1. Describe all inheritance modes
2. Analyze pedigrees from a variety of inheritance modes
3. Outline the mitosis and myosis processes including the DNA and chromosomal content
4. Assess risk in genetics
5. Describe Mendelian concepts of inheritance, some representing Mendelian disorders and its implication in medical practice
6. Describe non-Mendelian concepts of inheritance, some representing non-Mendelian disorders and its implication in medical practice
7. Describe polygenic and multifactorial inheritance, some representing disorders and its implication in medical practice
8. Describe basic concepts in molecular genetics, mutation types, and methods used in clinical diagnosis
9. Describe basic concepts of population genetics, allele frequencies, including Hardy-Weinberg
10. Describe genetics screening tests and strategies including common diseases as Fragile X, Cystic Fibrosis, Spinal Muscular Atrophy etc
11. Describe genetic screens for aneuploidy during pregnancy, Chorionic Villous Sampling, Amniocentesis, Karyotype implications, perinatal counseling, non-invasive prenatal diagnosis, pre-implantation genetic diagnosis/screening
12. Describe congenital malformation, the various types and developmental processes and factors involved creating malformation
13. Be familiar with the option of treatment in genetic diseases: personalized medicine and pharmacogenetics
14. Be familiar with concepts of oncogenetics, oncogenetic syndromes and DNA damage repair processes and implication in practice
15. Discuss ethical issues in genetic counseling and testing

### Attendance regulation:

- Lectures – optional
- PBLs/clinical discussions - obligatory

### Teaching arrangement and method of instruction:

- Frontal lectures
- Clinical discussions
- PBLs
**Assessment:**

NBME - 90%

Mandatory submission of 5 out of 6 exercises (average grade) 10%

**Work and assignments:**

Students are required to take active part in PBLs and clinical discussions

**Time required for individual work:** In addition to attendance in class, the students are expected to do their assignment and individual work:

Roughly one hour per hour of lecture.

**Module Content Schedule and Outlines:**

The first lectures deal with basic cytogenetics, mitosis and meiosis, moving on to pathologies of chromosome number and structure, and the relevant clinical syndromes.

Mendelian inheritance is discussed, as well as non-Mendelian genetics (genomic imprinting, multifactorial diseases, expansion repeats and anticipation, etc.), linkage analysis, population genetics and risk assessment. The final part of the course deals with a short overview of cancer genetics, and then genetic screening tests, screening tests in pregnancy, and finally - pharmacogenomics and personalized medicine and a glimpse at clinical dysmorphology.

**Lectures:**

1. Clinical Cytogenetics
2. Mendelian Inheritance I
3. Risk assessment
4. Population Genetics
5. Non-Mendelian genetics
6. Gene Mapping
7. Cancer Genetics
8. Genetic Counseling & Prenatal Diagnosis
9. Pharmacogenetics, Personalized Medicine, Clinical Dysmorphology

**Required reading:**

Medical Genetics by Jorde (Mosby - 2015) – in medical library

Relevant text book chapters as assigned in the individual study units

**Additional literature:**

* All learning material will be available to the students on the course’s website (Moodle)/ library/ electronic documents available to BGU students.
| **Name of the course:** Hebrew Beginners | **Course Description:**  
A study of modern Hebrew through a general approach to its lexicon, grammar and colloquial expressions |
| **Number of course:** 503-5-1063/52 | **Aims of the course:**  
Developing primary knowledge and orientation in language skills |
| **BGU Credits:** 0 | **Objectives of the course:**  
To acquire the ability to use questions and answers for every day topics, to understand basic forms of speech and to perform most basic functions using the language, such as buying goods, telling the time, ordering food, asking for directions etc. |
| **ECTS credits:** 0 | **Learning outcomes of the course:**  
On successful completion of the course, the student should be able to:  
1. Read and understand simple texts.  
2. Write phrases and short paragraphs, mostly descriptions of day to day situations  
3. Introduce himself / herself and describe in simple terms aspects of his/her background, immediate environment and situation.  
4. Understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, traveling).  
5. Communicate with native speakers of Hebrew within a basic level |
| **Academic year:** 2018-19 | **Attendance regulation:**  
Class attendance is mandatory.  
Homework, attendance, short tests and final test are the base for calculating final grades. |
| **Semester:** 1 & 2 | **Teaching arrangement and method of instruction:**  
The course will be conducted in small classes and will consist of class discussions, exercises, texts, watching Israeli videos & films..  
Reading and writing tasks will be assigned for homework twice a week.  
Syntax and grammar levels will be adapted to suit student ability. |
| **Hours of instruction:** | **Assessment:**  
Composition of Final Course Grade:  
1. Participation & homework 33.33 %  
2. Quizzes during the term 33.33 %  
3. Final Exam 33.34 %  
100 % |
Work and assignments:
Homework constitutes integral part of studying process. Reading and writing tasks will be assigned for homework twice a week.

Time required for individual work:
In addition to attendance in class, the students are expected to watch TV in Hebrew, videos on the net, have conversations with Israeli students.

Course Content \ schedule and outlines:

Required reading:
Course Textbook:
"עברית לרפואה, א" / עדנה לאוז, אביבה חיים ( ZENDA Verlag )

Additional Instructional materials:
Worksheets
### Name of the course: Hematology System

**Number of course:** 481-8-1023

| BGU Credits: | 5.75 |
| ECTS credits: | |
| Academic year: | 2019-20 |
| Semester: | 2 |
| Hours of instruction: | 81 |
| Location of instruction: | Faculty of Health Sciences classroom |
| Language of instruction: | English |
| Cycle: | 1st |
| Position: | Mandatory system |
| Field of Education: | MD |
| Responsible department: | MSIH |
| General prerequisites: | None |
| Grading scale: | Honors/Pass/Fail |

### Course Description:

**Aims of the course:**

The Hematology system aims to reflect the advances made in biology and medicine in recent years. Some of these include the actual isolation of the multipotent stem cell and the discovery of new growth factors regulating cell proliferation and differentiation.

**Objectives of the course:**

Objectives of the course are to provide the student with an understanding of:

- Biology of Hematopoiesis
- Physiology of WBC, RBC, Platelets
- Pathology of Hematopoiesis
- Hemostasis
- Transfusion medicine

**Learning outcomes of the course:** On successful completion of the course, the student should be able to:

1. Describe normal peripheral smear and bone marrow findings and correlate these to pertinent laboratory tests used to evaluate hematologic disorders
2. Classify red blood cell disorders (anemias) and apply laboratory values in clinical decision making
3. Describe the coagulation cascade, pertinent laboratory tests used to assess coagulation function and correlate with diseases of coagulation dysfunction
4. Define thrombocytopenia and distinguish between qualitative and quantitative platelet disorders; formulate a differential diagnosis based on clinical findings and laboratory date
5. Classify white blood cell disorders (leukemia, lymphoma and multiple myeloma) and compare pathologic features of each category
6. Apply clinical laboratory and ancillary molecular diagnostic testing to develop a differential and a diagnosis of white blood cell disorders

**Attendance regulation:**

- Lectures – mandatory
- Labs - mandatory
- PBLs and prep sessions – mandatory as a clinical activity

**Teaching arrangement and method of instruction:**

- Frontal lectures, groups, histo-pathological laboratories.
- Computer labs will also be used.
Assessment:
NBME test and faculty written multiple choice test

Work and assignments:
Preparation of case and group discussions

Time required for individual work: in addition to attendance in class, the students are expected to do their assignment and individual work:
Students are required to study and review the lectures at home - roughly 30 minutes per an hour lecture.

Course Content, schedule and outlines:

Lectures:
1. Red Blood Cells – Structure and Function
2. Hematopoiesis & Aplastic Anemia
3. Introduction to Anemia
4. Enzymopathies
5. Autoimmune Hemolytic Anemia
6. Hemmoglobinopathies
7. Iron Metabolism
8. B-12 and Folate Deficiency
9. Blood Groups
10. Use of Blood Components
11. Transfusion Transmitted Diseases
12. Introduction to Leukemia
13. ALL
14. CMPD + CML
15. Stem Cell
16. FACS
17. AML
18. MDS
19. Multiple Myeloma
20. Introduction to Lymphoma
21. Non Hodgkin’s Lymphoma
22. Hodgkin's Lymphoma
23. Chemotherapy
24. Coagulation system and tests
25. Congenital Bleeding Disorders
26. Platelets Disorders Quantitative
27. Platelets Disorders Qualitative
28. Anti Coagulation Drugs
29. DIC
Required reading:

1. Harrison’s, Principles of Internal Medicine. 18th ed. 2012;
   Part 2- hematologic alteration:
   Chapter 57 anemia, polycitemia pp 448-457
   Chapter 58 bleeding, thrombosis pp 457-464
   Part 7 -Hematopoietic Disorders: Section 2, pp844-958,
   Disorders of hemostasis : Section 3, pp 965-988


Additional literature:
Additional reading: as provided by teachers

* All learning material will be available to the students on the course’s website (Moodle)/ library/ electronic documents available to BGU students.
### Course Description:

#### Aims of the course:

The goals of the Histology course are to:

- Provide the students with the basic skills necessary to identify and understand the properties of human tissues including their organization, function and microscopic appearance.
- Present the basic histological techniques used to prepare and study the microscopic structure (substructure) of cells, tissues and organs.
- Lay the basic foundation of knowledge for understanding the histology of organs and systems as will be studied in the second year.

#### Objectives of the course:

Recognition of specific tissues and organs and understand the link between structure and function on the cellular and tissue levels. In addition, students will develop expertise identifying histological features.

#### Learning outcomes of the course:

On successful completion of the course, the student should be able to:

1. Identify all basic tissues
2. Analyze a histological slide to identify the tissue properties
3. Demonstrate a clear understanding of the link between structure and function of tissues

#### Attendance regulation:

- Lectures – optional
- Labs - mandatory

#### Teaching arrangement and method of instruction:

- Frontal lectures, lab sessions, self-study.

#### Assessment:

- U.S.-style Multiple Choice Test (60%)
- Practical exam (30%)
- 10 Weekly laboratory quizzes (10%)

#### Work and assignments:

- Laboratory attendance and quizzes throughout the semester

#### Time required for individual work:

In addition to attendance in class, the students are expected to do their assignment and individual work: reading the relevant text book chapters and analyzing the slide preparations available to them via the internet. Due to the method of the course, students are required to study and review the lectures at home. Roughly 30 minutes per hour lecture plus about 2 hours per laboratory session.
Module Content/schedule and outlines:

1. Introduction, Tools and Methods of Study
2. Peripheral blood
3. Epithelia and Glands
4. Connective tissue
5. Striated muscle
6. Smooth muscle, Cardiac muscle, Blood vessels
7. Bone and cartilage
8. Essential organization of the nervous system
9. Respiratory
10. Lymph and spleen
11. Gastrointestinal tract
12. Kidney and urinary system

Required reading:
2. Junquierra, Basic Histology

Additional literature:

* All learning material will be available to the students on the course's website (Moodle)/library/electronic documents available to BGU students.
| **BGU Credits:** | 3.0 |
| **Academic year:** | 2019-20 |
| **Semester:** | Autumn semester |

**Hours of instruction:**
- Sundays 8:45am-10:00am
- 10:15am-11:30 am
Class sessions: Total 20 hours

**Language (instruction and exam):**
- English

**Cycle:** 1st

**Position:**
- Mandatory course

**Field of Education:** MD

**Responsible department:** MSIH (via Dept. of Clinical Biochemistry & Pharmacology)

**General prerequisites:**
- Cell biology

**Grading scale:**
- Honors/Pass/Fail

**Course Description:**
The immune system in health and disease

**Aims of the course:** To describe the immune system and explain how it contributes to health and disease.

**Objectives of the course:** To understand the molecular and cellular bases of the immune response

**Learning outcomes:**
- On completion of the course, students should be able to:
  1. Describe the cellular and molecular mechanisms involved in immune response to infection.
  2. Explain the molecular and cellular mechanisms underlying diseases caused by deficiencies in components of the immune system.
  3. Explain the consequences of immune hyper-reactivity.

**Classes include:**
Organization of the immune system, innate immunity, antigen recognition, lymphocyte development, adaptive immune responses to infection, hypersensitivity, autoimmunity, immune deficiencies, transplantation, cancer.

**Attendance regulation:**
Optional. However, 20% of the grade is from in class case studies.

**Teaching arrangement and method of instruction:**
The course will primarily be a “flipped” classroom. The students will complete assignments to prepare for class. Class sessions will use a team-based learning approach to acquire a deeper knowledge of the immune system and to apply basic concepts to clinical scenarios.
Assessment:
1. Completion of pre-class quizzes 15%
2. In class case studies 20%
3. NBME exam 65%

Work and assignments:

Pre-class quizzes. Before each class, students will complete an open book quiz to ensure readiness for class.

In class problems. During class students will work in groups to solve problems related to clinical scenarios. At the end of each class, the group will hand in answers that will be graded.

Final exam. The final exam will be held at the end of the course. The exam is comprised of 50-70 multiple choice questions, of which at least half are patient-case oriented and require familiarity with basic clinical terminology. The format is computer-based in accordance with USMLE; the duration is calculated as 90 seconds per question.

Class Sessions:
1. Overview of the Immune System
2. Innate Immunity
3. Antigen Recognition: T and B Cell Receptors
4. Antigen Recognition: Processing of Ligands for T Cells/MHC
5. Lymphocyte Development
6. Adaptive Immune Responses to Infection
7. Immune Response at Mucosal Surfaces/ Pathogen Evasion of the Immune Response
8. Hypersensitivity
9. Autoimmunity and Immune Deficiency Diseases
10. Transplantation and Cancer

Required reading:
The Immune Response to Infection, Deborah Lebman
An interactive, electronic textbook (tophat.com). The pre-class assignments will be in this format.

Case Studies in Immunology (7th Edition), Raif Geha and Luigi Notarangelo

Pre-class reading and quizzes will be available on tophat.com.
Case studies will be available on the course page.
**Course title:** Introduction to basic research techniques in the basic sciences for medical students

**Course # 481-8-9065**

<table>
<thead>
<tr>
<th>General Information</th>
<th>Course Details</th>
</tr>
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<tbody>
<tr>
<td><strong>Credits:</strong> 2.5</td>
<td><strong>Course Description:</strong> Introduction to the biomedical research laboratory and common research tools used.</td>
</tr>
<tr>
<td><strong>Academic Year:</strong> 2019-20</td>
<td><strong>Aim of course:</strong> Provide knowledge and understanding of various research techniques and approaches used in biomedical research. To advance understanding of how a research laboratory can serve as a practical setting for the verification of a research hypothesis.</td>
</tr>
<tr>
<td><strong>Semester:</strong> 2nd</td>
<td><strong>Course implementation:</strong> Course will be divided into both theoretical/frontal lecture approach as well as &quot;hands on&quot; bench work setup according to the course schedule.</td>
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<td><strong>Duration:</strong> 4 hours/week</td>
<td><strong>Course Outline:</strong></td>
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<td><strong>Number of participants:</strong> 8</td>
<td><strong>First week:</strong></td>
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<td><strong>Location:</strong> Research laboratory in Medical Faculty.</td>
<td>A. Introduction to the course and how it will be implemented.</td>
</tr>
<tr>
<td><strong>Language:</strong> English</td>
<td>Emphasis on the structure of course and basic course requirements.</td>
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<tr>
<td><strong>Degree:</strong> MD</td>
<td><strong>B. Introduction and background to scientific research</strong></td>
</tr>
<tr>
<td><strong>Course Head:</strong> Dr. Joy Kahn.</td>
<td>This will include:</td>
</tr>
<tr>
<td><strong>Lecturer:</strong> Dr. Joy Kahn</td>
<td>• A screening of the various models used in research and their advantages/disadvantages: Cells, Tissue, animal models and isolated systems such as biochemical methods using purified proteins.</td>
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<tr>
<td></td>
<td>• Basic important terms: false positive, negative control, positive control, double blind etc.</td>
</tr>
<tr>
<td></td>
<td>• From the research lab to the clinic and vice versa: Research starting on the bench and culminating in clinical trials or alternatively, understanding the biological mechanism of a clinical manifestation</td>
</tr>
<tr>
<td></td>
<td>• Introduction to practical/bench work that will be conducted in the course. Students will be introduced to the concept of how a clinical phenomenon can raise questions leading to basic research. They will be presented with a clinical manifestation and together we will raise questions and a hypothesis regarding the biological mechanisms that may be involved. These research questions will serve as the basis for all the practical laboratory work and we will utilize various laboratory techniques/tools to answer these questions.</td>
</tr>
</tbody>
</table>
Clinical research versus basic science.

Lab sessions (Week 2-12):
One week prior to meeting, students will be referred to reading material which will be mandatory for preparing them for the upcoming laboratory.

Structure of meeting:
- Biological question and hypothesis leading to use of specific technique.
- Introduction to the lab technique to be learned that week: Eg: Cloning of a gene of interest for protein expression in cells.
- Understanding the rationale behind use of the specific technique and the necessary theory needed for understanding the methodology.
- Students will be given a worksheet of the lab assignment to guide them through the laboratory work of the particular session which we will go over together.
- Students will be divided into pairs (4 groups of 2 each)
- With the guidelines of the worksheet and in my presence students will then complete the lab assignment on a practical level.
- Session will be briefly summarized.
- Students, in pairs will be required to hand in a brief written report presenting the aims, materials and methods, results and conclusions of the lab sessions.

Concluding Lecture/Final Week:
This will be presented by 2 researchers:
- An MD/Ph.D., a clinician who will share his personal career path, and the different challenges and requirements in pursuing this direction.
- A Ph.D. senior scientist who focuses on basic scientific research. He will present his career history, his research and the advantages and disadvantages in this career choice. Time will be left for questions.

Assessment: Laboratory reports
Teacher’s evaluation

Work and assignments:
Summarizing the entire project at the end of the course
**Name of the course:** Introduction to Global Health and Medicine 2018-2019

**Number of course:** 481-8-1070

**Fall Semester**

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<td>Hours of instruction:</td>
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<td>Field of Education:</td>
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<td>Responsible department:</td>
<td>MSIH</td>
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<td>General prerequisites:</td>
<td>Successful completion of all prior courses</td>
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<td>Grading scale:</td>
<td>Honors/Pass/Fail</td>
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<tr>
<td>Lecturers:</td>
<td>Prof. Mark Katz, Dr. Anat Rosenthal, Prof. Carmi Margolis</td>
</tr>
<tr>
<td>Teaching Assistants:</td>
<td>Dan Weksler Derri</td>
</tr>
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</table>

**Course Description**

**Aims of the course:**

This course aims to equip students with critical perspectives and context they will need as clinicians in resource-poor settings, and as global citizens in our increasingly small and interdependent world.

**Objectives of the course:**

The introduction to global health course will familiarize students with broad topics in global health, exploring social determinants of global health and global disease burden, and selected areas such as child survival and vaccine-preventable diseases, Ebola, Zika virus, HIV/AIDS, tuberculosis, and malaria. The course will provide a historic context to global health, and focus on topical global health issues. We will emphasize how we must view health problems as global wherever they occur. We will also stress the importance of looking for solutions to health problems as potentially coming from low and middle (LMIC) to high income countries (HIC), and we will address the more traditional view that HICs can solve LMIC health problems.

**Learning outcomes of the course:**

On successful completion of the course, the student should:
1. Recognize social determinants of global health and disease burden
2. Understand the historic context to global health and topical GH issues
3. Be able to address solutions to health problems
4. Understand the importance of the local context, and how it fits with the global perspective
5. Be familiar with the literature related to global health from scientific publications and journals

**Attendance regulation:** Mandatory

**Teaching arrangement and method of instruction:**

Teaching methods will combine interactive lectures and ‘flipped classroom’ techniques with case-based exercises. In addition students will give brief presentations on topical subjects. Because much global health work requires a skilled approach to teamwork and coalition building, exercises and evaluations will focus in part on group activities. Efforts will be made to expose students to potential role models in global health clinical practice and global health research.
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<th>Assessment:</th>
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<tr>
<td>Emails:</td>
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</tr>
<tr>
<td><a href="mailto:katzmar@post.bgu.ac.il">katzmar@post.bgu.ac.il</a></td>
<td>40% group presentation – final project</td>
</tr>
<tr>
<td><a href="mailto:anatros@bgu.ac.il">anatros@bgu.ac.il</a></td>
<td>20% class attendance and participation</td>
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<tr>
<td><a href="mailto:mcarmi@bgu.ac.il">mcarmi@bgu.ac.il</a></td>
<td></td>
</tr>
<tr>
<td><a href="mailto:danwek@post.bgu.ac.il">danwek@post.bgu.ac.il</a></td>
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<th>Course evaluation:</th>
<th>Work and assignments:</th>
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<tbody>
<tr>
<td>Honors/Pass/Fail</td>
<td>Individual presentation: each student will choose a topic related to global health and deliver an 8-10-minute presentation followed by a 5-7 minute discussion on the subject.</td>
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<table>
<thead>
<tr>
<th>Office hours:</th>
<th>Group presentation: For a final project, students will be split into 5-6 groups. Each group will be tasked with making a pitch in order to solicit funding for a global health intervention. The pitch will involve an oral presentation of no more than 12 minutes.</th>
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<tr>
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<tr>
<th>Confirmation:</th>
<th>Time required for individual work:</th>
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<tbody>
<tr>
<td>2019-20</td>
<td>In addition to attendance in class, the students are expected to read the relevant materials listed in the syllabus in order to be prepared for each session.</td>
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<table>
<thead>
<tr>
<th>Last update:</th>
<th>Course Content\ schedule and outlines:</th>
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<tbody>
<tr>
<td>Summer 2019</td>
<td>See below</td>
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<tr>
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<td>Required reading:</td>
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<td>(See course schedule)</td>
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<th>Additional literature:</th>
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<table>
<thead>
<tr>
<th>1. Introduction: What is Global Health? (Sept. 9, 2019)</th>
<th>Required reading:</th>
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<table>
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<tr>
<th>Additional reading</th>
<th></th>
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<tbody>
<tr>
<td>Required</td>
<td>Case study: 4 cases from the Social Medicine course at Harvard Medical School.</td>
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<td>--------------------------------------------------------------------------</td>
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</table>
| **2. Global Burden of Disease and Social Determinants of Health (September 25, 2019)** | Required:  
Suggested:  
| 3. Epidemics and Pandemics (October 2, 2019) | Case study: It’s Potluck -Who’s Bringing the Salmonella?  
No need to read the case study in advance, we will go over it in class* |
| Required: |  
Additional:  
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|   |   |
|   |   |
|   | Required:  |
|   | Additional:  |

|   |   |
|   | Required:  |
|   | Additional:  |
|   |   |

|   |   |
|   | Required reading:  |
|   | 1. Filc, D. and Davidovitch, N. Rethinking the private–public mix in health care: analysis of health reforms in Israel during the last three decades.  |

Additional reading:
http://www.euro.who.int/__data/assets/pdf_file/0009/302967/Israel-HiT.pdf?ua=1
**Name of the course: Introduction to Oncology**

**Number of course: 481-8-1063**

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<td>Cycle:</td>
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<td>Position:</td>
<td>Mandatory course</td>
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<td>Field of Education:</td>
<td>MD</td>
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<td>Responsible department:</td>
<td>MSIH</td>
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<tr>
<td>Grading scale:</td>
<td>Honors/Pass/Fail</td>
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**Course Description:**

**Aims of the course:**
Introduction to the treatment of patients with cancer.

**Objectives of the course:**

1. Explore the molecular basis of cancer and how that understanding impacts on treatment.
2. Learn the approach to framing the goals of treating the individual patient: curative, palliative or something in between.
3. Study the basics of cancer chemotherapy, including immunotherapy.
4. Learn about surgical oncology and the importance of multidisciplinary care in cancer treatment.
5. Introduce the basic principles of radiation therapy.
6. Learn about the profession of radiation oncology and the training for it.
7. Explore biologic and personalized therapy of cancer.
8. Introduction to hospice and palliative care
9. A look at cancer treatment in the developing world
10. Consider the financial burden of cancer therapy.
11. Present a series of ethical dilemmas in cancer care.
12. Examine some of the psychological aspects of oncology.
13. Show the process of cancer treatment from the patient’s point of view.
14. Present examples of complementary medicine in cancer care

**Learning outcomes of the course:**

On successful completion of the course, the student should be able to:

1. Define what cancer is on a molecular level.
2. Know the difference between curative and palliative cancer care.
3. Know when radiotherapy can be useful and how it works
4. Know when chemotherapy can be useful and some of the mechanism of actions of drugs.
5. Understand what is meant by biologic and personalized therapy.
6. Analyze various ethical dilemmas that occur in patient care in oncology and propose solutions.
7. Identify the different medical and paramedical specialists needed to give comprehensive care including hospice and palliative care.
8. Know about types of complementary medicine that can be useful in oncology patients
9. Be aware of the challenges of costs of cancer care and of delivering cancer care in the developing world.
10. Know about the profession of radiation oncology and the training pathways to enter the field.
### Attendance regulation
Required

### Assessment
Presentation and discussion

### Teaching arrangement and method of instruction:
- Lectures
- Small group discussions
- Group/individual presentations

### Time required for individual work:
In addition to attendance in class, the students are expected to do read at least 2-3 journal articles and discuss with their small group members how to present the article(s) to the rest of the class.

### Course Content\ schedule and outlines:
**Day 1:**
1. The Science and the Practice of Oncology
2. Patient Interview:
3. Surgical Oncology
4. Radiation Oncology-
5. Medical Oncology-

**Day 2:**
6. Palliative medicine and hospice care
7. The Art of Oncology
9. Applied molecular biology: Personalized cancer therapy II
   - Psyco-oncology-

**Day 3:**
10. Integrative medicine
11. Oncology priorities in countries with limited resources and the financial toxicity of therapy
12. Cancer drug development and the pharmaceutical industry
13. Radiation Oncology and Radiation Oncologists
14. The patient’s point of view: Doctor- patient and doctor-doctor communication

### Required reading
Articles to be sent to the students before the course.

* All learning material will be available to the students on the course's website (Moodle)/ library/ electronic documents available to BGU students.
Course: Introduction to Patient Interview in Hebrew
Course # 481-8-1045

**Course Description:**
The Clinical Interview in Hebrew”. This theme is aimed at focusing the rudiments of Hebrew acquired in the first semester Hebrew Language course towards “Clinical Hebrew”, whilst exposing the student to the patient interview as a technique. This course along with the 2nd year “Communication and physical examination skills” course is designed to teach each medical student the basic clinical skills needed for medical practice. These skills include effective communication, scheme-based history taking, physical examination, formation of an initial diagnostic plan, interpretation of basic diagnostic studies and articulate clinical case presentation.

**Aims of the course:**
The primary aim is to develop clinical interview skills by re-organizing the information acquired in layers, from the early stages of basic sciences, through clinical sciences to “systems”, and applying it to patient interactions. This course will serve as the foundation for the 2nd year “Communication and physical examination skills” course.

**Objectives of the course:**
1. Provide the ability to perform a skilled and efficient basic clinical interview.
2. Integrate clinical Hebrew skills into the clinical interview.
3. Communicate effectively with patients and families across a broad range of socioeconomic and cultural backgrounds
4. Communicate with sensitivity, honesty, compassion and empathy.

**Learning outcomes of the course:**
On successful completion of the course, the student should be able to:
1. Perform a basic clinical interview in Hebrew/English
2. Use a wide clinical Hebrew vocabulary,
3. Communicate using language that is clear, understandable, and appropriate to each patient.

**Attendance regulation:**
Attendance is compulsory and the course is assessed by means of TAs’ evaluations

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**BGU Credits:** 1
**ECTS credits:**

**Academic year:**
2019-20

**Semester:**
2nd semester

**Hours of instruction:** 26
Monday - 16:00- 18:00

**Location of instruction:**
1. Soroka University Medical Center
2. Dichman Building, faculty of health sciences Ben-Gurion University

**Language of instruction:**
English
Hebrew

**Cycle:** 1st

**Position:** Mandatory course

**Field of Education:**
MD

**Responsible department:**
MSIH

**General prerequisites:** 1st semester
Hebrew Language Courses

**Grading scale:**
Personal TA evaluation

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Ben-Gurion University of the Negev
The Medical School for International Health
Teaching arrangement and method of instruction:
A series of 12 weekly sessions throughout the second semester of the first year. Students will meet together for each two-hour session in the hospital wards. The students will be divided into learning groups according to Hebrew language proficiency. Students begin by practicing interviews in English before implementing Hebrew skills.

Demonstrations and practice with interview skills will be principally carried out in small groups supervised by TAs’. Debriefing and feedbacking will be following each learning encounter.

Assessment:
Personal TA evaluation(s): 100%

Work and assignments:
Every year in the first meeting, the class is introduced with the general instructions and assignments of the course. Group assignments are given individually by TA’s according to the group level.

Time required for individual work:
In addition to attendance in class, the students are expected to do their assignment and individual work: 3-4 weekly hours.

Required reading: Course booklet

Additional literature: No

* All learning material will be available to the students on the course’s website Moodle/library/electronic documents available to BGU students.
**Name of the module:** Medical Ethics  
**Number of module:** 481-8-1080

**Course Description:**

**Aims of the module:** The goal of the module is to introduce students to the discipline of medical ethics.

**Objectives of the module:** Objectives are to enable students to identify the various ethical issues that arise in the practice of medicine and analyze them from different ethical perspectives including principlilism, casuistry, relational and religious.

**Learning outcomes of the module:** On successful completion of the course, the student should be able to:

1. Identify ethical issues in the practice of medicine
2. Analyze the issues from different ethical perspectives
3. Define euthanasia, passive euthanasia and physician assisted suicide
4. Understand the financial incentives that can cause ethical conflicts in the practice of medicine
5. Describe the unethical behavior of Nazi physicians and its impact on the development of the Helsinki code
6. Analyze the ethical arguments for and against artificial reproduction and abortion
7. Understand the various laws relating to medical ethics that are relevant in Israel and contrast them to laws in other countries including the Patients-Rights law, Abortion, Terminal Patient Law and the Brain Death Law
8. Define professionalism and how it relates to the physician
9. The ethics of triage
10. Ethical issues in global medicine e.g. risk taking and allocation of scarce resources

**Attendance regulation:** Attendance to all sessions of the course is mandatory.

**Teaching arrangement and method of instruction:** Instruction in the module is based on frontal oral lectures, case-based discussions, videos.
Assessment:
Students will be assessed by attendance in the course

Work and assignments: Students are required to participate in the classroom discussions and do the assigned readings

Time required for individual work: in addition to attendance in class, the students are expected to do their assignment and individual work:

Module Content
schedule and outlines:
1. To be a physician
2. Ethical responsibility of the student
3. Physician-Patient Communication
4. Medical Ethics

Required reading:
Students are expected to read the lectures as presented as ppt presentations and the supplementary readings.

2. L van Winkle. The Complete Physician
3. Responsibility for integrity lies first with students: J.C. Jennings, Albert Einstein College of Medicine, Yeshiva University
4. 2 pages from The Death of Ivan Ilyich by Tolstoy which presents a classic example of alienation between physician and patient.
   - When You Come Into My Room. JAMA. 276: 512,1996
   - Beachamp and Walters 2nd Ed. Major Ethical Principles. Contemporary Issues in Bioethics

*All learning material will be available to the students on the module’s website (high-learn)/ library/ electronic documents available to BGU students

Lecturer: Prof Alan Jotkowitz
Contact details:
0503331585
Email: ajotkowitz@hotmail.com

Course evaluation:
At the end of the semester the students will evaluate the course, in order to draw conclusions, and for the university's internal needs

Confirmation:
2019-20

Last update: 6/2019
| **BGU Credits:** | 4 |
| **ECTS credits:** | |
| **Academic year:** | 2019-20 |
| **Semester:** | 1 |
| **Hours of instruction:** | |
| **1st Semester Lectures:** | 39 |
| **Laboratories:** | 26 |
| **Location of instruction:** | Faculty of Health Sciences classrooms |
| **Language of instruction:** | English |
| **Cycle:** | 2nd degree |
| **Position:** | Basic science course. A passing mark is obligatory for students in the MD program. |
| **Field of Education:** | Medicine |
| **Responsible department:** | MSIH |
| **General prerequisites:** | None |
| **Grading scale:** | Honors/Pass/Fail |

**Course Description:**

Microbiology is an integrative course, reflecting the complexity of microbiology today. Its main goal is to furnish the student with sufficient background knowledge for understanding the origin of infectious diseases, the biology of disease-causing organisms, identification methods, and approaches to the control of microbial growth. The first semester includes Bacteriology.

The sessions in this course will be divided into frontal, standard lectures and case discussion lessons.

The case discussion lessons will be performed on the basis of clinical case presentation, and a review of the theoretical background through the cases. This way of learning requires intense and committed pre-session reading, in order to be prepared for the clinical discussion.

A list of required reading from the course's textbook "Medical Microbiology" by Murray will be published.

Because of the cooperative nature of the case-discussion sessions, attendance in these classes will be mandatory, and each class will begin with a short quiz which will cover only the material of the following class (from the previous self reading requirements).

In addition, the course contains practical laboratories where students acquire basic knowledge on the methods currently used for the identification and characterization of the main human pathogens.

**Aims of the course:**

The purpose of the course is to expose the students to the world of microbiology and infectious disease.

**Objectives of the course:**

Teaching methods utilize frontal lectures and practical laboratories where students acquire basic knowledge on the methods currently used for the identification and characterization of the main human pathogens.
Learning outcomes of the course: On successful completion of the course, the student should be able to:

1. Recount the basic principles of microbiology, including microbial physiology and genetics, antibiotics, host-parasite relationships, and epidemiological concepts.

2. Discuss the ways in which bacteria cause disease in human and animals, antibiotic treatment, antibiotic resistance and the mechanisms involved.

3. Perform basic laboratory assays for the identification of a pathogen.

Attendance regulation:

Case discussion meetings - mandatory
Labs – mandatory

Assessment:

Bacteriology Quizzes:
There will be 8 quizzes, but only 6 will count for the final grade - the highest and lowest scores will not be included.

Final exam: 40%

Work and assignments:

Self-study of designated material before each case discussion.

Time required for individual work:

In addition to attendance in class, the students are expected to do their assignment and individual work:

Reading, lab-related work, and material review are estimated requiring 3-4 hrs/wk.

Required reading: Medical Microbiology, Murray.

* All learning material will be available to the students on the module's website (Moodle)/ library/ electronic documents available to BGU students.
**Name of the course:** Microbiology - 2  
**Number of course:** 481-8-1011

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<td>Field of Education:</td>
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<td>Responsible department:</td>
<td>MSIH</td>
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<td>General prerequisites:</td>
<td>1st cycle 481-8-2012</td>
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<tr>
<td>Grading scale:</td>
<td>Honors/Pass/Fail</td>
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**Course Description:**

**Aims of the course:**
Microbiology is an integrative course, reflecting the complexity of microbiology today. Its main goal is to furnish the student with sufficient background knowledge for understanding the origin of infectious diseases, the biology of disease-causing organisms, identification methods, and approaches to the control of microbial growth. The course includes topics from several disciplines such as bacteriology, virology, parasitology and mycology.

**Objectives of the course:**
Teaching methods utilize frontal lectures and practical laboratories where students acquire basic knowledge on the methods currently used for the identification and characterization of the main human pathogens. The second part of the course includes:

Part 2 – Virology, Parasitology, Mycology

One day will be dedicated entirely to AIDS including the structure of HIV, virus-host interactions, immunopathology of AIDS and AIDS-associated diseases.

**Learning outcomes of the course:**
On successful completion of the course, the student should be able to:

1. Identify viral, parasitic and fungal pathologies
2. Understand the lifecycles
3. Know basic pharmacology fo antivirals, fungus and parasitic agents

**Attendance regulation:**
Lectures: Mandatory  
Labs: Mandatory  

*Exam content will be taken from all the following:*

- Powerpoint presentations
- Class reading materials
- Oral presentations from the lecture

**Teaching arrangement and method of instruction:**
An integral set of frontal lectures in a classroom setting, laboratory training and laboratory assignments should be submitted by the students.
Lecturer: Dr. Yael Golan

Contact details:
Office phone:
Email: golany860@gmail.com

Office hours:
To be announced at the first session

Course evaluation:
Debriefing at completion of all selectives.

Confirmation:
The syllabus was confirmed by the faculty academic advisory committee to be valid on August 2019

Last update: August 2019

Assessment:
6 quizzea – 50%
NBME exam and faculty written question: 50%

Work and assignments:
Clinical case presentation/lab reports

Time required for individual work:
Reading, lab-related work, and material review are estimated requiring 3-4 hours/week. Required reading will be assigned and/or during each class.

Required reading: Medical Microbiology, Murray.

Course content
1. Virology:
   a. Introduction to virology
   b. Influenza and Parainfluenza Viruses
   c. Other viruses causing respiratory infections
   d. Hemorrhagic Fever – SELF STUDY
   e. Hepatitis A, E
   f. Hepatitis B, C, D – SELF STUDY
   g. B-19 – SELF STUDY
   h. Gastroenteritis – SELF STUDY
   i. Retrovirus Replication and Human UTI
   j. Herpes Viruses – SELF STUDY
   k. CNS Viruses including Rabies
   l. Laboratory

2. Parasitology:
   a. Intestinal and urogenital protozoa
   b. Apicomplexa
   c. Haemoflagelates
   d. Nematoda (round worms)
   e. Trematoda and Cestoda

3. Mycology
   a. Common mycotic infections
   b. Fungal pathogens
   c. Cutaneous fungal infections
   d. Student presentations

Required reading:

Medical Microbiology: Murray

* All learning material will be available to the students on the module's website (Moodle)/ library/ electronic documents available to BGU students.
### Course Description:

#### Aims of the course:
To convey to the students how genetic information and its processing in the cell affect health and how our abilities to measure them are changing diagnosis and therapy.

#### Objectives of the course:
At the cellular level, molecular trafficking across membranes (passive and active transport, Phagocytosis, pinocytosis and receptor mediated endocytosis), targeting (endoplasmic reticulum and lysosomes, protein secretion and membrane targeting) and the involvement of the cytoskeletal components (microfilaments, microtubules and intermediate filaments) in these and other cellular processes will be considered. We will also explore the molecular bases of protein degradation (eg. ubiquitination), programmed cell death (apoptosis) and cancer progression (oncogenes and tumor suppressor genes).

At the molecular level, we explore the use of information by the cell and show how aberrations or changes in cell information content and its processing are associated with phenotypic variation and disease. We will show how the basic elements of information processing in the cell have become key tools in diagnosis (PCR, polymorphism screening, expression analysis). We will demonstrate how advances in reading and decoding the human genome offer prospect for better diagnosis and therapy.

#### Course Content:
Modules are separated into Cellular and Molecular topics. Within these two subdivisions, the material will be presented in the order shown below. However, contents from one subdivision will be interspersed with content from the other.

#### Learning outcomes of the course:
On successful completion of the course, the student should be able to:

1. Understand the basic structure/function basis of organelle activity
2. Demonstrate clear understanding of the basic cellular lifecycle
3. Understand and remember the molecular mechanisms involved in information propagation, processing, and change in the cell.
4. Discuss the ways in which these processes differ between prokaryotes and eukaryotes.
5. Understand how variation and changes in genetic information can affect phenotype and health.
6. Appreciate the integration of the molecular biological machinery and methodologies into medical procedures of diagnosis.
7. Discuss some future directions with respect to molecular biology and diagnosis or therapy.
MOLECULAR BIOLOGY Content (See next page for outline):

- This part of the course focuses on how the cell deals with genetic information. Basic pathways are covered in the first, largely self-study, modules of the course. The course then moves to consider in more detail the mechanisms and implications of change and variation in the human genome on health and disease. Finally, it finishes by showing how the fast-developing technologies of molecular biology are changing the practice of diagnosis and perhaps, in the future, therapy.

CELL BIOLOGY Content (See next page for outline):

- Membranes structure and function
- Trans-membranal transport
- Endocytosis
- Cytoskeleton: microfilaments, Microtubules, Intermediate filaments
- Protein sorting: Endoplasmic reticulum and Golgi apparatus
- Mitochondria
- Protein degradation: Ubiquitin
- Programmed cell death apoptosis
- Biology of Cancer

Assessment:

Cellular Biology: 35%

- Multiple-choice NBME test

Molecular Biology: 65%

- 25% Quiz marks
- 75% Multiple-choice final exam - Lecturer-constructed.

Time required for individual work: In addition to attendance in class, students are expected to do assigned self-study, assignments, PBL work, and quizzes. Students are required to study and review lectures at home (30 mins/hour lecture)

Required reading:

Molecular Biology:

- Additional material in Moodle and course website.

Cell Biology:

The Cell: A Molecular Approach 6th Ed. Cooper & Hausman

- Relate to the Key Experiment and Molecular Medicine vignettes as well as the relevant summary and key terms at the end of the Chapter.
- Similar material can be studied from other editions of the same textbook.
- Power Point presentations on each of the subjects are available in Moodle
Course Outline:

MOLECULAR BIOLOGY:
- Introduction: Course structure and Learning tools (Frontal)
- Rash diagnosis and discussion. (PBL, Wiki-based with final discussion. This module runs the length of the course.)
- The Molecular Biology Core (These modules are mostly self-study with associated quiz and tutorial)
  - DNA and Replication (Self-study, quiz, tutorial)
  - Transcription (Self-study, quiz, tutorial)
  - Translation (Self-study, quiz, tutorial)
  - Gene Regulation (Self-study and frontal, quiz, tutorial)
  - DNA damage and repair (Self-study, quiz, tutorial)
  - Recombination (Frontal, quiz, tutorial)
  - Recombinant DNA technology (Self-study, quiz, tutorial)
  - Challenge: Make fluorescent E.coli (Exercise and frontal discussion)
- The Human Genome in sickness and health
  - Genome geography (Self-study, quiz, tutorial)
  - Meaning in the genome (Frontal - discussion)
  - Genome variation and its consequences (Frontal, quiz, tutorial)
  - DNA diagnostics (Frontal, quiz, tutorial)
  - Challenge: Diagnoses - gene known, gene unknown (Exercise and frontal discussion)
  - Genome Pathology: Cancer and diagnostics tools (Self-study, quiz, tutorial)
  - Challenge: primary tumor identification (Exercise and frontal discussion)
  - PBL conclusion (Frontal - discussion)
- The future. Big data, disease, and gene therapy (Frontal - discussion).

CELL BIOLOGY:
- Lecture 1: Cytoskeleton (1)
- Lecture 2: Cytoskeleton (2)
- Lecture 3: Protein Sorting and Transport (1)
- Lecture 4: Self-study subjects:
- Lecture 5: Protein Sorting and Transport (2)
- Lecture 6: Self-study (complete self-study material of lecture 4 and see movie)
- Lecture 7: Chapter 8-Protein degradation (ubiquitin-proteosome). Pp 335-341
- Lecture 9: Cancer (2)
Name of the course: On Being a Doctor 1&2
Number of course: 481-8-1055/1056

Course Description:

Aims of the course: Introduction to a selection of the many personal, interpersonal and societal issues surrounding the practice of medicine.

Objectives of the course:

1) Identify positive physician behavior worthy of emulation.
2) Appreciate the value of continuity of care in medicine.
3) Appreciate the power that physician’s words have on patients.
4) Learn important aspects of the economics of health care.
5) Learn some important psychologic concepts: Nature, nurture, first adaptations, attachment, temperament, understanding adult thinking, sexual history and confidentiality.
6) Identify both the benefits and conflicts of interactions with medical related industry and how to deal with the conflicts.
7) To gain insight into the approach to the dying patient and to the family after the patient’s death.
8) Start to be prepared for integrating professional and personal life.
9) Appreciate the value of older colleagues and how to relate to younger students and colleagues.
10) To consider the doctor’s health and well being
11) To think about when the doctor becomes the patient
12) To discuss issues in humanistic professionalism
13) To anticipate ethical dilemmas
14) Learn how to approach and treat patients with disabilities
15) Learn from a long time practicing gastroenterologist lessons from practice and how to deal with friends becoming patients.

Learning outcomes of the course: On successful completion of the course, the student should be able to

1. Articulate and remember the positive behaviors of physicians.
2. Articulate and remember the value of continuity of care and the long term influence of physicians on their patients and visa versa.
3. Understand many of the challenges facing both patients and doctors in dealing with the cost of health care.
4. Identify conflicts of interests when dealing with the health related industry and some techniques for navigating them.
5. Better manage the dying patient and behavior toward the family after the patient’s death. (continued on last page)
6. How to better manage the balance between personal and professional life.
7. Be more comfortable in working with colleagues of all ages.
8. Have the psychologic framework for a better understanding of patient behavior

Attendance regulation: Attendance is mandatory

Teaching arrangement and method of instruction: Team based learning, frontal presentations, journal articles to read prior to class.
Assessment:
Class participation.
Presentation of articles.
Mandatory attendance

Time required for individual work: in addition to attendance in class, the students are expected to do their assignment and individual work:

Most work will be done in class. Most weeks there will be 1 or more short articles to read before class.

Module Content\ schedule and outlines:

(First semester)
1. What I wished my doctor would have said/not said, done/not done.
2. The power of words and continuity in medicine.
3. Health Economics
4. Physicians and the pharmaceutical/ medical equipment industries.
5. Psychosocial aspect of practicing medicine from a psychologist’s point of view (4 session sub-module , Dr. Michael Weinstein, instructor).
6. Managing the dying patient- the movie “Wit”
7. After a patient dies what should the physician do?
8. Balancing personal and professional life and obligations.
9. Relationships with colleagues, older and younger.

(Second semester)
10. “What am I doing in THIS seat?” When the doctor becomes the patient.
11. Caring for the Carer: First Do No Harm … To yourself
12. Humanistic professionalism
13. Ethical dilemmas
14. Friends as patients and other lessons learned from clinical practice.
15. How to approach and treat patients with disabilities
16. Sexual abuse and other sexuality issues in practice
17. Have the psychologic framework for a better understanding of patient behavior
18. To be prepared to handle ethical dilemmas and make appropriate decisions.
19. To be able to care for people with disabilities in an appropriate manner
20. To be able to discuss with patients matters of sexuality and recognize sexual abuse
21. To be able to handle personal illness as a physician and to be aware of personal well being practices.

Required reading: required articles will be placed on Moodle the week before each session.

Textbook:

Additional literature: Much of the course will be based on the series of articles in the Annals of Internal Medicine, entitled “On Being a Doctor”
Name of the course: Pathology  
Number of course: 4881024

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<td>ECTS credits:</td>
<td>Aims of the course:</td>
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<td>Academic year: 2019-20</td>
<td>Students should understand the molecular and cellular mechanisms of disease, and how those mechanisms translate into the clinical presentation and lab results of the patient. The course will focus on general pathology: that is, how all human tissues in general become diseases (eg, respond to injury or become cancerous), as opposed to systems pathology (the differences between how specific organs respond to injury or become cancerous, aka “second year of medical school”). We will also cover systemic disease - those diseases which affect the entire body.</td>
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<td>Semester: 2</td>
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<td>Hours of instruction:</td>
<td>● To lay the groundwork for the recurrent themes of systems pathology</td>
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<tr>
<td>Location of instruction:</td>
<td>● To give the basic tools for understanding the significance of terms frequently used in surgical pathology reports</td>
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<tr>
<td>Faculty of Health Sciences classrooms</td>
<td>● To help understand the consequences and the risks for complications when tissues suffer lethal or non-lethal injuries</td>
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<td>Language of instruction: English</td>
<td>Learning outcomes of the course:</td>
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<tr>
<td>Cycle: 1st</td>
<td>The student should be able to describe and recognize the evolution of disease in terms of etiology, pathogenesis, molecular / cellular / morphologic abnormalities, and clinical manifestations of the following general and systemic processes:</td>
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<tr>
<td>Position: Mandatory course</td>
<td>1. Cell injury, death, and adaptations</td>
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<tr>
<td>Field of Education: MD</td>
<td>2. Acute and chronic inflammation</td>
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<td>Responsible department: MSIH</td>
<td>3. Tissue renewal, repair, and regeneration</td>
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<td>General prerequisites: Successful completion of all prior courses</td>
<td>4. Hemodynamic disorders</td>
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<td>Grading scale: Honors/High Pass/Pass/Fail</td>
<td>5. Diseases of the immune system</td>
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<td>Attendance regulation:</td>
<td>6. Neoplasia</td>
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<td>Lectures - optional, unless otherwise specified in advance that a required quiz or group activity will be taking place.</td>
<td>7. Congenital (genetic and fetus-injury) disease</td>
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<tr>
<td>Labs - mandatory</td>
<td>8. Pediatric disease</td>
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<td>Teaching arrangement and method of instruction</td>
<td>9. Environmental and nutritional disease</td>
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<td>-Frontal lectures (some of which will be prepared by the students)</td>
<td>10. Infectious disease</td>
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<td>-Laboratories</td>
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<td>-Group assignments</td>
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<td>Time required for individual work:</td>
<td>In addition to attendance in class &amp; labs, the students are expected to do their assignments and individual work: Roughly 30 mins/hour of corresponding lecture and lab, plus additional time for entirely self-study topics</td>
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Assessment:
Laboratory + In-class quizzes: 10%
NBME test: 90%

Course Content and Required Reading
The final exam is composed of multiple choice questions provided by the NBME. As such, any material that the NBME (read: USMLE) finds “testable” is liable to come up on the exam, that corresponds to the first nine chapters of “Robbins Basic Pathology, Tenth Edition” (in the course referred to as “RBP”). The lectures, labs, and self-study material will follow this content:

1. The Cell as a Unit of Health and Disease
2. Cell Injury, Cell Death, and Adaptations
3. Inflammation and Repair
4. Hemodynamic Disorders, Thromboembolism, and Shock
5. Diseases of the Immune System*
6. Neoplasia
7. Genetic and Pediatric Diseases
8. Environmental and Nutritional Diseases
9. General Pathology of Infectious Diseases**

*For this course, students will not be asked about anything from the sections titled Autoimmune Diseases, Rejection of Transplants, or Immunodeficiency Syndromes. Those will be left entirely for other courses.

**At most, the exam will have just a very small number of questions from the concepts most heavily emphasized in RBP / Robbins and Cotran Review of Pathology / my lecture notes.

RBP covers the vast majority of relevant pathology material for the NBME. However, some topics are not covered in sufficient depth, and I will try to point those out as much as possible. The next “level up” is “Robbins and Cotran Pathologic Basis of Disease, Ninth Edition” (“PBD,” first 10 chapters) and for the most part covers significantly more depth than students need to know, but it does fill the RBP gaps quite nicely. Both RBP and PBD are available online for free via BGU library services at clinicalkey.com

Some lectures contain references to Up To Date articles. The referenced articles are recommended reading.

Recommended practice materials include:

- Robbins and Cotran Review of Pathology
- Lippincott's Illustrated Q&A Review of Rubin’s Pathology
- Any other question bank of USMLE style questions you can find
- Lab references
- Lab 1 - Chapter 2: Cellular Responses to Stress and Toxic Insults: Adaptation, Injury, and Death
- Lab 2 – Chapter 3: Inflammation and Repair
- Lab 3 – Chapter 4: Hemodynamic Disorders, Thromboembolic Disease, and Shock
- Lab 4&5 – Chapter 7: Neoplasia
- Lab 6 – Chapter 8: Infectious Diseases
- Lab 7 – Gaucher disease (Chapter 5), Necrotizing enterocolitis (Chapter 10), Meconium ileus (Chapter 10), Celiac Disease (chapter 17), Hirschsprung disease (Chapter 17)
Name of the course: Pharmacology
Number of course: 481-8-1022

BGU Credits: 3.5 credits.
ECTS credits:
Academic year: 2019-20
Trimester: 2nd.
Hours of instruction: according to the academic schedule.
Location of instruction:
Faculty of Health Sciences classroom
Language of instruction: English.
Cycle: 1st.
Position: Mandatory course.
Field of Education: MD
Responsible department: MSIH and Clinical Biochemistry and Pharmacology.

General prerequisites: none.
Grading scale:
Honors/Pass/Fail.

Course Coordinator:
Prof. David Stepensky
08-6477381
davidst@bgu.ac.il
Office hours: will be set in coordination with the students.

Lecturers:
Prof. David Stepensky
Prof. Sigal Fleisher-Berkovich

Assistant teacher:
Sagi Shashar

Course Description:
The course introduces the fundamental mechanisms and principles of drug action, including the parameters that affect and determine the optimal use of drugs in a specific patient/population. These are intended to serve as a sound basis for the future long lasting involvement of the students with clinical pharmacology. The emphasized topics of this course are:

Pharmacokinetics – The absorption, distribution, metabolism and excretion of drugs, including factors such as genetic variability or disease states that may affect the pharmacokinetics.

Pharmacodynamics – Scientifically-based mechanisms of drug action. These are taught as interactions of a drug with human physiological systems and pathological factors that lead to pharmacological effects.

Specific detailed examples of common and important mechanisms of drug action will focus on drugs that affect the activity of the autonomic nervous system, autacoids, antibiotics and chemotherapy.

Aims of the course:
To acquire basic knowledge of pharmacology for different groups of drugs and of the processes governing drug action and use.

Objectives of the course:
To learn basic scientific concepts and principles that will serve as the foundation for understanding the pharmacology of specific drugs. To understand the pharmacology and clinical use of several classes of clinically-important drugs.

Learning outcomes of the course: On successful completion of the course, the student should be able to:

- To understand the fundamental scientific principles of drug action and the various mechanisms by which drugs can mediate their pharmacological effect.
- To understand the fundamental principles of pharmacokinetics that underly the absorption, distribution, metabolism and elimination of drugs in the body and thereby affect drug effectiveness.
- To get acquainted with the common serious side effects of drugs and with mechanisms of drug toxicity.
- To recognize that drugs have action at different systems, to be able to group drugs with common pharmacological actions, and appreciate that this classification is not absolute.
- To understand the pharmacology and clinical use of several classes of clinically-important drugs and to be sufficiently prepared to gather information on new drugs.

Teaching arrangement and method of instruction:
Frontal lectures, pre-recorded lectures, homework assignments, interactive discussions of case studies, classroom tutorials and quizzes.
**Course evaluation:**
A student debriefing will be undertaken at the completion of the course.

**Confirmation:** The syllabus was confirmed by the Faculty Academic Advisory Committee to be valid on 2019-20 academic year.

**Last update:** August 2019

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**Attendance regulation:**
- Frontal lectures – optional. Pre-recorded lectures – not needed.
- Interactive discussions of case studies, classroom tutorials and quizzes – mandatory (80%).

**Assessment:**
- Short quiz at the beginning of each interactive discussion of case studies – no grade.
- Quizzes – 30% of the total course grade (10% x 4 quizzes – lowest score dropped).
- NBME shelf test/faculty multiple choice test – 70% of the total course grade.
- Students must receive passing grades for the test itself (NBME/Faculty test) and after combining the test and the quiz grades.

**Time required for individual work at home:**
- 1-2 hr before each frontal lecture: for reading the accompanying textbooks (see the required reading below).
- 3-4 hr before each in-class activity (interactive discussion of case studies, classroom tutorial or quiz): for viewing the pre-recorded lectures, reading the accompanying textbooks (see the required reading below) and preparing the homework assignments.

**Recommended literature:**
Basic & Clinical Pharmacology, Katzung, 14th ed. 2018, or an earlier or later edition.
Rang & Dale's Pharmacology, 9th ed. 2019, or an earlier or later edition.

**Required reading for the individual topics:**
1. Introduction, General Characteristics of Drugs, Pharmacological Terms, Development of Drugs. Katzung, chapters 1 and 5.
5. ANS, Cholinergic Agonists, Direct & Indirect. Katzung, chapter 7.

* All learning material will be available to the students on the course's website (Moodle)/library/electronic documents available to BGU students.
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<th>Date/Time</th>
<th>Classroom</th>
<th>Mandatory</th>
<th>Type of activity</th>
<th>Title</th>
<th>Lecturer's name</th>
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<td>Week 1</td>
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<td>N</td>
<td>Frontal lecture</td>
<td>Introduction, General Characteristics of Drugs, Pharmacological Terms.</td>
<td>Prof. D. Stepensky</td>
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Unit 4. Antibiotics & Chemotherapeutic Drugs

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<td>Final exam. Details TBA by Ilana Shub, <a href="mailto:shubil@bgu.ac.il">shubil@bgu.ac.il</a></td>
<td>Prof. D. Stepensky</td>
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Name of the course: Physiology
Number of course: 481-8-1006

Course Description:
The Basic Physiology course will focus on four levels: cellular, tissues, organs, and systems.

Aims of the course:
The goal is to understand the relationship between structure and function and to create a basis for understanding the activity of organs and systems.

Objectives of the course:
A comprehension of fundamental physiology which will form the basis for the study of “clinical systems” next year.

Learning outcomes of the course: On successful completion of the course, the student should be able to:

1. Know basic physiology principals.
2. Understand the different body systems function.
3. Understand systems functions integration.

Attendance regulation:
Lectures - optional

Teaching arrangement and method of instruction:
Frontal lectures and PBL sessions

Assessment:
NBME test: 90%
4 mandatory quizzes: 10%
   Quiz 1: Endocrinology.
   Quiz 2: GI
   Quiz 3: Nephrology
   Quiz 4: Cardiology

Time required for individual work: in addition to attendance in class, the students are expected to do their assignment and individual work:
Course Content\ schedule and outlines:

1. Intro. to Human Physiology: Concept of Homeostasis
2. Physiology Osmosis & Body Fluid Shifts, Hyper & Hypo Osmotic States
3. Physiology Problem workshop: Indicator-Dilution Measures and Fluid Shifts
4. Physiology Clinical Case Discussion: Aminata’s Swelling & Diarrhea
5. Endocrine physiology
6. GI physiology
7. Nervous system physiology
8. Renal physiology
9. Respiratory physiology

Required reading:

3. * Please note that the lectures order is not according to the textbooks’ chapters order.
4. Relevant Chapters
5. Textbook of Medical Physiology by Guyton & Hall (eleventh ed.)
6. Chapter 4: Transport of Substances Through the Cell Membrane
7. Chapter 5: Membrane Potentials and Action Potentials
8. Chapter 6: Contraction of Skeletal Muscle
9. Chapter 7: Excitation of Skeletal Muscle - Neuromuscular Transmission and Excitation-Contraction Coupling
10. Chapter 45: Organization of the Nervous System, Basic Functions of Synapses, “Transmitter Substances”
11. Chapter 54: Motor Functions of the Spinal Cord; the Cord Reflexes
12. Chapter 55: Cortical and Brain Stem Control of Motor Function
13. Chapter 60: The Autonomic Nervous System and the Adrenal Medulla
14. Chapter 62: General principals of gastrointestinal function
15. Chapter 63: Propulsion and mixing of food in the alimentary tract
16. Chapter 66: Physiology of gastrointestinal disorders
17. Chapter 64: Secretory functions of the alimentary tract
18. Chapter 65: Digestion and absorption in the gastrointestinal tract
19. Chapter 66: Physiology of gastrointestinal disorders
20. Chapter 74: Introduction to endocrinology
21. Chapter 75: Pituitary hormones and their control by the hypothalamus
22. Chapter 76: Thyroid Metabolic hormones
23. Chapter 77: Adrenocortical hormones
24. Chapter 78: Insulin, glucagon and Diabetes mellitus
25. Chapter 79: Parathyroid hormone, calcitonin, calcium and phosphate metabolism, vitamin D, bone and teeth
26. Vander’s Human Physiology (twelfth ed.)
27. Chapter 12: Cardiology system
28. Chapter 13: Respiratory system
29. Chapter 14: Nephrology system

*All learning material will be available to the students on the course’s website (Moodle)/ library/ electronic documents available to BGU students.
Global Health Modules
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**Course Description:** This course explores the issue of health inequalities and health inequities. It provides an opportunity to examine contemporary interpretations of health inequalities and related concepts like such as justice and equity. The course discusses how different approaches to measuring, defining and monitoring health inequalities are influenced by social and political factors and how this, in turn, shapes strategies for addressing such inequalities.

**Aims of the course:** to provide theoretical and application tools for medical students in order to develop interventions to reduce health inequities.

**Objectives of the course:**
- Become knowledgeable of the current research on health disparities and health inequities
- Become knowledgeable on the underlying cause of health inequalities and inequities
- Be able to identify, describe, and be knowledgeable regarding possible solutions to address/reduce health inequalities in different populations

**Learning outcomes of the course:**
On successful completion of the course, the student should be able to:
1. recognize the various existing frameworks regarding health inequities
2. assess empirical evidence, outcome measurement issues, policy and policy formation concerns regarding health inequities
3. develop interventions to reduce health inequities

**Attendance regulation:** Attendance in the course is mandatory. Students that will miss class are required to inform the instructor prior to class. Missed classes are acceptable under the school regulations (sickness, emergency, etc). Student will present a short paper showing a basic understanding of the course material of the class they missed. Student that will miss more than one class will be removed from the course.

**Teaching arrangement and method of instruction:**
Lectures, group discussions, exercises, student presentations

**Assessment:**
50% Presentation preparation and presentation
50% Group activity and written assignment

**Work and assignments:**
1. Students will read the literature and present an intervention to reduce health inequities within a specific context using a power point presentation. Active presentation will be provided to evaluators and peers in the class
2. Students will participate in the group activity and develop an intervention design to reduce health inequities. The intervention planning will be submitted as a written assignment.
Time required for individual work:
In addition to attendance in class, the students are expected to read materials, participate in class and group discussions, present in class.

Course Content\ schedule and outlines:
Meeting 1: Health inequities – definitions, frameworks (e.g. SES, culture and ethnicity). 2 Case studies (Israel and global)

Meeting 2: Measuring health inequities; identifying responsible bodies and stakeholders

Meeting 3: Inequities within and between countries; interventions for reducing health inequities; exercise in small groups: Building interventions

Meeting 4: Students presentations and discussion, course summary

Required reading:
General Comment No. 14 on the right to the highest attainable standard of health, UN Doc. E/C.12/2000/4


More reading materials will be distributed in class for specific case studies.

Additional Readings:

**Name of the course:** History of Medicine  
**Number of course:** 481-8-2050

| BGU Credits: | 1 |
| ECTS credits: | |
| Academic year: | 2019-20 |
| Semester: | 1 |
| Hours of instruction: | 13 |
| Location of instruction: | Faculty of Health Sciences classroom |
| Language of instruction: | English |
| Cycle: | 1st |
| Position: | Elective module |
| Field of Education: | MD |
| Responsible department: | MSIH |
| General prerequisites: | NA |
| Grading scale: | Pass/Fail |

**Course Description:**  
Through case studies, this course analyzes the failures and successes that constitute landmarks in the 19th-20th centuries of the history of medicine. Exploring science and practice, the laboratory and the field, we will bring a critical focus to questions of contexts, changes and continuities over time.

**Learning outcomes of the course:**  
On successful completion of the course, the student should be able to:

1. Relate the history of infectious diseases to their socio-cultural-economic contexts
2. Understand the complexity of the relationship between laboratory science and field medical practice.
3. Understand the political, social, and economic institutions and practices that influence the history of medicine and infectious disease.
4. Appraise the selection and appreciate the diversity of health systems according to changing populations and needs.

**Attendance regulation:** Mandatory

**Teaching arrangement and method of instruction:**  
Frontal lectures (including film and video materials), class and small group discussions and student presentations

**Assessment:** Attendance and participation

**Work and assignments:**

1. Read assigned material
2. Write and submit responses to readings as preparation for class and group discussions.
3. Attend lectures
# Course Content: schedule and outlines:

Please note there will be three classes. Each class will include readings and a presentation on a selected case study relative to the topic. Readings to be assigned.

**Session 1:** From Hippocrates to Ronald Ross: Introduction to the History of Infectious Diseases within the History of Medicine. 2. History of Malaria control, eradication, elimination - including the work of Israel Kligler during the Mandate period. Malaria allows an investigation/exploration of early laboratory science (Ronald Ross, e.g.) and field trials - mosquito control (Robert Koch and early quininzation, Alphonse Laveran, Rockefeller Foundation scientists, etc.), exploring successes and failures. 3. Bubonic Plague and contemporary cholera: transmission without a mosquito. Case studies: Cholera outbreaks both indigenous (Democratic Republic of Congo) and ‘imported’ (Haiti).

**Session 2:** History of Human Experimentation - from James Lind through eugenics and Nazi experiments to contemporary clinical trials. Explores issues of changes in medical technology, ethics, relationships between those conducting trials and trial subjects/participants. Case studies: Vaccine trials (cerebro-spinal meningitis (Nigeria), Ebola (West Africa)

**Session 3:** History of Health Service Organization and Delivery: mobile medicine from the Belgian Congo in the 1930s to community health in the 1960s including the ‘invention’ of community health workers. Contemporary organizational frameworks: HMOs/health funds (Israel), public-private partnerships (international agencies and stakeholders) and the challenges of addressing health delivery in under-resourced settings. Case studies: Dr. Dixon Chibanda, ‘Why I train grandmothers to treat depression’, TEDWomen 2017; Titaley et al. (2010)“Why do some women still prefer traditional birth attendants and home delivery?: a qualitative study on delivery care services in West Java Province, Indonesia”, *BMC Pregnancy and Childbirth* 10:43.

**Required reading:**

**Session 1:**
M.J. Dobson, M. Malowany, R.W. Snow (2000) ”Malaria control in East Africa: the Kampala Conference and the Pare-Taveta Scheme: a meeting of common and high ground”, *Parassitologia* 42: 149-166.
Martin Enserink. “Eradication goal splits malaria community”, *Science* 365 (6456), 847-848. DOI: 10.1126/science.365.6456.847

**Session 2:**

**Session 3:**
Course Description: The module introduces students to the processes involved in conceptualizing, assessing, researching, designing, and presenting ideas for devices for low-income medical settings.

Aims of the course: To expose students to the world of entrepreneurship, engineering, design, production and finance of medical devices.

Objectives of the Course:
To recognize the processes involved in conceptualizing and creating a medical device or application, conducting required research, assessing available resources, prototyping, and presenting idea to potential investors.

Learning outcomes of the course: On successful completion of the course, the student should be able to:

1. Identify a medical scenario in a low-income country for which a new technical solution may be designed.
2. Research the need for a device and the alternatives already available.
3. Work with Biomedical Engineers to understand the process for assessing technical solutions, while providing them with relevant data. (E.g. limited resources available in low-income settings).
4. Understand the barriers and obstacles to the development of such devices.
5. Make a presentation of an idea to potential investors.

Attendance regulation:
Mandatory

Teaching arrangement and method of instruction:
Students required to bring three ideas for discussion at first session. During four class sessions, they will be taught the principles of the development process, design, and how to take their idea further.
Assessment:
Bringing ideas at first meeting, attendance, last session presentation

Time required for individual work: in addition to attendance in class, the students are expected to do their assignment and individual work:
Research existing medical devices, formulate the idea, and build a basic business model

Module Content\ schedule and outlines:

Lesson 1
Introduction to medical startups.
Class split into groups.
Brainstorm about ideas brought to class.
One hour working on project.
30 minutes presenting.

Lesson 2
45 minutes studying how to search for existing solutions on the market
45 minutes - From Idea to a Product
One hour working with students of Biomedical Engineering (Matan & Roni)
explaining prototyping process
30 minute student presentation

Lesson 3
Basics of business model
How to create a presentation for investors.
Success stories.
Create presentation and present to course coordinators

Lesson 4
Final presentation competition

Required reading:
Textbook

Additional literature:
* All learning material will be available to the students on the module's website (Moodle)/ library/ electronic documents available to BGU students.
### Name of the course: Medicine and Literature

**Number of course: 481-8-2015**

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### Course Description:

**Aims of the course:**
Introducing Medical Humanities; making the students aware of the role of language and communication in medicine; demonstrating and discussing the non-transparency, ambiguity and indeterminacy of language, openness of interpretation, and how all these come into play in both literature and medicine. Emphasizing the importance of reflective writing for the professional and personal growth of a medical student; discussing cross-cultural communication issues in international medicine.

**Objectives of the course:** reading of literature and critical/theoretical works on the syllabus, active participation in class discussions, submitting a creative writing piece.

**Learning outcomes of the course:**
On successful completion of the course, the student should be able to:

1. Appreciate the function of language and narrative analysis in medical practice.
2. Be aware of reading and writing literature as a way to access widely different and otherwise “invisible” perspectives, in particular those of patients.
3. Become more tolerant and resilient towards the inevitable ambiguity that interpreting words, signs and symptoms involves.

**Attendance regulation:** Attendance is mandatory

**Teaching arrangement and method of instruction:**

**Session 1:** Introduction: What does literature have to do with medicine? Narrative and Poetry: William Carlos Williams, “The Use of Force,” selected poems; essay: Gerda Elata-Alster, “Poetry in the Medical Classroom.” Reflection on literary and medical interpretive practices. Session taught by Dr. Olga Kuminova.


**Session 3:** Novel: Selection from Indra Sinha, *Animal’s People*. Session taught by Dr. Olga Kuminova.

**Session 4:** Reading and discussion of the students’ creative writing.
Assessment: Any student who has attended all the classes and submitted the creative writing piece passes the course.

Work and assignments: Reading the class materials before each class.

Time required for individual work:
In addition to attendance in class, the students are expected to write a short piece of creative writing in any genre but no longer than 1500 words (approximately).

*L All learning material will be available to the students on the course's website (Moodle)/library/electronic documents available to BGU students.*
**Name of the course:** Medicine and Society  
**Number of course:** 481-8-9050

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**Course Description:**
The relationship between medicine and society is a cornerstone of our understanding of health and disease. From the macro-level questions surrounding patterns of inequality and globalization processes, to the most micro-level individual questions of illness experiences and meaning, the social sciences have engaged in exploring and theorizing the relationship between medicine and society.

**Objectives of the course:**
The course will introduce students to various aspects of the relationship between medicine and society, as they are understood from the perspective of the social sciences. During the course we will explore how cultures and societies structure and address health, illness and the mechanisms surrounding them.

**Learning outcomes of the course:**
On successful completion of the course, the student should be able to:

1. Understand the relationship between medicine, society and culture beyond the bio-medical perspective.
2. Understand the complexity of the relationship between medicine and society.
3. Recognize various theories explaining the relationship between medicine and society.
4. Understand health and illness in social and cultural contexts.

**Attendance regulation:**
Mandatory attendance.

**Teaching arrangement and method of instruction:**
Lectures and discussions

**Assessment:**
50% attendance and participation  
50% case study presentation

**Work and assignments:**

1. Students will read the assigned materials.
2. Students will participate in class discussions.
Lecturer:
Anat Rosenthal PhD

Contact details
Office phone:
08-6477421

Email:
anatros@bgu.ac.il

Office hours:
By appointment

Course evaluation:
Debriefing at completion of all modules

Confirmation: 2019-20

Last update: Sept. 2019

Time required for individual work:

Course Content\ schedule and outlines:
Meeting 1: Medicine, culture and society: theory, terminology and experience.
Meeting 2: Poverty and health: was all medicine created equal?
Meeting 3: Infectious relationships: infectious diseases and social histories.
Meeting 4: Case studies in medicine and society.

Required reading:


Additional literature:


* All learning material will be available to the students on the course’s website (Moodle)/ library/ electronic documents available to BGU students.
**Name of the course:** Migration and health: cross-cultural perspectives  
**Number of course:** 481-8-9060

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**Course Description:**
The scale of migration in the globalized world has made migrant health one of the top priorities of public health. This issue is exacerbated by the diversity of migrant populations, their motives for migrating and the contexts of their migration, ranging from students and people searching for work to more vulnerable groups such as refugees and asylum seekers. The migration process can deeply affect people’s lifestyles, their health and healthcare. Thus, this course will explore the complex relationships between migration and health in the international context using an anthropological perspective. This will allow us to enhance the understanding of the needs and socio-cultural barriers faced by migrants, as well as the challenges facing health providers and policy makers.

**Aim of the course:**
To provide the students with insights on key health issues affecting migrant populations and the myriad of socio-cultural factors that influence them

**Objectives of the course**
1. To introduce students to fundamental concepts, methods, and debates in the analysis of migration health from an anthropological perspective
2. To contextualize these debates within the various opportunities and challenges of interdisciplinary research and health care for migrant populations

**Learning outcomes of the course:**
On successful completion of the course, the students should:
1. Increase their understanding of the myriad of factors affecting the health of migrants and refugees
2. Enhance their culture and gender sensitivity to issues related to migrant health and medical care
3. Promote inter-student discourse about practical, ethical and other issues arising from the learning process

**Attendance regulation:** Mandatory.

**Teaching arrangement and method of instruction:**
1. Lectures and interactive methods (discussions of articles and short video-clips)
2. Group work
3. Student presentations and discussions

**Assessment:**
50% Assistance and participation in class
50% Presentations on health issues among migrants

**Work and assignments:**
The class will work in small groups, focusing on the different health issues among migrants. Each group will prepare a presentation, including a discussion on a specific topic.

**Time required for individual work:**
In addition to attendance in class, the students are expected to work on readings and assignments for 4 hours between classes.
Course Content:
1. Migration and health: an overview
2. Anthropological perspective on health issues among migrants. Social determinants of the health of migrants
3. Migration policy and access to health care systems. The migrant crisis in Europe
4. Medical pluralism: use of modern and traditional healing among migrants. Culture competency in health services for migrants
5. Global health issues among migrant populations, including infectious diseases (in developed and developing countries)
6. Women’s reproductive health and gender perspectives in migration
7. Migration and mental health

Readings:


http://www.ploscollections.org/article/info%3Adoi%2F10.1371%2FJournal.pmed.1001034;jsessionid=4FC4E1D0A4D140D59FB21F3E1E45593A
### Name of the module: Introduction to Mindfulness as a method for self-care and wellbeing

<table>
<thead>
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<th>Module Number:</th>
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#### Course Description:
Mindfulness is the ability to witness what is happening here and now with nonjudgmental attention to mind, emotions, thoughts, impulses and bodily sensations. This ability enables us to reduce automatic responsiveness, and develop an accepting and compassionate attitude.

Mindfulness has been shown to assist in coping with pain, depression, stress, and burnout feelings that may be expressed as compassion fatigue among health care teams.

The students will learn: what is Mindfulness, its relation to health outcomes, how to nurture it and use it for self-care and promoting wellbeing.

#### To be considered
Class exercises as well as in home exercises, are devoted to focusing on thoughts, feelings and physical sensations, which can sometimes cause discomfort, especially among people with special sensitivities or history of emotional or mental disorders. Therefore, it is recommended that each student will consider whether the course is suitable for him or her at this stage in life.

#### Aims of the module:
1. To enable students to familiarize themselves with Mindfulness and its relevance to personal and professional life.
2. To enable students to cultivate Mindfulness for self-care and increase compassion for the self and others.

#### Objectives of the module:
At the end of this module students will be able to;
1. Describe what Mindfulness is and how it promotes well-being.
2. Describe formal and informal ways to cultivate Mindfulness.
3. Demonstrate the ability to use Mindfulness techniques.

#### Teaching arrangement and method of instruction:
Mixed teaching methods will be used, such as large group and small group discussions.

Students will be taught various mindfulness practices through direct experience with mindfulness meditation.

Course discussions will be conducted while maintaining confidentiality rules. Any violation of confidentiality will constitute a serious breach of academic and professional ethics.

#### Assessment:
1. Submission of a diary describing the home practice.
2. Submission of a final paper.

#### Work and assignments:
1. Presence and active participation in classroom exercises.
2. Submission of a diary describing the practice at home.
3. Term Paper.

---

### BGU Credits: 1

#### ECTS credits:

#### Academic year: 2019-2020

#### Semester: 2

#### Hours of instruction: 12

#### Location of instruction:
The Faculty of Health Sciences

#### Language of instruction: English

#### Cycle: 1st

#### Position: Elective module

#### Responsible department: Nursing department/MSIH

#### Grading scale: Pass/Fail

#### Lecturers:

Miriym Farksh
Itay Pruginin

#### Contact details:

Office phone: 77659
Email: mirfar@bgu.ac.il, itaypr@post.bgu.ac.il
Office hours: appointment with the lecturer

#### Course evaluation:

Online student survey and debriefing at the end

#### Confirmation: 2019-20

#### Last update: Sept. 2019
4. **Time required for individual work**: in addition to attendance in class, the students are expected to practice 10 minutes a day and feel up a journal at the total of about 3 hours a week.

5. **Module Content schedule and outlines**:

<table>
<thead>
<tr>
<th>Session</th>
<th>Theme</th>
<th>Mindfulness meditation practices and cognitive exercises</th>
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| No1     | Introduction to mindfulness  
Formal and Informal Mindfulness Practice | Introduction to the Body Scan |
| No2     | Attention & The Brain  
Responding vs. Reacting | Introduction to Sitting Meditation  
STOP: One-Minute Breathing Space |
| No3     | Automatic pilot  
Mindfulness and Compassion | Mindfulness of eating  
Lovingkindness Meditation |
| No4     | Thoughts are not facts  
Using what has been learn. | Two arrows: Pain vs. suffering.  
Dealing with difficulty within a meditation |
|         |                   | Review of course content. |
Required reading:

**First Session:**

**Second Session:**

**Third Session:**

**Fourth Session:**

**Additional literature:** will be provided during the course.
### Name of the course: Neglected tropical diseases

**Number of course:** 481-8-2082

| BGU Credits: | 1 |
| ECTS credits: | |
| **Academic year:** | 2019-20 |
| **Semester:** | 2 |
| **Hours of instruction:** | 12 |
| **Location of instruction:** | Faculty of Health Sciences classrooms |
| **Language of instruction:** | English |
| **Cycle:** | 1st |
| **Position:** | Elective module |
| **Field of Education:** | MD |
| **Responsible department:** | MSIH |
| **General prerequisites:** | None |
| **Grading scale:** | Pass/Fail |
| **Lecturers:** | Prof. Zvi Bentwich |
| **Course Coordinators:** | Prof. Zvi Bentwich |
| **Contact details:** | |
| **Office phone:** | |
| **Email:** | bzvi@bgu.ac.il |
| **Course evaluation:** | Online student survey and debriefing at the end |
| **Confirmation:** | The syllabus was confirmed by the faculty academic advisory committee to be valid on 2019-20 |
| **Last update:** | Sept. 2019 |

**Course Description:**

**Attendance regulation:** Mandatory

**Module Content\ schedule and outlines:**

1. HIV immunopathogenesis and co-infection  
   - TH1/TH2 immune profile  
   - Chronic immune activation  
   - Immunology of HIV and co-infections

2. NTDs and Global Health  
   - How tropical diseases became “neglected”  
   - What is meant by Neglected Tropical Diseases (NTDs)  
   - Current Epidemiology surrounding NTDs

3. NTD pathogenesis: Ascariasis, Trichuriasis, Hookworm

4. NTD pathogenesis: Schistosomiasis

5. NTD pathogenesis: Filariasis

6. NTD pathogenesis: Leishmaniasis

7. NTD co-infection and Malaria

8. NTD co-infection and TB

9) NTD (helminth) and HIV co-Infection

10) Helminth treatment and eradication with co-infections in the developing world  
    - Childhood deworming programs  
    - Health impacts (individuals, community)

**Assessment:**

Attendance and participation
Literature:

1. HIV immunopathogenesis and co-infection


2. NTDs and Global Health


Additional literature:


3. NTD pathogenesis: Ascariasis, Trichuriasis, Hookworm


4. NTD pathogenesis: Schistosomiasis


5. NTD pathogenesis: Filariasis


6. NTD pathogenesis: Leishmaniasis


7. NTD co-infection and Malaria


8. NTD co-infection and TB


9) NTD (helminth) and HIV co-Infection


10) Helminth treatment and eradication with co-infections in the developing world

-Childhood deworming programs
-Health impacts (individuals, community)


Second Year Systems and Global Health
**Name of the course:** Anatomy - Abdomen and Pelvis

**Number of course:** 481-8-2062

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**Course Description:**

**Aims of the course**

Human Anatomy is a systems-based course emphasizing medical-anatomical concepts and structural relationships in the body. Computer-assisted instruction and advanced imaging/cross-sectional anatomy are employed together with frontal lectures and cadaver dissection to facilitate understanding and retention in the highly truncated time frame allotted to the course.

The use of senior medical students as teaching assistants in the dissection laboratory, an innovation developed at BGU, provides another critical component to the course. These students bring their clinical experience and particularly their appreciation for anatomy as a key tool in the diagnosis and treatment of pathology to the dissection laboratory.

**Objectives of the course:**

To provide students with a deep knowledge of abdominopelvic regional anatomy.

**Learning outcomes of the course:** On successful completion of the course, the student should be able to:

1. Knowledge of structure and function of abdominopelvic organs, and abdominopelvic topography
2. The capability to implement this knowledge in understanding of abdominopelvic pathology

**Attendance regulation:**

Lectures – mandatory
Dissections – mandatory

**Teaching arrangement and method of instruction:**

Frontal lectures
Tutorials in small groups
Dissection labs
Assessment:
Faculty written multiple choice test 50%
Lab component 50%

100%

Work and assignments:
Attendance at lectures; attendance at dissections; self study at home and in dissection room

Time required for individual work: in addition to attendance in class, the students are expected to do their assignment and individual work:
One day in the middle of the course is scheduled for self-study – 8 hours.
One extra day is scheduled for self-study in the end of the course before the exam.
In addition, self-study in dissection room on evening hours is allowed and encouraged.

Module Content\ schedule and outlines:

Abdomen and Pelvis
1. Anterior abdominal wall
2. Inguinal canal and hernia
3. Peritoneum
4. The gut
5. Spleen, liver, Biliary System
6. Retroperitoneum
7. The pelvis
8. Pelvic organs
9. UG and perineum - male
10. Imaging of abdomen and pelvis
11. Embryology of abdomen and pelvis
12. UG and perineum - female
13. Clinical correlations

Required reading:
- Grant's Atlas of Anatomy
  Or
- Grant's Dissector
- Clinically Oriented Anatomy, 4th or 5th Ed. Moore & Dalley, Lippincott Williams and Wilkins
  Or
- Clinical Anatomy for Medical Students, Snell

* All learning material will be available to the students on the course’s website (Moodle)/ library/ electronic documents available to BGU students.
Name of the course: Anatomy – Chest and Thorax
Number of course: 481-8-2063

BGU Credits: 4.0
ECTS credits: Number of credits in the European Credit Transfer System
Academic year: 2019-20
Semester: 1st
Hours of instruction: 56
Lectures: 32 hours
Labs: 24 hours
Tutorials: NA

Location of instruction:
Faculty of Health Sciences classrooms, Deichman Bldg.

Language of instruction: English
Cycle: 1st
Position: Mandatory system
Field of Education: MD
Responsible department: MSIH
General prerequisites: None
Grading scale: Honors/Pass/Fail

Course Description:

Aims of the course

Human Anatomy is a systems-based course emphasizing medical-anatomical concepts and structural relationships in the body. Computer-assisted instruction and advanced imaging/cross-sectional anatomy are employed together with frontal lectures and cadaver dissection to facilitate understanding and retention in the highly truncated time frame allotted to the course.

The use of senior medical students as teaching assistants in the dissection laboratory, an innovation developed at BGU, provides another critical component to the course. These students bring their clinical experience and particularly their appreciation for anatomy as a key tool in the diagnosis and treatment of pathology to the dissection laboratory.

Objectives of the course:

To provide students with a deep knowledge of thorax anatomy.

Learning outcomes of the course: On successful completion of the course, the student should have:

1. Knowledge of structure and function of Thorax organs and topography
2. The ability to identify basic anatomical structures of the heart in echocardiographic (Echo) images
3. The ability to identify basic anatomical structures of the chest in computerized tomography (CT) images
4. The capability to implement this knowledge in understanding of pathologies involving thoracic structures and organs

Attendance regulation:

Lectures – recommended
Dissections – mandatory
Echo session – mandatory
CT sessions – mandatory

Teaching arrangement and method of instruction:

Frontal lectures
Dissection labs
Echo and CT labs

Assessment:

Comprehensive Examinations:
Written Component 50%
Lab Component 50%
Narrative Assessment

100%
Work and assignments:
Attendance at lectures; attendance at dissections; self-study at home and in dissection room students are expected to do their assignment and individual work: One day in the middle of the course is scheduled for self-study – 8 hours. One extra day is scheduled for self-study in the end of the course before the exam. In addition, self-study in dissection room on evening hours is allowed and encouraged.

Module Content schedule and outlines:

**Thorax anatomy**

1. Anterior chest wall
2. The spinal nerve
3. Pleural cavity
4. Trilaminar disc (embryology)
5. Lungs (histology)
6. Development of lungs (embryology)
7. Pericardium & great vessels
8. Development of heart (embryology)
9. Mediastinum
10. Cardiac muscle (histology)
11. Heart
12. Autonomic nervous system
13. Coronary circulation
14. Heart and aortic arches (embryology)
15. Surface anatomy
16. Fetal vs postnatal circulation
17. Chest Imaging: X-ray, Echo and CT

Required reading:
If more than one, either is acceptable:

- Clinically Oriented Anatomy, Moore, K.L. (Williams and Wilkins)
- Clinical Anatomy for Medical Students, Snell, R.S. (Little Brown)

**Atlas (one)**

- Regional Atlas of the Human Body, Clemente (Lea & Fibiger)
- Color Atlas of Anatomy, Rohan & Yokochi (Igaku-Shoin)
- Atlas of Human Anatomy, Netter, F. (Ciba-Geigy)

**Dissector:**

- Grants Dissector, Sauerland, E.K., 10th ed. (Williams and Wilkins)

**Embyrology**

- Medical Embryology, Langman, J. 5th ed. (Lippincott, Williams and Wilkins)

**Histology**

- Histology: A Text and Atlas, Ross, Pawlina and Ross, 5th ed. (Lippincott, Williams and Wilkins)

* All learning material will be available to the students on the course's website (Moodle)/library/electronic documents available to BGU students.
Name of the course: Anatomy - Head and Neck

Number of course: 481-8-2064

Course Description:

Aims of the course:
The Aim is to provide students with deep knowledge of topographic anatomy of the Head and Neck region in the body.

Objectives of the course:
The main objective is to emphasize medical-anatomical concepts and structural relationships in the Head & Neck region. Frontal lectures and cadaver dissections are employed along with imaging/cross-sectional anatomy to facilitate understanding and retention in the highly truncated time frame allotted to the course. The use of senior medical students as teaching assistants in the dissection laboratory, an innovation developed at BGU, provides another critical component to the course. These students bring their clinical experience and particularly their appreciation for anatomy as a key tool in the diagnosis and treatment of pathology to the dissection laboratory.

Learning outcomes of the course: On successful completion of the course, the student should be able:

1. To be familiar with organization, spatial relations, blood supply, innervation and function of main structures in the Head and Neck region, such as bones/joints, muscles and organs (ear, eye, etc.).
2. To demonstrate the capability of implementing this knowledge in understanding the Head and Neck pathology.

Attendance regulation:
Lectures - mandatory
Labs - mandatory

Teaching arrangement and method of instruction:
1. Frontal lectures
2. Dissection
3. Radiological anatomy demonstration lab

Assessment:
Comprehensive examination faculty written:
Practical examination in the dissection room – 50%
Final written examination – 50%
**Lecturer:**
Dr. D. Fishman

**Contact details:**
Office phone:
08-6477319, 08-6477314
Email:
dmitrif@bgu.ac.il;
fishmannord@gmail.com

**Office hours:** 12:00-13:00/twice Monday/Tuesday by appointment.

**Course evaluation:**
Online student survey and debriefing at completion of course.

**Confirmation:** 2019-20

**Last update:**
September 2019

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**Work and assignments:**
Attendance to the lectures; attendance to dissections; self-study at home and in dissection room

**Time required for individual work:** in addition to attendance in class, the students are expected to do their assignment and individual work, as follows.
One day in the middle of the course is scheduled for self-study – 8 hours
One more day is scheduled for self-study in the end of the course before the exam.
In addition, self-study in dissection room on evening hours is allowed and encouraged.

**Course Content\ schedule and outlines:**

**Lectures:**
1. The Skull
2. The Neck and Neck triangles
3. Autonomic nervous system and cranial nerves
4. Cranial nerve II
5. Cranial nerve V
6. Meninges
7. The eye
8. The ear
9. The nose, nasal cavity and paranasal sinuses
10. Oral civility and temporomandibular joint
11. Pharynx and Larynx
12. Blood supply to the Head and Neck: an overview
13. Embryology

**Required reading:**
Clinically Oriented Anatomy, 4th or 5th Ed. Moore & Dalley, Lippincott William and Wilkins
Or
Clinical Anatomy for Medical Students, Snell

**Additional literature:**

* All learning material will be available to the students on the course's website (Moodle)/ library/ electronic documents available to BGU students.
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**Course Description:**

**Aims of the course**

Limbs Anatomy focuses on the functional arrangement of the skeletal muscles, the vessels and nerves that supply them, and the bony framework that both facilitates movement and is composed of the principle objects being moved. Special emphasis is placed on joints and on traumatic, chronic inflammatory and other pathologic processes that disturb normal function.

Short introduction to the structures of the vertebra are given in the course. The rest of the course focuses on the upper and lower limbs.

Overall, the upper limb is presented as two collaborating and functional units: The arm/forearm, whose function is to position the 2nd and key unit, the hand/fingers. Understanding the hand and protecting or restoring its function then is possibly the most important goal of the physician treating pathology of the upper limb. A surgeon specializing in pathology of the hand and fingers will lecture on this subject.

Similarly the healthy lower limb functions to allow efficient mobility, enabling the individual to achieve proximity to some item or person to permit use of the hand/fingers on it. Understanding the mechanics involved in walking, therefore, will be another key element of the course. For this purpose, a physical therapist with an expertise in gait mechanics has been recruited for a detailed review of the subject.

Dissections follow the subjects covered by that days lectures and will be performed by the students themselves, assisted by staff and TA’s from yrs. 4, 5 and 6 of the Israeli track.

**Objectives of the course:**

To provide students with a deep knowledge of anatomy the limbs and vertebra.

**Learning outcomes of the course:** On successful completion of the course, the student should be able to:

1. Knowledge of structure and function of limbs and vertebra
2. The capability to implement this knowledge in understanding of pathologies involving the limbs or the vertebra

**Attendance regulation:**

Lectures – recommended
Dissections – mandatory

**Teaching arrangement and method of instruction:**

Frontal lectures
Tutorials in small groups
Dissection labs
Assessment:
Compréhensive Examinassions:
Written Component) 50%
Lab Component 50%

100%

Work and assignments:
Attendance at lectures; attendance at dissections; self-study at home and in dissection room

Time required for individual work: in addition to attendance in class, the students are expected to do their assignment and individual work:
One day in the middle of the course is scheduled for self-study – 8 hours.
One extra day is scheduled for self-study in the end of the course before the exam.
In addition, self-study in dissection room on evening hours is allowed and encouraged.

Module Content\ schedule and outlines:

Lectures:
1. Vertebral column
2. Superficial back
3. Shoulder/Brachial Plexus
4. Axilla
5. Arm
6. Elbow/forearm
7. Wrist/hand
8. Hand
9. Deep back
10. Hip/gluteal
11. Thigh
12. Knee
13. Leg
14. Ankle
15. Foot
16. Imaging
17. Clinical correlations

Required reading:
If more than one, either is acceptable:
Clinically Oriented Anatomy, Moore, K.L. (Williams and Wilkins)
Clinical Anatomy for Medical Students, Snell, R.S. (Little Brown)

Atlas (one)
Regional Atlas of the Human Body, Clemente (Lea & Fibiger)
Color Atlas of Anatomy, Rohan & Yokochi (Igaku-Shoin)
Atlas of Human Anatomy, Netter, F. (Ciba-Geigy)

Dissector:
Grants Dissector, Sauerland, E.K., 10th ed. (Williams and Wilkins)

* All learning material will be available to the students on the course's website (Moodle)/ library/ electronic documents available to BGU students.
**Name of the course:** Cardiovascular System

**Number of course:** 481-8-2021

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<td>Position: System, obligatory</td>
</tr>
<tr>
<td>Field of Education: MD</td>
</tr>
<tr>
<td>Responsible department: MSIH</td>
</tr>
<tr>
<td>General prerequisites: Successful completion of all prior courses</td>
</tr>
<tr>
<td>Grading scale: Honors/Pass/Fail</td>
</tr>
</tbody>
</table>

**Course Description:**

**Aims of the course:**

The course is designed to imbue the students with an all-round knowledge of the normal and diseased cardiovascular system, based on the fundamentals of physiology, histology and pathology, by means of frontal lectures, laboratory work and computer simulations in physiology, problem-based case discussions and ECG exercises.

**Objectives of the course:**

Building on fundamentals, each of the main areas of clinical cardiology are taught, including, valve disease, pericardial and myocardial disease, congestive heart failure and ischemic heart disease (from a subcellular level to clinical syndromes). The electrical system of the heart is discussed, also from a subcellular level to clinical arrhythmia and conduction defects, including lectures on the principles of the ECG and exercises in ECG. Various imaging techniques used in cardiology are presented, from older, established ones to newer developments. There is also some input on molecular cardiology and international aspects of cardiology. Some pharmacology is taught in the context of specific disease states.

Other subjects include congenital heart disease, preventive aspects of cardiology, interventional cardiology and cardiovascular surgery. Towards the end of the course, there is a clinical session discussing hospitalized patients on the coronary care unit.

**Learning outcomes of the course:** On successful completion of the course, the student should be able to:

1. Understand the physiological basis of the function of the normal cardiovascular system.
2. Understand how different pathologies are expressed in the cardiovascular system.
3. Interpret an ECG, demonstrate knowledge of the clinical presentations of cardiovascular disease, investigations performed, and recommended therapies.

**Attendance regulation:**

**All clinical lectures - mandatory**

Computer simulations – mandatory

All case discussions (including clinical, PBL, TBL) - mandatory

Labs - mandatory

**Teaching arrangement and method of instruction:**

Frontal lectures, clinical case presentations and problem-based learning given to the whole class; computer simulations in physiology, lab sessions in pathology and histology, and ECG exercises, presented to smaller groups.
Assessment:

NBME exam and lecturer-based questions – 80%
Class presentations – 12%,
Pre-tests (Prof. Henkin) 8% the marks of which count towards the students' final overall mark for the course. The students also have 2 days free before the concluding exam, in which to complete their revision prior to the exam.

Course Content/schedule and outlines:

Lectures:
1. Histology of the cardiovascular system
2. Pathology of the cardiovascular system
3. CV Physiology – partly Self-study
4. Endothelium and plaque rupture – Self study
5. Imaging in cardiology
6. New Imaging Techniques in Cardiology
7. Myocardial disease
8. ECG
9. Endocarditis
10. Pericardial disease
11. RAAS – self study
12. Mitral Valve Disease
13. Congenital heart disease
14. Aortic Valve Disease
15. Acute Myocardial Infarction
16. Chronic Ischemic Heart Disease
17. Acute Coronary Syndromes
18. Congestive Heart Failure
19. Arrhythmia
20. Interventional cardiology
21. Cardiac surgery
22. Molecular Cardiology

Required reading:

Harrison's Principles of Internal Medicine
EKG, Dubin

Additional literature:
Both available through the BGU Medical library internet site.

* All learning material will be available to the students on the course’s website (Moodle)/ library/ electronic documents available to BGU students.
**Name of the course:** Clinical and Communication Skills 1&2  
**Number of course:** 481-8-2060/2061

<table>
<thead>
<tr>
<th>BGU Credits:</th>
<th>2.75</th>
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<tbody>
<tr>
<td>ECTS credits:</td>
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<tr>
<td>Academic year:</td>
<td>2019-20</td>
</tr>
<tr>
<td>Semesters:</td>
<td>1&amp;2</td>
</tr>
<tr>
<td>Hours of instruction:</td>
<td></td>
</tr>
<tr>
<td>Location of instruction:</td>
<td>Faculty of Health Sciences classrooms</td>
</tr>
<tr>
<td>Language of instruction:</td>
<td>English and Hebrew</td>
</tr>
<tr>
<td>Cycle:</td>
<td>1st and 2nd</td>
</tr>
<tr>
<td>Position:</td>
<td>Mandatory course</td>
</tr>
<tr>
<td>Field of Education:</td>
<td>MD</td>
</tr>
<tr>
<td>Responsible department:</td>
<td>MSIH</td>
</tr>
<tr>
<td>General prerequisites:</td>
<td>Successful completion of 1st cycle</td>
</tr>
<tr>
<td>Grading scale:</td>
<td>Honors/Pass/Fail</td>
</tr>
</tbody>
</table>

**Aims of the course:**

The primary aim of the course is to provide students with practical training in Clinical Hebrew in small groups - of as uniform a level of Hebrew as we can achieve - using role-play at first and graduating to interviewing and examining real patients on the wards, under the tutelage of BGU program students. The course also includes, an introduction to the basics of physical examination, an inseparable part of medical diagnostic procedure. Additionally, you will meet in larger groups every few weeks and simulate interviews, diagnostic thinking and case presentation.

**Objectives and learning outcomes:**

1. Prepare MSIH students to communicate in Hebrew on the wards with a clinical orientation of the vocabulary involved.
2. Improve ability to re-organize the information from basic sciences through clinical sciences to “systems”, and apply it to patient interactions.
3. Improve examination skills
4. Improve development of the differential diagnosis

**Attendance regulation:** Mandatory

**Teaching arrangement and method of instruction:**

a. The course is considered a clinical course (like a clerkship) and thus attendance is compulsory and will be monitored by the TAs. Exemptions from sessions are to be coordinated with your small-group tutor after getting permission from Dvir Gatt (or Ron Charach, if Dvir is unavailable).
b. Lessons will take place on the 6th floor and on the wards' staffrooms. We shall aim to make the location constant for each small group.
c. Every 3-4 weeks there will be physical examination lessons. During these lessons the emphasis will be both on technique and on communicating with patients in Hebrew during the physical exam.
d. The booklet for clinical Hebrew will be distributed and is helpful.
e. The textbook for physical examination is "Bates' guide to physical examination and history taking" 11th edition- available from the medical library in the grounds of Soroka.
Assessment:

a. The final grade will be composed of tutor assessments for each semester, based on parameters reflecting motivation, effort and involvement, as well as a global assessment of improvement.

b. OSCE with a number of Hebrew skills stations, and stations assessing Physical Examination.

Required reading:

Course Content:
Colors and WH questions
Body parts
Symptom characterization
Comprehensive history taking: the adult patient
Cardiology
Respiratory
Gastroenterology
Neurology
Nephrology
Endocrinology & Diabetes
Rheumatology
Pediatrics
Obstetrics and Gynecology
Clinical words

**Physical examination**
Cardiovascular system – physical examination
Respiratory system – physical examination
Abdomen – physical examination
Nervous system – physical examination

All learning material will be available to the students on the course's website
Moodle/ library/ electronic documents available to BGU students.
Name of the course: Embryology 1 & 2

Number of course: 481-8-2020

| BGU Credits: | 0.75 |
| ECTS credits: | |
| Academic year: | 2019-20 |
| Semesters: | 1 & 2 |
| Hours of instruction: | 10 |
| Location of instruction: |
| Faculty of Health Sciences classroom |
| Language of instruction: | English |
| Cycle: | As for anatomy courses |
| Position: | Mandatory |
| Field of Education: | Medicine |
| Responsible department: | MSIH |
| General prerequisites: |
| Successful completion of all prior courses |
| Grading scale: | Honors/Pass/Fail |

Course Description:

Aims of the course:
The Human Embryology course teaches medical students the embryonic development of the major organ systems and associated congenital abnormalities. The Embryology course is studied in parallel with the relevant Human Anatomy material.

Objectives of the course:
The goal of this integrated approach is to help the students gain a better understanding of Anatomy. In addition to descriptive embryology, which teaches the dynamics of morphogenesis and organogenesis, the course introduces the underlying molecular mechanisms, i.e., the genetic programs that regulate developmental processes. This helps the students understand both the origins of individual birth defects and of congenital syndromes with diverse and apparently unrelated phenotypes, such as Kartagener’s or velocardiofacial syndromes.

Learning outcomes of the course:
On successful completion of the course, the student should know:
1. Basic events in embryonic development
2. Developmental principles of organ systems
3. Basics of major congenital disorders
4. Relevance of embryology research for regenerative medicine

Attendance regulation:
Not obligatory

Teaching arrangement and method of instruction:
Frontal lectures
Assessment:
Integrated with the Anatomy exams

Work and assignments:
2 hour exercise: The essential impact of understanding the molecular mechanisms of embryogenesis for developing new therapies in regenerative medicine

Time required for individual work:
In addition to attendance in class, the students are expected to do recapitulate the material presented in class.

Course Content\ schedule and outlines:
1. Embryonic Period
2. Fetal Period
3. Development of the cardiovascular & respiratory system
4. Development of the digestive system I
5. Development of Head & Neck

Required reading:
Langman's Medical Embryology, ed. T. W. Sadler, 10th Eds. or higher
Moore & Persaud - The Developing Human

Additional literature:

* All learning material will be available to the students on the course's website (Moodle)/ library/ electronic documents available to BGU students.
**Name of the course:** Gastrointestinal System  
**Number of course:** 481-8-2026

**BGU Credits:** 12  
**ECTS credits:**  
**Academic year:** 2019-20  
**Semester:** 1  
**Hours of instruction:** 98  
**Location of instruction:** Faculty of Health Sciences classroom  
**Language of instruction:** English  
**Cycle:** 1st  
**Position:** Mandatory system  
**Field of Education:** MD  
**Responsible department:** MSIH  
**General prerequisites:** Successful completion of all prior courses.  
**Grading scale:** Honors/Pass/Fail

**Course Description:**

**Aims of the course:**

Gastroenterology is a system of Internal Medicine and has a close interface with surgery. It entails both empathetic individualized patient care and advanced technology using invasive procedures. It is multifaceted, involving inflammatory, infectious, neoplastic, auto-immune, metabolic and functional disorders and includes the biliary System and the liver.

**Objectives of the course:**

The course will include sessions devoted to discussions of case studies that emphasize a clinical approach to Gastrointestinal (GI) problems. Lectures and laboratories cover subjects such as:

- Physiology of the GI tract; GI diseases and cancer; maldigestion and malabsorption; diseases of the pancreas and liver; drugs and metabolism, acute gastroenteritis, oral rehydration

The course will include a visit in the GI department to see endoscopy procedures.

Communication will be based mostly on Moodle – schedule changes, presentations, forum for discussion, recommended web sites.

**Learning outcomes of the course:** On successful completion of the course, the student should be able to:

1. Demonstrate familiarity and understanding of normal gastrointestinal physiology.
2. Demonstrate basic knowledge in the main pathologies of gastrointestinal tract and liver diseases.
3. Demonstrate understanding of the pathophysiology, clinical manifestations, diagnosis and management of major gastrointestinal diseases.
4. Recognize, know, and understand the cellular basis, pathophysiology, diagnosis and management of common liver diseases.
5. Demonstrate familiarity with the main imaging modalities used in gastroenterology.

**Attendance regulation:**

- Lectures – optional  
- Case studies – mandatory  
- Labs - mandatory

**Teaching arrangement and method of instruction:**

Frontal lectures/learning units for self-study /groups/student presentations
Assessment:
NBME exam – 80%
Attendance – 10%
In-class presentation – 10%

Work and assignments:
One presentation

Time required for individual work: in addition to attendance in class, the students are expected to do their assignment and individual work:
Students are required to study and review the lectures at home, roughly 30mins per hour lecture.

Module Content\ schedule and outlines:

Lectures:
1. Esophageal Disease
2. Histology
3. Pathology
4. GI malformation
5. Tumor of Esophagus and Stomach
6. Pathology
7. GI bleeding
8. Peptic Ulcer Dis. & Pharmacology
9. Colorectal cancer
10. Treatment of GI Cancer
11. Malabsorption
12. Disease of the Pancreas
13. IBS
14. IBD
15. Celiac
16. Liver Function & Cholestasis
17. Acute Viral Hepatitis
18. Drug Related Disease
19. Acute Gastroenteritis
20. Chronic Liver and Cirrhosis
21. Hormone secreting tumors
22. Alcoholic and Non Alcoholic liver Disease

Required reading:
23. Principles of Physiology – Berne Levy
24. Textbooks of Internal Medicine – Cecil or Harrison’s
26. Gastroenterology & Hepatology, Mayo Clinic Board Review
27. Additional reading is listed extensively on the Moodle website.

* All learning material will be available to the students on the course’s website (Moodle)/ library/ electronic documents available to BGU students.
**Name of the course:** Integration of the Basic Sciences (USMLE Review)

**Number of course:** 481-8-2024

| BGU Credits: | 1.4 |
| ECTS credits: | |
| Academic year: | 2019-20 |
| Semester: | 2 |
| Hours of instruction: | 18 |
| Location of instruction: | Faculty of Health Sciences classroom. |
| Language of instruction: | English |
| Cycle: | 1st |
| Position: | Mandatory course |
| Field of Education: | MD |
| Responsible department: | MSIH |
| General prerequisites: | Basic science courses of 1st and 2nd year |
| Grading scale: | Pass/Fail |
| Lecturer: | Dr. Marcel B. Ramer |
| Office phone: | |
| Email: | TBA |
| Office hours: | To be announced at the first session. |
| Course evaluation: | Debriefing at completion of the course |

**Course Description:**

**Objectives of the course:**
The objectives of the integration of basic sciences course is to give the students an opportunity to review the basics of the biomedical sciences and incorporate that knowledge into their understanding of the human systems.

**Attendance regulation:**
Optional with a minimum of 8 students in attendance

**Teaching arrangement and method of instruction:**
Review sessions, case discussions and a question and answer format.

**Assessment:**
Summative practice NBME exam
The final grade for the course is 750

**Time required for individual work:**
In addition to attendance in class, the students are expected to do ...

**Course Content\ schedule and outlines:**
Practice USMLE questions according to subject:
- Ethics
- Biostatistics and epidemiology review
- Quality assurance in health care
- Physiology review
- Biochemistry review
- Microbiology review

One practice voucher

**Required readings:**
* All learning material will be available to the students on the course's website (Moodle)/ library/electronic documents available to BGU students.
<table>
<thead>
<tr>
<th>Course Description:</th>
<th>Introduction to clinical nephrology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aims of the course:</strong></td>
<td>To introduce students to basic principles and practices of nephrology and hypertension.</td>
</tr>
<tr>
<td><strong>Objectives of the course:</strong></td>
<td>The first part of the course provides the anatomic, physiological and pathophysiologic background for dealing with renal disease and hypertension. Topics include renal circulation, glomerular and tubule structure and function, electrolyte and water handling by the kidney, the renin-angiotensin-aldosterone system, electrolyte disturbances, hypovolemia and hypervolemia, hyperosmotic and hypo-osmotic disorders and metabolic acidosis and alkalosis. The second part provides an extensive coverage of the clinical spectrum of kidney disease and hypertension. Topics include renal pathology, immunology of renal disease treatment, imaging of the urinary tract, nephritic syndrome, nephrotic syndrome, interstitial renal disease, cystic renal disease, acute kidney injury, chronic kidney disease, renal replacement therapy (dialysis), kidney transplantation, primary and secondary hypertension, urinary tract infection and urinalysis.</td>
</tr>
<tr>
<td><strong>Learning outcomes of the course:</strong></td>
<td>On successful completion of the course, the student should be able to:</td>
</tr>
<tr>
<td>1.</td>
<td>Understand normal function of the nephron.</td>
</tr>
<tr>
<td>2.</td>
<td>Be familiar with methods of assessment of renal function and pertinent laboratory tests used to evaluate renal disorders.</td>
</tr>
<tr>
<td>3.</td>
<td>Integrate renal function as part of systemic regulation of extra- and intracellular fluid volume. Specifically, the differential roles of sodium and water in regulating different fluid volumes are clarified. The student will be able to assess disturbances of water and sodium metabolism and treatment strategies will be exposed.</td>
</tr>
<tr>
<td>4.</td>
<td>Discern potassium metabolism from sodium metabolism and be aware of the significant differences in management of their disturbances.</td>
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<tr>
<td>5.</td>
<td>Evaluate renal contribution to the regulation of systemic acid base homeostasis.</td>
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<td>6.</td>
<td>Understand the role of the kidney as both a source and a target organ of effector molecules affecting calcium and phosphate metabolism.</td>
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<tr>
<td>7.</td>
<td>Differentiate between acute and chronic renal failure, their causes, complications and management.</td>
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<tr>
<td>8.</td>
<td>Apply clinical, laboratory and ancillary immunologic diagnostic testing to develop a differential diagnosis of kidney diseases presenting as nephritic or nephritic syndrome.</td>
</tr>
<tr>
<td><strong>Attendance regulation:</strong></td>
<td>Lectures – 80% mandatory attendance.</td>
</tr>
<tr>
<td></td>
<td>Case-based discussions - mandatory.</td>
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<tr>
<td></td>
<td>Day tour - mandatory.</td>
</tr>
<tr>
<td></td>
<td>Urinalysis lab - mandatory.</td>
</tr>
</tbody>
</table>
### Course director: Dr. Adi Leibe

**Contact details:**

**Office phone:**
Email: drleiba@gmail.com

**Office hours:**

**Course evaluation:** Online student survey and debriefing on completion of course.

**Confirmation:**
2019-20

**Last update:**
October 2019

### Teaching arrangement and method of instruction:

- 33 teaching units
- Day tour to Ashdod University Hospital, meeting with Palestinian Nephrologists, Introduction to PAIRS activity (Palestinian And Israeli Renal Society), International Nephrology, Ethics in Nephrology, Tour in dialysis unit etc.
- Case discussions, answering USMLE 1 questions

### Assessment:

- 3 quizzes: 30%
- NBME: 70%

### Work and assignments:

Students are expected to self-study the relevant material that will be assigned to each section and prepare for flipped classroom, case-based discussions and seminars. Presence in classroom for all these activities is mandatory.

Students will be expected to prepare seminars and present them in class.

### Course teaching units:

1. Renal Vasculature – Structure and Function
2. Glomerulus – Structure and Function
3. Tubular Networks – Structure and Function
4. Interstitium – Structure and Function
5. Sodium Handling by the Kidney
6. Hyponatremia, Hypernatremia
7. Water Handling by the Kidney
8. Hypovolemic/Hypervolemic
9. Potassium Handling by the Kidney
10. Hypokalemia/Hyperkalemia
11. Calcium & Phosphor Handling by the Kidney
12. Hypo/Hypercalcemia & Hypo/Hyperphosphatemia
13. Renal Hydrogen & Chloride handling
14. Acid-Base Disorders – Emphasis on Metabolic Acidosis and Alkalosis
15. Complex Electrolyte Disturbances
16. Pathology of Glomerular Disease
17. Glomerulonephritis
18. Nephritic Syndrome
19. Nephrotic Syndrome
20. Pathology of Interstitial and Tubular Disease
21. Interstitial & Cystic Disease of the Kidney
22. Acute Kidney Injury
23. Chronic Kidney Disease
24. Hypertension – Essential and Secondary
25. Drugs and the Kidney
26. Immunosuppressive Rx of Kidney Disease
27. Fluid Overload & Diuretics
28. Imaging of the Urinary Tract
29. Urinary Tract Infection
30. The Kidney as an Endocrine Organ
31. The Renin-Angiotensin-Aldosterone system
32. Renal Replacement Therapy
33. Kidney transplantation
34. Ethical Issues in Nephrology
Required reading:
Students should prepare before each lecture by reading the relevant chapters from:

**Harrison's Principles of Internal Medicine, 20th Edition, 2018**
Section 7, Alterations in Renal and Urinary Tract function 285-324
Part 9, Disorders of the Kidney and Urinary Tract 2089-2177
Chapters 271, 272, 1890-1910 (Hypertension, Renovascular Hypertension)

**Renal Physiology, Elsevier, Mosby Physiology Series, Bruce Koeppen, Bruce Stanton, 2019**
The entire book in accordance with the Syllabus

**Nephrology Secrets, Edgar Lerma, Mathew Sparks, Joel Topf, Elsevier, 2019**
The entire book in accordance with the Syllabus
**Last 2 books have Digital versions**

* All learning material will be available to the students on the course's website (Moodle)/library/electronic documents available to BGU students.
**Name of the course: Neuroanatomy**
**Number of course: 481-8-2028**

| BGU Credits | 3.75 |
| ECTS credits | |

**Academic year:** 2019-20

**Semester:** 2

**Hours of instruction:**
- 41 hours lectures
- 18 hours of exercises

**Location of instruction:** Faculty of Health Sciences classroom

**Language of instruction:** English

**Cycle:** 1st

**Position:** Mandatory system

**Field of Education:** MD

**Responsible department:** MSIH

**General prerequisites:** Successful completion of all prior courses

**Grading scale:** Honors/Pass/Fail

**Course Description:**

**Aims of the course:** The course provides an in-depth overview of neuroanatomy with special emphasis on relationships to both normal human function and dysfunction resulting from maldevelopment or injury to the nervous system.

**Objectives of the course**

The objective of the course is to provide the student with basic knowledge on the organization, function and pathology of the central nervous system. The student will learn the basis for further clinical studies in neurology and neurosurgery.

**Learning outcomes of the course:** On successful completion of the course, the student should be able to:

1. Demonstrate knowledge of the structure, topography and function of the brain and spinal cord.
2. Demonstrate a basic understanding of brain topography and functional anatomy of the motor and sensory pathway.
3. Understand the higher cerebral function such as language and emotions.

**Attendance regulation:**

- Lectures: Mandatory
- Exercises: Mandatory

**Teaching arrangement and method of instruction:**

- Frontal lectures; groups

**Assessment:**

- 40% practical examination
- 60% written exam – Multiple Choice Test and/or NBME test
Course Content\ schedule and outlines:

1. Organization of the central nervous system, meninges, brain ventricles. Cerebro-spinal fluid (CSF), production, flow and absorption.

2. Surface anatomy of the brain hemispheres, function of the different gyri and sulci. Brodmann map and its relation to the functional areas.


4. Midbrain – tectum, cerebral peduncle, substantia nigra, reticular formation, crus cerebri, inferior colliculi, tegmental and inter-peduncular nuclei, trochlear nerve.

5. Pons (Metencephalon) – general, surfaces; rostal pons, dorsal and ventral parts; caudal pons – dorsal and ventral parts; syndromes.

6. Medulla oblongata – anterior and posterior surfaces, cranial nerves nuclei and tracts located in the medulla oblongata; medullary syndromes.

7. Spinal Cord – general description, descending & ascending tracts, cytoarchitecture of the gray matter, blood supply to the spinal cord, injuries to the spinal cord, clinical manifestations.

8. Lymbic system- structures, tracts, function and its relation to autonomic and emotional response.

9. Cranial nerves - origin, course, function and impairment.

10. Visual system- optic nerves, optic tracts, brain stem nuclei related to the visual system, control of eye movement, visual fields and visual cortex.

11. Basal ganglia- structures, tracts and function. Interaction with the cerebral cortex and control of the motor system.

12. Cerebellum- structures, nuclei, tracts and function. Interaction with the cerebral cortex, brain stem and spinal cord. Regulation of the motor system.

13. Thalamus- thalamic nuclei, their function, connections to the cortical and subcortical areas, afferent and efferent fibers from an to the thalamus.

14. Autonomic system- sympathetic and parasympathetic pathways, the control on autonomic functions, neurotransmitters.

15. Auditory and vestibular systems, the related nuclei and tracts, the transmission of mechanical energy to electrical one.

Required reading: Neuroanatomy through clinical cases. Hal Blumenfeld, 2nd Ed.

* All learning material will be available to the students on the course's website (Moodle)/ library/ electronic documents available to BGU students.
Name of the course: Neurology System
Number of course: 481-8-2098

BGU Credits: 6
ECTS credits: 
Academic year: 2019-20
Semester: 2
Hours of instruction: 78
Location of instruction: Faculty of Health Sciences classroom
Language of instruction: English
Cycle: 1st
Position: Mandatory system
Field of Education: MD
Responsible department: MSIH
General prerequisites: Successful completion of all prior courses
Grading scale: Honors/Pass/Fail

Course Description: Essentials of clinical neurology

Aims of the course: Introduction to the neurological system and its main disorders.

Objectives of the course:

Neurology
The objectives of the Neurology part of the system are:
- Highlighting of selected aspects in neuroscience and molecular neurology.
- Theoretical basis for the clinical neurology clerkship; principles of localization and neurological diagnosis; pathophysiology of neurological dysfunction.
- Teaching is based on frontal lectures and self study.
  Some of the lectures given are problem-oriented. The students are required to prepare pre-given cases. The cases are discussed and clinical issues are highlighted.

Learning outcomes of the course:
On successful completion of the course, the student should be able to:
1. Know the principle neurological disorders.
2. Localize lesions in the different parts of the neurological system.
3. Assess a patient according to neurological principles and thinking.
4. Plan proper investigation and treatment for common neurological disorders.

Attendance regulation:
Lectures: Mandatory

Teaching arrangement and method of instruction:
Frontal lectures, self study.

Assessment:
NBME exam

Work and assignments:
Active class participation
Pre-class understanding of the seminar cases, their differential diagnoses, syndrome features and possible medical workup for the case.
System Content schedule and outlines:

1. Introduction to clinical neurology,
2. Neurological examination and localization,
3. Neurology of pain,
4. Headaches,
5. Spinal cord syndromes,
6. Multiple sclerosis and neuro-immunology,
7. Epilepsy,
8. Degenerative neurological disorders,
9. Movement disorders,
10. Diseases of the peripheral nervous system,
11. Diseases of the neuromuscular junctions,
12. Neuropathies and myopathies,
13. Motor neuron diseases,
14. Cerebrovascular disorders,
15. Viral and bacterial infections of the CNS,
16. Intracranial pressure,
17. Tumors in the CNS,
18. Intracranial hemorrhages,
19. CNS trauma, states of consciousness,
20. Metabolic diseases of the nervous system,
21. Imaging,
22. Dementia and disorders of high cortical function,
23. Paraneoplastic,
24. Neuro-ophthalmology,
25. Attention deficit disorder,
26. Sleep disorders.

Required reading:
Clinical Neurology, Greenberg, Aminoff and Simon (digital available)

Recommended reading:

Copies are in the medical library.

Additional literature:
Adams and Victor’s Principles of Neurology 10th Edition  
Harrison’s Principles of Neurology
Course Description:
Based on the knowledge acquired in the introductory Global Health course, the current course will focus on specific health issues in the communities in which the students are expected to carry out their clerkships (Nepal, India, Ghana, etc). The impact of historical, political, economic and socio-cultural determinants of health will be considered. In addition, the practices and interactions of providers from different sectors of health care in the specific countries and communities (traditional healers, midwives, Ayurveda, modern, etc.) as well as their impact on the health of local populations will be explored.

Aims of the course
1. To enhance the students’ understanding of health issues in different environments and socio-cultural contexts
2. To prepare students for their clerkship in specific communities

Objectives of the course
1. To increase students’ understanding of the determinants of health
2. To strengthen students’ abilities of utilizing community profiling methods and culture sensitive interviews
3. To enhance the understanding of parallel health systems in countries which are economically and socially different than their country of origin
4. To promote a culture and gender sensitive approach to global health issues in specific contexts

Learning outcomes of the course:
On successful completion of the course, the students should be able to:

1. Apply skills acquired to promote a community based, culture and gender sensitive approach to health care
2. Cope with challenges and dilemmas related to values and beliefs different than their own while dealing with health issues in specific contexts
3. Use Kleinman’s Explanatory Model as a basis to explore and understand patient’s beliefs, perceptions and practices
4. Enable professional networking and knowledge-sharing skills to enhance medical practice in specific cultural contexts

Teaching arrangement and method of instruction:
1. Interactive lectures, including discussion of case studies and video clips
2. Group work and development of simulations based on dilemmas and challenges related to global health issues in specific contexts, guided by teacher assistants
3. Guest lecturers and student presentations and discussions
Attendance regulation: Mandatory

Assessment:
30% Class attendance and participation
30% Community profiling, health system analysis and health issue assignments and EM interview
30% Simulations related to global health dilemmas and challenges, including report

Work and assignments:
The class will work in groups, focusing on the different countries and communities (clerkship sites). They will prepare short presentations and simulations followed by discussions. The final presentation will take place during the workshop with 4th year students returning from their clerkships.

Time required for individual work:
In addition to attendance in class, the students are expected to work on readings and assignments, 4-6 hours between monthly classes (including meetings with TAs)

Course Content:
1. The socio-ecological approach to health in the global context
2. The sectors of health care: popular, traditional, alternative, professional. The interaction of parallel health systems in specific country contexts
3. Community profiling and health needs assessment
4. The Explanatory Model (Kleinman) and its contribution to provider patient interaction and culture competence in health care
5. Interdisciplinary research on health issues
6. Global health issues in specific contexts: analysis of case studies

Required readings:


Additional literature:
Relevant articles will be recommended according to the communities/ countries and the specific health issues to be analyzed by the groups.

All learning material will be available to the students on the course's website (Moodle)/ library/ electronic documents available to BGU students.
### Psychiatry

**Number of course:** 481-8-2095

| BGU Credits: | 6 |
| ECTS credits: | |
| Academic year: | 2019-20 |
| Semester: | 2 |
| Hours of instruction: | 78 |
| Location of instruction: | Faculty of Health Sciences classroom |
| Language of instruction: | English |
| Cycle: | 1st |
| Position: | Mandatory |
| Field of Education: | MD |
| Responsible department: | MSIH |
| General prerequisites: | Successful completion of all prior courses. |
| Grading scale: | Honors/Pass/Fail |

#### Course Description:

**Aims of the course:**

Psychiatry: The aim of the course is to equip the student with information base for the clinical clerkship and the medical career regarding clinical psychiatry, basic psychiatric concepts, language, diagnoses and some knowledge in psychology and behavioral sciences.

**Learning outcomes of the course:**

On successful completion of the course, the student should be able to:

1. Conduct a basic psychiatric interview
2. Recognize a range of psychiatric conditions and understand the pharmacological treatment for each condition
3. Demonstrate knowledge of the psychological evaluation of the child
4. Be familiar with aspects of geriatric psychiatry
5. Be familiar with aspects of psychiatric rehabilitation

#### Attendance regulation:

08.15-lunch break – mandatory

All seminars - mandatory

#### Teaching arrangement and method of instruction:

- Frontal lectures
- Self-study is expected in the following cases: sexual abuse, substance intoxication, psychological defense mechanism found in the text below

#### Assessment:

- NBME exam: 100%

#### Work and assignments:

Active class participation

Pre-class understanding of the seminar cases, their differential diagnoses, syndrome features and possible medical workup for the case

**Time required for individual work:** in addition to attendance in class, the students are expected to do their assignment and individual work at home, spending roughly 30mins per hour lecture.
Course Content\ schedule and outlines:
Subjects covered include the classification and diagnostic interview in psychiatry; schizophrenia and psychotic disorders; mood disorders; anxiety disorders; posttraumatic and adjustment disorders; psychotherapeutic and pharmacologic treatments; child, adult, and geriatric psychiatry; ADHD, sleep disorders, substance abuse and forensic psychiatry.

Required
Synopsis of Psychiatry, 10th or 11th Ed.
Current edition; http://www.synopsisofpsychiatry.com

Additional literature:
Textbook of Psychiatry B.K. Puri, P.J. Laking, I.H. Treasaden, Churchill Livingstone
Current edition
First Aid to the Psychiatry Clerkship
Case files for psychiatry
Blueprint Case files for Psychiatry

Lecturer: Dr. Ari Lauden

Contact details:

Office phone: 
Email: lauden_a@mac.org.il

Office hours: 
TBA at first lecture

Course evaluation:
Student online survey and debriefing at completion of course.

Confirmation: 
2019-20

Last update: 2019-20
### Name of the course: Reproductive System

**Number of course: 481-8-2079**

| BGU Credits: | 4.6 |
| ECTS credits: | |
| Academic year: | 2019-20 |
| Semester: | 2 |
| Hours of instruction: | 60 |
| Location of instruction: | Faculty of Health Sciences classroom |
| Language of instruction: | English |
| Cycle: | 1st |
| Position: | Mandatory system |
| Field of Education: | MD |
| Responsible department: | MSIH |
| General prerequisites: | Successful completion of all prior courses |
| Grading scale: | Honors/Pass/Fail |

**Course Description:**

**Aims of the course:**

The Reproductive System course is an introduction to the clinical area of Obstetrics and Gynecology and Reproductive Medicine. It will also help you get acquainted with the rotation in the third year.

**Objectives of the course:**

To enable students to acquire basic understanding of human reproduction, maternal physiology during pregnancy, normal parturition, and infertility.

**Learning outcomes of the course:**

On successful completion of the course, the student should be able to:

1. Describe normal sexual development of men and women
2. Demonstrate understanding of normal and abnormal sexual development
3. Understand the anatomy of the female reproductive system
4. Understand the anatomy of the male reproductive system
5. Understand the basic pathophysiology leading to malignancies of reproductive organs
6. Understand the process of a normal delivery, from pre-natal diagnosis through delivery
7. Understand the causes of miscarriage
8. Be familiar with diseases associated with pregnancy, i.e. diabetes, infections, endometriosis
9. Be familiar with the underlying causes of amenorrhea and anovulation

**Attendance regulation:**

100% attendance at lectures is required.

**Teaching arrangement and method of instruction:**

Frontal lectures and case discussions

**Assessment:**

NBME Exam: 100%

**Time required for individual work:**

In addition to attendance in class, the students are expected to do their assignment and individual work at home, roughly 30mins per hour lecture.
Course Content \ schedule and outlines:

Lectures:
1. Menstrual cycle
2. Endocrinology of Male Reproduction & Male Infertility
3. Polycystic Ovary Syndrome
4. Implantation & Fertilization
5. Histology
6. Normal & Abnormal Sexual Development
7. Amenorrhea and anovulation
8. Endometriosis
9. Miscarriage and recurrent pregnancy
10. Parturition and post maturity
11. Pre-term and post-term labor
12. Placental development and function
13. Diabetes in pregnancy
14. Ovarian cancer
15. Hypertensive disorders in pregnancy
16. Normal delivery
17. Third trimester bleeding
18. Prenatal diagnosis
19. Urinary incontinence
20. Maternal adaptation to pregnancy
21. Benign and malignant conditions of the uterine corpus
22. Obesity
23. Pathology
24. Fetal physiology

Required reading:
Lange, Current diagnosis and treatment, Obstetrics and Gynecology, 10th Edition

Additional literature:
Melmed: Williams Textbook of Endocrinology 12th ed (ebook on MDConsult)
Both available through the BGU Medical library internet site.

* All learning material will be available to the students on the course's website (Moodle)/ library/ electronic documents available to BGU students.
**Name of the course:** Respiratory System  
**Number of course:** 481-8-2022

**BGU Credits:** 8  
**ECTS credits:**  
**Academic year:** 2019-2020  
**Semester:** 2  
**Hours of instruction:** 105  
**Location of instruction:** Faculty of Health Sciences classroom  
**Language of instruction:** English  
**Cycle:** 1st  
**Position:** Mandatory system  
**Field of Education:** MD  
**Responsible department:** MSIH  
**General prerequisites:** Successful completion of all prior courses.  
**Grading scale:** Honors/Pass/Fail

**Course Description:**

**Aims of the course:**

The goal of the respiratory system is to introduce and teach basic principle and practice in pulmonology.

**Objectives of the course:**

Objectives are to enable students to classify and acquire understanding of the process of breathing – oxygenation and ventilation, pulmonary clinical and pathological disorders, and to incorporate laboratory findings into clinical problem solving.

**Learning outcomes of the course:** On successful completion of the course, the student should be able to:

1. Demonstrate knowledge of embryology, histology and lung defense mechanisms.
2. Demonstrate knowledge of basic and advanced lung physiology.
3. Describe respiratory diseases in adult and pediatric pulmonology.
4. Demonstrate knowledge of pulmonary function tests.
5. Be familiar with mechanical ventilation.

**Attendance regulation:**

- Lectures – 80% mandatory attendance
- Labs - mandatory

**Teaching arrangement and method of instruction:**

- Frontal lectures, groups

**Assessment:**

Combined faculty written multiple choice questions and NBME web-based test to comprise 100% of the assessment.

**Work and assignments:**

- Students are required to take active part in class participation, clinical discussions and computer and physiology laboratories.

**Time required for individual work:**

In addition to attendance in class, the students are expected to do their assignment and individual work at home, roughly 30mins per hour lecture.
Course Content/schedule and outlines:

1. Basic Science: Embryology; Histology; Lung Defense Mechanisms.

2. Basic Lung Physiology: Structure and function relationship, Ventilation, Perfusion, Gas Transport, Lung Mechanics (Static and Dynamics) lung volumes and ventilation, Ventilation Perfusion mismatch, Respiratory Muscles, Pulmonary Circulation, Cardio-Pulmonary Relationship, Control of breathing.

3. Advanced Lung Physiology: Air and Fluid in Pleural Space, Exercise Physiology, High altitude Physiology, Scuba Diving Physiology, Acid Base Physiology.

4. Respiratory Diseases
   - Adult Pulmonology : Chronic Obstructive Pulmonary Disease (COPD); Interstitial Lung Disease (ILD), Asthma, Pneumonia; Tuberculosis, Bronchiectasis and Lung Abscess, Lung Tumors: clinical and pathological aspects, Venous Thrombo-Embolism; Sarcoidosis, Acute Respiratory Distress Syndrome (ARDS) Sleep-Related Disorders.
   - Pediatric Pulmonology: Fetal adaptation to fetal life, Hyaline Membrane Disease, Bronchiolitis, Pneumonia, Cystic Fibrosis, Childhood Asthma, Sudden Infant Death Syndrome.

5. Pulmonary Function Tests (PFTs); Lung imaging.

6. Viruses in the Respiratory tract

7. Mechanical ventilation.

8. Visit to ICU’s

Required reading:
Respiratory Physiology: The Essentials 8th Ed. John B. West

Additional literature:
Melmed: Williams Textbook of Endocrinology 12th Ed (ebook on MDConsult) Both available through the BGU Medical library internet site.

* All learning material will be available to the students on the course’s website (Moodle)/library/electronic documents available to BGU students.
# Name of the course: Rheumatology System

**Number of course:** 481-8-2030

| BGU Credits: | 6 |
| ECTS credits: | |
| Academic year: | 2019-20 |
| Semester: | 2nd |
| Hours of instruction: | 84 |
| Location of instruction: | Internal Medicine, Bldg. Soroka Medical Center |
| Language of instruction: | English |
| Cycle: | 1st |
| Position: | Mandatory system |
| Field of Education: | MD |
| Responsible department: | MSIH |
| General prerequisites: | None |
| Grading scale: | Honors/Pass/Fail |

## Course Description:
The Rheumatology course is based on the fundamentals of histology, pathology, biochemistry, immunology and therapy of various rheumatic diseases.

## Aims of the course:
Review the histology, pathology, biochemistry, immunology and therapy of rheumatic diseases.

## Learning outcomes of the course:
On successful completion of the course, the student should be able to:

1. Understand the pathogenic mechanisms of various autoimmune and rheumatic diseases.
2. Classify rheumatic diseases and to learn the diagnostic tools of rheumatic diseases.
3. To know the various therapeutic modalities of rheumatic diseases.

## Attendance regulation:
- Lectures – mandatory
- Labs - mandatory

## Teaching arrangement and method of instruction:
Frontal lectures/lab/simulations

The main areas of clinical rheumatology are taught including; seropositive (Rheumatoid Arthritis, systemic lupus erythematosus, systemic sclerosis, inflammatory myopathies and vasculitis), spondyloarthopathies (psoriatic arthritis, ankylosing spondilitis, and reactive arthritis), crystal-induced arthritis (gout, pseudogout), septic arthritis, degenerative arthritidies, fibromyalgia, nonarticular rheumatism and osteoporosis.

Other subjects included in the Rheumatology System are imaging of rheumatic diseases, nonsteroidal anti-inflammatory drugs, disease modifying anti-rheumatic drugs, biologic therapies, and corticosteroids.

## Assessment:
- Exam - 100% NBME

## Work and assignments:
- 6 topics for self-study

## Time required for individual work:
Students are required to review lectures and read...
Course Content schedule and outlines

1. Introduction
2. Biochemistry – Self Study
3. Histology
4. Immunology
5. Lupus
6. Rheumatoid arthritis
7. Seronegative and reactive arthritis
8. Scleroderma
9. Clinical approach to rheumatology
10. Pathology
11. Vasculitis
12. Osteoarthritis
13. Fibromyalgia – Self Study
14. Synovial fluids
15. Antiphospholipid syndrome
16. Familial Mediterranean Fever and Amyloidosis – Self Study
17. Soft tissue rheumatism
18. Crystal deposition disease
19. Imaging
20. Pharmacology
21. Osteoporosis
22. Osteomyelitis and septic arthritis – Self Study
23. Idiopathic inflammatory myopathies
24. Treatment of rheumatological disorders
25. Lyme Disease – Self Study
26. Sjogren Syndrome – Self Study

Required reading: Primer on Rheumatic Diseases, Klippel

Additional literature:

* All learning material will be available to the students on the course’s website (Moodle)/library/electronic documents available to BGU students.
Third Year Clinical Clerkships and Global Health
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**Course Description**

Workshop to illustrate and promote discussion of cross-cultural medical issues.

**Aims of the course:**

Exposure of students to different aspects of cross-cultural medical scenarios.

**Objectives of the course:**

Show students which cross-cultural issues may arise while working in a medical clinical environment and show possible solutions.

**Learning outcomes of the course:**

On successful completion of the course, the student should be able to:

- Identify a cross-cultural issue
- Postulate alternative solutions to the identified issue
- Communicate an experience with others to solve cross-cultural problems

**Attendance regulation:**

Mandatory

**Teaching arrangement and method of instruction:**

- Lectures
- Exercise sessions with simulated patients
- Group discussions
- Practical involvement.
Assessment:
- Mandatory attendance
- Active participation in all discussions, workshops, and practical sessions

Work and assignments:
Active participation in all discussions, workshops, and practical sessions.

Time required for individual work:
In addition to attendance in class, the students are expected to actively participate in all discussions, workshops, and practical sessions.

Course Content\ schedule and outlines:
Day 1
8:30- 9:00  Introductions
9:00 – 10:30 My cultural object
11:00- 11:30 CHAT tool
11:30- 12:00 Effective use of a medical interpreter
12:00- 13:00 Lunch break
13:00-16:00 Case presentations: Students interviewing simulated patients
4 rotating groups - 45 minutes each.
Group 1: HIV
Group 2: Bulgarian worker
Group 3: Post coital bleeding
Group 4: Bedouin women with Cesarean section
16:00- 16:15 Summary

Day 2
09:00- 10:00 Truth telling in cultural perspective-
10:00- 12:00 Simulated patients interview:
2 groups rotating.
10:00-11:00 Child with Diarrhea
11:00-12:00 Asthma patient before discharge hope
12:00-12:30 Overview

Required reading:
Reimagining Global Health - Farmer

Additional literature:
Literature re Global Health and Cross Cultural Communications
**Name of the course:** Emergency Medicine - 2  
**Number of course:** 481-8-3100

**Course Description:** The course focuses on teaching the emergency aspect of Internal Medicine. It does so through frontal lectures and case discussions conducted by intensive hands-on practice of various skills and situations.

**Aims of the course:**
To provide students with necessary skills for assessing and treating emergency situations, emphasizing the common situations the students can encounter during the Internal Medicine clerkship.

**Objectives of the course:**
The course is designed to cover the formal ACLS course content and to practice it to a level that will allow the students to pass the course evaluation. Remaining Emergency Medicine topics including Respiratory emergencies and manual skills, will give students a basis to practice clinical thinking, assessment, and treatment of common situations they might see in any Emergency Dept. or Internal Medicine ward.

**Learning outcomes of the course:**
On successful completion of the course the student should be able to:
1. Initially assess an acutely ill patient, take a relevant history, and perform a focused physical examination.
2. Provide an airway and ventilatory support for the patient
3. Manipulate manual monitor/defibrillator and external cardiac pacing
4. Identify and treat common ACLS emergencies
5. Identify and treat common internal emergencies
6. Perform as a team leader in an emergency setting

**Attendance regulation:**
Attendance is compulsory for all Emergency Medicine activities, unless stated otherwise by the course’s staff.

**Teaching arrangement and method of instruction:**
The frontal lectures and case discussions will be held for the entire class.
The case discussions are designed to be interactive with the students, allowing them to practice clinical thinking.
The practical skill stations and megacode sessions will be taught in small groups up to ~12 students
Every scenario practiced by student is followed by a focused and targeted debriefing.

**Assessment:**
1. **MCQ test -90%**
   a. To be eligible for “ACLS Provider” certificate, the student must score at least an 80% on relevant AHA questions, and on the staff’s supplementary questions.
2. **MCQ moodle exams throughout the course-10%**
3. **OSCE practical stations – Mandatory “pass” grade**
Time required for individual work:

In addition to attendance in class, the students are expected to complete the reading material that will be published for them on the Moodle course site.

Course Content

Lectures:

1. Introduction
2. Pulseless Arrest
3. ROSC+H’s & T’s
4. Advanced Airway
5. ECG rhythm review
6. ECG 12 lead review
7. Advanced ECG interpretation
8. Cardiac Arrhythmias X 2
9. Conscious patient evaluation
10. Approach to the severely ill child
11. Radiology - CXR
12. Point of care ultrasound

Case Discussions:

1. ACS/CHF Case discussion
2. Respiratory Emergencies Case discussion
3. Arterial blood gas

Practical Skills Stations:

1. NG tube
2. Foley Catheter
3. IO
4. IV access
5. Blood draw, IM & SC injections
6. ILS, AED
7. Advanced air way & capnography
8. Vital signs & Noninvasive positive pressure support
9. Monitor & ECG
10. Communication
11. Radiology CXR X 2
12. Point of care US – Lung, Shock

Megacode Drills Sessions:

1. Pulseless Arrest X 3
2. Cardiac Arrhythmias X 4
3. ACS / CHF X 2
4. Respiratory Emergencies X 2
5. “Put It Together” X 3

Required reading:

1. American Heart Association Guidelines, 2015 update (selected parts)
2. Tintinalli’s Emergency Medicine, 8e (selected chapters)

Additional reading:

1. New England Journal of Medicine – Videos in Clinical Medicine
2. Rapid Interpretation of EKG’s (6th edition), Dale Dubin
**Name of the course:** Family Medicine Clerkship  
**Number of course:** 381-8-3072

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**BGU Credits:** 6  
**ECTS credits:**  
**Academic year:** 2019-20  
**Semester:** 2  
**Hours of instruction:**  
4 weeks  
32 hours of classroom instruction  
128 hours in clinical rotation  
**Location of instruction:**  
Community health clinics in and around Be’er Sheva and Faculty of Health Sciences classrooms.  
**Language of instruction:** English  
**Cycle:** 1st  
**Position:** Mandatory clerkship  
**Field of Education:** MD  
**Responsible department:** MSIH  
**General prerequisites:**  
Successful completion of all prior courses/systems/clerkships  
**Grading scale:**  
Honors/High Pass/Pass/Fail

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**Course Description:**  
Approach and hands on experience of family medicine including diagnosis and treatment of common medical problems, chronic illness care and follow-up, and preventive medicine in the community-based setting.

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**Aims of the course:**  
A significant part of medical care in this era takes place within the community clinics. Many medical conditions are diagnosed and treated in the community. Medical care in the community setting differs from hospital based medicine: Ongoing family patient relationships, long-term approach and patient-centered approach. Becoming familiar and knowledgeable in family medicine is an integral part of medical education no matter what medical expertise you choose in the future.

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**Objectives of the course:**  
This course is designed to equip you with knowledge of family medicine as it is practiced in Israel. There are topics which are included in family medicine and specifically in the shelf test at the end of this course, which are not part of FM in Israel. You are required to study these topics on your own.

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**Learning outcomes of the course:**  
At the end of this rotation you will be expected to know:  
1. History taking and medical examination of patients, in a problem-based and community context.  
2. How to approach common signs and symptoms in the community setting, and to identify “red flags” and serious medical conditions that warrant immediate attention.  
3. Preventive medicine guidelines and their application in the community.  
4. Care of the chronic patient: diagnosis treatment and long term follow-up.  
5. Methods of family assessment and their applications, and become familiar with the biopsychosocial approach.  
6. Diagnoses and treatment of common medical problems in specialized medical fields such as: orthopedics, ophthalmology, dermatology, ENT, psychiatry.

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**Attendance regulation:**  
**Attendance at the clinics is mandatory and required by the medical school.**  
MSIH requires at least 80% attendance as part of the course requirements. If you are obliged to miss time at the clinic, you are required to complete the time missed at another time in coordination with your tutor.

**Attendance of the lectures is also mandatory.**  
If you have a specific problem, please contact the rotation coordinator personally.
Teaching arrangement and method of instruction:
During this 4 week rotation, each one of you will be assigned to a Family physician, working in a primary care clinic. You will join the physician during his/her routine work, interview patients, examine patients and discuss differential diagnosis and treatment. Before beginning your rotation you will receive the name, phone no., work address, and work hours of the doctor you are assigned to. Please make contact with the family physician you are assigned to prior to the beginning of the rotation, and make sure you know how to get to the clinic. Some of the clinics are in Be’er Sheva, and some are outside of Be’er Sheva in satellite towns which are reachable by public transportation. If you are not sure of your assigned clinic, doctor or how to get there, please contact the office.

Days at the clinic are: Sun., Mon., Tues. and Thurs. On Wednesdays the group will attend lectures and seminars held at the faculty.

Assessment:
At the end of the four week rotation you are required to take the NBME test, an external exam, given by MSIH. Before the exam you will have time for self-study. The NBME shelf test consists of 30% of your grade, and 70% consists of evaluation of your time at the clinics. Three assignments (1 genogram and 2 patient write-ups) are to be handed in until the last day of the rotation. This is a mandatory part of the course. An integrative and important part of this rotation is attendance at the clinics.

Attendance at the clinics and lectures will be taken into account as part of your grade.

Work and assignments:
1. Family Genogram: Each student is required to interview and write up a family genogram of one of your patients in the clinic. The genograms will be presented and discussed during the lecture on “The Genogram and tools of family assessment”. For further details see attached pages.

2. Chronic Disease: An important issue in Family Practice is treating patients with chronic disease and following them as their disease evolves. During the rotation you will be required to present two patients with a chronic disease, including: diagnosis, medical history, psychosocial history, treatment (pharmacologic and other), complications, and the patient’s attitude and coping with the disease.

Your tutor can assist you in choosing a patient. One of the patients should have one or more of the following diseases: Diabetes Mellitus, hypertension, ischemic heart disease, dyslipidemia. The second patient can have any chronic disease that you choose.
You will present and discuss these patients during the lectures on Wednesdays. The presentation must be written and handed in according to the lecture schedule.

Time required for individual work: in addition to attendance in class, the students are expected to do their assignments and individual work.
Clerkship Content schedule and outlines

Course lectures:

a. Introduction and orientation to family medicine  
b. Preventive Medicine  
c. Tools for Family Assessment  
d. Smoking Cessation  
e. Seminars/Case presentations:  
   a. Diabetes, hypertension, dyslipidemia, ihd. Each topic will be discussed in terms of diagnosis, tx, complications and long term follow-up and complications.  
   b. Case presentation (free topics)

The cases will be written up and submitted to your tutor who will assist you in finding an appropriate patient to interview and present. You are expected to present the patient and his medical and psychosocial background, relevant medical problems and information: up-to-date and relevant to the patients' medical conditions. (i.e., knowing and presenting HTN guidelines for a patient with HTN)

f. Asthma seminar  
g. Orthopedics workshop: shoulder, low back pain, knee  
h. Dermatology  
i. Common Eye dis.  
j. Palliative care  
k. Self-limiting dis.  
l. Women's health  
m. Breaking bad news.

The case presentations are to include:

- Patient presentation, problem oriented (you may use a SOAP format), psychosocial background, broad medical background.  
- Theoretical up-to-date clinical information relevant to the patient's medical condition.

During the case presentations you must be prepared to present the theoretical background relevant to your patient. I.e.: Diabetes guidelines and treatment if your patient has diabetes.

Required reading:
A complete list of readings is posted on the Family Medicine Clerkship Moodle site.

Additional literature
Additional literature is posted on the Family Medicine Clerkship Moodle site.

* All learning material will be available to the students on the course's website (Moodle)/library/electronic documents available to BGU students.
Wednesday seminar schedules over the clerkship

**Seminar 1:**
1. Principles of Family Medicine
2. Self-limiting disease
3. Preventive medicine
4. Lower back pain
5. Dermatology in primary care

**Seminar 2:**
1. Chronic cough and asthma
2. Primary eye care
3. Case presentation and discussion: hypertension, Diabetes mellitus, dyslipidemia
4. Breaking bad news
5. Ob/gyn in family medicine

**Seminar 3:**
1. Genogram and tools for family assessment
2. Case presentation and discussion
3. Palliative care
4. Knee and shoulder
5. Smoking cessation
6. Summary and feedback
## Name of the course: Internal Medicine

### Number of course: 471-8-3200

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### Course Description:
Basic clinical teaching course in Internal Medicine using the Problem Oriented Record (POR) system.

### Aims of the course:
Internal Medicine is the basis of a doctor’s training. The goal of teaching in internal medicine is understanding the clinical way of thinking along with increasing the student's medical knowledge and mastering the physical exam.

### Objectives of the course:
Clinical thinking comprises a few stages including collecting information about the patient's condition by history and search of the patient's medical record, physical exam and relevant tests. While progressing in the course the student will gain tools that will enable him or her to process the information relevant to the patient's condition, while distinguishing the important information, defining the patient's problems and bringing to discussion any other problems including relevant differential diagnosis, discussing possible avenues for further diagnosis and developing a treatment program in order to deepen an understanding of the patient's problems (Problem Oriented Record).

### Learning outcomes of the course:
On successful completion of the course, the student should be able to:
1. Complete an admission for an Internal medicine patient using POR and a complete physical exam
2. Present the patient both verbally and in writing
3. Discuss common problems in internal medicine, including differential diagnosis and basic knowledge of these diseases

### Attendance regulation:
attendance is mandatory

### Teaching arrangement and method of instruction:
**Bedside teaching** is the main component of teaching in rounds and includes:

1. – Rounding with medical staff and guided rounds -Students will join staff for visits and will learn from a senior physician about the approach to patients’ medical problems. During the visit students will perform partial physical examination while emphasizing pathological findings. Students will take part in discussions about treatment and diagnostic program for each patient, while working with multidiscipline staff.

   - Guided rounds are for students only. The purpose is to have an in-depth discussion about the medical approach to the patient and his or her problems. The rounds are done by the dept. doctors as well as doctors from other disciplines: hematology, endocrinology, infectious disease, pulmonology, gastroenterology, cardiology, and rheumatology.

   Usually the rounds are with patients who were received by the students: the student presents the patient to the other students and the tutor, performs a full physical examination, interprets the results of the patient’s tests, defines the patient’s problems, discuss the differential diagnosis and suggests a program for diagnosis and treatment.
2.- Receiving patients for learning purpose-
Includes taking a history, collecting data from the patient's file, full physical
examination, interpreting relevant tests, defining a patient's problems using SOAP
(subjective, objective, assessment, plan) method. These admissions form the
basis of learning clinical reasoning along with learning the different medical
problems a student should be familiar with. The admissions are reviewed by the
department doctors and are checked by a senior doctor/head of the department.

Frontal teaching- short seminars (1 hour) about approach to patients with the
most common problems in internal medicine- while emphasizing the clinical
aspect of the diseases: symptoms, physical findings, differential diagnosis etc. (see
a list of subjects).

Course tasks: attendance mandatory
1. 12 admissions to be submitted to supervisor
2. Drug of the day- in order to get to know better the common medications used in
   internal medicine, the student should prepare a short lecture about each
   medication including activity mechanism, indications, contraindications, side
effects:
   - Nitrates, digoxin
   - Beta blocks
   - Calcium blocks
   - Antiarrhythmic medications
   - Hypertension treatment- ACE inhibitors & After load Reduction
   - Beta-lactames: penicillins, cephalosporins
   - Aminoglycosides (including monitoring levels of medication) tetracyclines
     and chloramphenicol
   - Medications for Tuberculosis
   - Anti-thrombin, anti 10a, heparin and Coumadin
   - Insulin and Oral hypoglycemic drugs, GLP-1 agonists and DPP4 – inhibitors
   - NSAIDS and steroids

3. Accompanying the patient to tests and diagnostic procedures. Eg:
endoscopy, echocardiography, heart catheterization, bronchoscopy, different
punctures (abdominal, pleural), bone marrow biopsy

4. Actions the student should perform during the round:
   - Taking blood tests
   - Inserting IVs
   - Taking vital signs: blood pressure and pulse manually, number of breaths
     per minute
   - Perform and interpret ECGs
   - Taking urine samples and examine them under a microscope

5. Once a week every student should do a shift until 23:00 with the staff
doctor and accompany him or her.

Student Requirements:
1. Mandatory attendance for all seminars and rounds
2. Satisfactory completion of a mini-CEX form
3. Submission of completed Log Book
4. Completion of 10 NEJM cases:
   http://www.nejm.org/multimedia/interactive-medical-case
5. Completion and mandatory submission of 12 admissions
6. Completion and mandatory submission of Checklist (Moodle)
7. One mandatory seminar presentation
8. One mandatory Journal Club presentation
Assessment:

Evaluation according to 2 criteria:
1. Department evaluation – the department where the student worked will evaluate the student’s clinical abilities and knowledge during the round: 50% of final grade
2. Written test: NMBE shelf test 50% of final grade

Course Structure: Daily Activity:

7.30-8.30 taking bloods 8.30-9.30 morning meeting (including academic activity in the dept.) 9.30-10.30 Medication of the day 10.30-12.30 morning visit (guided or xxx)
13.30-14.30 seminar (twice-three times a week) 14.30-16.300 “kabalat” a patient

Main Subjects:

- **Cardiovascular diseases:**
  - Approach a patient with hypertension
  - Approach a patient with chest pain
  - Approach a patient with acute coronary event
  - Approach a patient with a heart failure
  - Approach a patient with an Atrial Fibrillation
  - Approach a patient with arrhythmia

- **Viral Diseases**
  - Approach a patient with a fever
  - Approach a patient with Sepsis
  - Approach a patient with TB
  - Approach a patient with HIV
  - Approach a patient with SBE
  - Approach a patient with urinary infection

- **Respiratory diseases**
  - Approach a patient with pneumonia
  - Approach a patient with COPD
  - Approach a patient with Asthma
  - Approach a patient with pulmonary embolism
  - Approach a patient with shortness of breath

- **Hematological diseases**
  - Approach to Thrombophilia
  - Approach to Anemia
  - Lymphoma
  - Leukemia

- **Nephrology diseases**
  - Approach to acute lungs failure
  - Approach to disorders of Sodium balance
  - Approach to disorders of Potassium balance
  - Fluids and electrolytes program for an internal patient
  - disorders of Acid-Base balance

- **Endocrinology and Metabolic disease**
  - Approach a patient with Dislypidemia
  - Approach a patient with thyroid disorders
  - Approach a patient with hyperglycemia and diabetes
  - Approach a patient with hypoglycemia

- **Gastroenterology Diseases**
  - Approach to chronic Gastroenterology Diseases
  - Liver Enzyme disorder

Required time for self-study: Approx. 3 hours a day for completing tasks and reading relevant material

Reading List:

All learning material will be available to the students on the course’s website (Moodle)/ library/ electronic documents available to BGU students.
**Name of the course:** Neurology Clerkship  
**Number of course:** 481-8-3098

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<td>Hours of instruction:</td>
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<td>Faculty of Health Sciences classroom, hospital wards</td>
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<td>Language of instruction:</td>
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<td>Cycle:</td>
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<td>Field of Education:</td>
<td>MD</td>
</tr>
<tr>
<td>Responsible department:</td>
<td>MSIH</td>
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**Course Description:**

**Objectives of the course:**

The goal of the Neurology Clerkship is to make the students familiar with neurological conditions and approach to neurological problem-solving.

**Learning outcomes of the course:**

On successful completion of the course, the student should be able to:

1. To acquire skills in neurological examination, localization and systematic neurological evaluation.
2. To be familiar with common neurological symptoms and signs.
3. To be exposed to different common neurological conditions.
4. To be able to construct a neurological differential diagnosis based on localization of the lesion, disease course and anamnestic/demographic characteristics.
5. To understand the importance of the different imaging exams and electrophysiological tests in diagnosis.
6. To be familiar with the management and therapy of common neurological diseases.
7. To be familiar with common neurological emergencies.

**Attendance regulation:**

Mandatory

**Teaching arrangement and method of instruction:**

Bedside rounds, practice sessions-neuro exam, self-learning, case-based seminars, participation in usual ward activities-imaging meetings, neurophysiology, outpatient clinics, participation in evening duties

**Assessment:**

- Submission of a complete patient admission form
- Performance during the clerkship

**Work and assignments:**

Attendance/lecture preparation  
Self-review of neuroanatomy/neurophysiology

**Time required for individual work:**

Approximately 3 hours/day for completing tasks and reading relevant material.
Coordinator:
Dr. Yacov Ezra (Soroka)
Dr. Ron Milo (Barzilai)
Dr. Armon Carmon (Assaf Harofe)

Contact details:
Office phone:
Email:
Ibrahimneuro16@gmail.com
rmilo@barzi.health.gov.il
Carmon@asaf.health.gov.il

Office hours:

Course evaluation:
Online student survey and debriefing at the completion of the clerkship

Confirmation:
2019-20

Last update:
January 2019

Clerkship Content\ schedule and outlines:

Lectures/seminars:
1. The neurological examination
2. Multiple sclerosis
3. Headache
4. Neuro-radiology
5. Neuro-ophthalmology
6. Neuromuscular diseases including ALS
7. Stroke
8. Movement disorders
9. Epilepsy
10. Infections of the nervous system
11. Dementia
12. Neurological Emergencies

Required reading:

* All learning material will be available to the students on the course’s website (Moodle)/library/electronic documents available to BGU students.
Name of the course: Obstetrics and Gynecology Clerkship

Number of course: 481-8-3079

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<td>Hours of instruction: 240</td>
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<td>Location of instruction: Maternity wards at: Soroka Medical Center Barzilai Medical Center</td>
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<td>Language of instruction: English</td>
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<td>Cycle: 1st</td>
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<td>Position: Mandatory clerkship</td>
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<td>Field of Education: MD</td>
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<td>Responsible department: MSIH</td>
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<tr>
<td>General prerequisites: Successful completion of all basic science courses and systems.</td>
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<tr>
<td>Grading scale: Honors/High Pass/Pass/Fail</td>
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</table>

Course Description:

Aims of the course:

To gain both theoretical and practical knowledge of Obstetrics and Gynecology as well as getting a hands-on experience of what clinical work is all about.

Objectives of the course:

* History- obtain and present obstetrical and gynecological history
* Physical examination- the student will perform a physical examination with emphasis on OB GYN (Leopold maneuvers, physiological changes during pregnancy).
* Fetal heart rate monitor- interpretation of the FHR and the uterine activity.
* Sonographic assessment- observation of US examination and interpretation of the results
* Procedures- observation of obstetrical procedures (cesarean sections, balloon induction, amniocentesis) and gynecological procedures (vaginal and abdominal operations, colposcopy, PAP).
* Patient care- OB including patients with PET, PROM, GDM, preterm labor/PPROM. GYN including uterine bleeding, amenorrhea, infection and uro-vaginal complaints.

Learning outcomes of the course: On successful completion of the course, the student should be able to:

1. Conduct a gynecological and obstetric interview and understand the concepts of physical examination
2. Understand and approach the management of a normal birth
3. Identify normal pathologies of pregnancy and issues relating to infertility
4. Understand and identify pathologies in Gynecology and Gynecologic oncology
5. Understand the basic concepts of infertility treatments

Attendance regulation:

Mandatory for all departmental activities throughout the day.

Teaching arrangement and method of instruction:

The clerkship begins with one week of introductory lectures followed by four weeks of “hands on” clinical work in the form of clinical case discussions and seminars that students will prepare. The introductory week aims to teach the clinical and pathological aspects of ObGyn, and is naturally closely linked and based on the knowledge acquired in the reproductive course in second year. Students are required to complete a pre-test based on this material by the end of the first week.
Assessment:

- NBME shelf test: 50%
- Department clinical evaluation: 25%
- OSCE/Oral exam: 25%

Work and assignments:

The clinical requirements include knowledge of how to conduct a gynecological and obstetric interview and physical exam, identification of normal pathologies of obstetrics and gynecology and issues relating to infertility. Each student must actively participate in ten deliveries plus two Caesarian Sections, one laparoscopic surgery, and one pelvic floor surgery in order to complete all the requirements of the course. Each student is also required to conduct a seminar.

Time required for individual work:

In addition to attendance in class, the students are expected to do their assignment and individual work:

- Individual work - divided into text book reading: 15 hours
- Seminar preparation - 10 hours

Required reading:

- **Obstetrics and Gynecology** by Beckman, Ling, Barzansky, Bates, Herbert, Laube and Smith, 6th Ed. 2009

Additional literature:

- **Gynecology**, Novak, Jones and Jones, 14th ed. By Williams and Wilkins.

* All learning material will be available to the students on the course's website (Moodle)/library/electronic documents available to BGU students.
**Name of the course:** Pediatric Clerkship  
**Number of course:** 481-8-3071

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<td>Aims of the course:</td>
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<td>Academic year: 2019-20</td>
<td>The purpose of the pediatric rotation is to provide the student with an appropriate approach, clinical skills, and knowledge in pediatrics.</td>
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<td>Semester: 1</td>
<td>Objectives of the course:</td>
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<td>Hours of instruction: 280</td>
<td>• Students will demonstrate a strong foundation in Pediatric knowledge</td>
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<tr>
<td>Location of instruction: Soroka University Medical Center</td>
<td>• Students will develop skills in patient care including history taking, physical examination of the infant, child, and adolescent and adapting appropriately to the age, and clinical problem solving</td>
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<tr>
<td>Language of instruction: English</td>
<td>• Students will demonstrate interpersonal communication skills that facilitate effective and empathic relationships</td>
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<td>Cycle: 1st</td>
<td>• Students will develop professional qualities such as compassion, empathy and respect to patients, families and health care team</td>
</tr>
<tr>
<td>Position: Mandatory clerkship</td>
<td>• Students will demonstrate a commitment to developing personal and professional excellence including self-directed learning, reflective practice, the critical evaluation of the performance of peers and self, and promotion of collaborative learning</td>
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<tr>
<td>Field of Education: MD</td>
<td>• Students will demonstrate awareness and responsiveness to the system of health care and the ability to effectively draw on system resources to provide care that is of optimal value</td>
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<tr>
<td>Responsible department: MSIH</td>
<td>Learning outcomes of the course: On successful completion of the course students should be able to:</td>
</tr>
<tr>
<td>General prerequisites:</td>
<td>1. Elicit a full history, including a family history, social history</td>
</tr>
<tr>
<td>Successful completion of all basic science courses and systems.</td>
<td>2. Perform a thorough physical examination</td>
</tr>
<tr>
<td>Grading scale:</td>
<td>3. Perform an accurate urinalysis and stool sample examination</td>
</tr>
<tr>
<td>Honors/High Pass/Pass/Fail</td>
<td>4. Interpret basic laboratory results and imaging</td>
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**Teaching arrangement and method of instruction:**
- Bedside teaching/clinics/seminars/reports
- Students will have supervised rounds, will see and present patients and will be exposed to various common children's ailments.

**Work and assignments:**
- 10 submitted admissions
- 5 on-calls: 3 ER; 1 neonatal; 1 weekend
- 1-2 seminar presentations on the Pediatric wards
- 1-2 seminar presentations on the Neonatology wards
Coordinator:
Dr. Orna Staretz-Haham

Contact details:
Office phone: 054-5713191
Email: staretz@bgu.ac.il
Office hours:
TBA at first session

Course evaluation:
Online student survey and debriefing
at completion of clerkship

Confirmation:
The syllabus was confirmed by the
faculty academic advisory
committee to be valid on 2019-20

Last update: September 2019

Assessment:
NBME shelf test: 35%
OSCE/Oral exam: 15%
Departmental evaluation: 50%

Attendance regulation:
Mandatory for the duration of the clerkship

Time required for individual work:
In addition to attendance in class and on the wards, the students are expected to
read around their patients, prepare their presentations, admissions and reports.

Module Content\ schedule and outlines:
- Introduction
- Assignment to general Pediatric ward (~ 4 weeks)
- Assignment to an ambulatory clinic (1 week)
- Neonatology ward (4 days)
- Healthy Baby Clinic (1 day/week)
- Cross-cultural Medicine Workshop (2 days)

Required reading:

Textbook:

Students are expected to read updated reviews and relevant book chapters.
Course Content schedule and outlines:

Clerkship Content

- **Seminars**
  1. Recurrent seizures
  2. Limp/refusal to walk
  3. Diabetes
  4. Short stature
  5. Precocious puberty
  6. Cyanosis
  7. Abdominal pain
  8. Hematuria
  9. Shock
  10. FTT
  11. Edema
  12. Hypotonia
  13. Anaemia

- **Morning Report**
  Daily: Students who were on-call the previous night present one case (3-4 times over the duration of the clerkship)

- **On-calls**
  Total of 5 on-calls during the clerkship including:
  - ER x 3
  - Neonatololgy x 1
  - Weekend on-call x 1

- **Patient teaching rounds**
  1. Osteomyelitis and Meningitis
  2. Pneumonia
  3. Upper air way
  4. Neurodevelopmental disorders
  5. PICU

- **Lectures**
  1. Inborn Errors of Metabolism
  2. Abuse case
  3. Psychiatry case
  4. Introduction to pediatric antibiotics
  5. Fluids and electrolytes
  6. Rashes
  7. Communication with adolescents
  8. Eating disorders

- **Physical examinations**
  1. Pediatric neurological examination
  2. Pediatric cardiology examination
  3. Pediatric respiratory system examination
  4. Pediatric ear examination

- **Ambulatory visits**
  1. Bedouin community
  2. A community clinic
  3. Healthy baby clinic (Tipat halav/טיפת חלב)
  4. Outpatients clinic in Soroka Medical Center

- **4 days in Premature baby department (Pagia/פגיה)**

- **Rounds every morning in the Pediatrics wards**

- **Pediatrics Radiology**
**Name of the course:** Psychiatry Clerkship  
**Number of course:** 481-8-3078

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<td><strong>General prerequisites:</strong></td>
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**Course Description:**

**Aims of the course:**
This clerkship complements the preclinical Neuro/Psychiatry courses and presents the opportunity for students to experience as much as possible of what they know in theory, and to apply that knowledge to clinical situations with patients. Since the interview serves as the clinical examination in Psychiatry, this is an opportunity to hone interpersonal skills. The primary aim of the faculty is to work on the clinical aspects and students will have to devote time to independently studying theoretical material, in order to gain from clinical tutoring in the various settings.

**Objectives of the course:**
To impart basic clinical and research knowledge and skills in the field of clinical psychiatry.

**Learning outcomes of the course:** On successful completion of the course, the student should be able to:

1. Establish good, open communication with patients based on trust, empathy and respect.
2. Establish effective and thorough interview skills
3. Diagnose major and prevalent types of psychopathology.
4. Formulate short and long-term treatment plans incorporating psychopharmacology, psychotherapeutic interventions, rehabilitation, psycho-education, and family-oriented interventions.

**Attendance regulation:**
Full attendance and active participation are expected daily throughout the clerkship.

**Teaching arrangement and method of instruction:**
“Bedside” interviews/role-playing/self-learning
Observation and participation in the ongoing activities of inpatient, outpatient, and day program units.

**Assessment:**
40% NBME Test  
30% OSCE  
30% Department clinical evaluation
Lecturer: Dr. M. Matar

Contact details:
Office phone: 08-6401602
Email: matarm@bgu.ac.il

Office hours:
TBA at first session

Course evaluation:
Online student survey and debriefing at the completion of the clerkship

Confirmation: 2019-20

Last update: January 2019

Work and assignments:
- Students are expected to interview patients
- Read the required material
- Detailed patient write-up (to be handed to tutors and revised together with tutors; final version to be handed in – hard copy or email – to Dr Matar; deadline = 3 days prior to OSCE)
- Submit the Psychiatric Checklist at the completion of the clerkship

Time required for individual work: in addition to attendance in class, the students are expected to do their assignment and individual work:
An additional 2-3 hours of reading and preparation is required per day.

Required reading:
Kaplan and Saddock, Synopsis of Psychiatry, Behavioral Sciences/Clinical Psychiatry

Additional literature:
Current research papers and reviews on such topics as schizophrenia, bipolar disorder, depression, eating disorders, post-traumatic stress disorder, anxiety disorders, personality disorders, and updated guidelines regarding psychopharmacology
Clerkship Content schedule and outlines:

Design:

a. Small groups will be allocated to various wards and outpatient services in the hospitals affiliated to the faculty in Beersheva. The day is divided into ward activities in the morning hours and tutoring on the ward after lunch, and whole-class activities on some afternoons. We aim to expose the student to a broad variety of settings and patients as is feasible (ER, clinics and wards, consultation-liaison to general hospital wards in Soroka, and both adult and adolescent populations).

b. The class activities are clinically oriented, presented by senior teaching staff proficient in English and include clinical discussions, work with standardized patients, role-playing and training in practical tools, such as Crisis Intervention.

c. In the evenings, students attend the ER’s in pairs and/or join English-speaking physicians on duty on the wards.

d. The course is compact, demanding and rather intense. It aims to minimize passive learning and to maximize ward/clinic experiences and to focus on pro-active experiential learning on practical issues. It therefore relies very heavily on pre-learning and self-learning by the students.

The course culminates in an OSCE exam and a USMLE Step2-compatible shelf test. The ward tutors assess the practical skills and clinical attitude/thinking of their students. Each component must be individually passed and the final grade is a composite of all these components (30%, 40% and 30%, respectively). Components on which the student has not attained a passing grade must be redone. Recurrent failure requires the course to be retaken at a later date. (For practical purposes, the OSCE cannot be retaken and the retake is in the form of an oral exam before two senior faculty members, involving an interview with a real patient and relevant discussion thereafter).

Lectures:

1. Review of psychiatric examination, symptoms and classification
2. Review of psychopharmacology
3. Presenting and write-ups
4. Interview practice
5. Suicide risk assessment
## Course Description:

### Aims of the course:

The purpose of this six-week clerkship is to provide the student with the appropriate approach, a thorough knowledge and clinical skills in surgery.

### Objectives of the course:

Students will be exposed to the daily activities of surgical wards and operating rooms and will also acquire some essential knowledge in Ambulatory Surgery (outpatient clinics and morning ER “light” pathology), Proctology, Breast and Trauma Surgery in the form of rotations in the respective services and units. They will also choose between a wide range of elective subjects.

The goal of the clerkship is to develop the students' clinical thinking. While progressing in the clerkship, the student will gain tools to enable him/her to process the information relevant to the patient's condition, distinguish the important information, define the patient's problems to arrive at a differential diagnosis, discuss possible avenues for further diagnosis, and develop a treatment program.

### Learning outcomes of the course:

On successful completion of the course, the student should be able to:

1. Process an admission for a surgical patient using POR
2. Present the patient both verbally and in writing
3. Discuss a problem in general surgery, including differential diagnosis and basic knowledge in trauma, emergency surgery and elective surgical conditions

### Attendance regulation:

Mandatory for all departmental activities and seminars.

### Teaching arrangement and method of instruction:

- Lectures, Bedside Teaching & Seminars
- Teaching rounds: Tutor rounds, walking rounds, evening rounds, radiology
- On-call, evenings
- Operating theater
- Ambulatory outpatient clinics

An introduction to Pediatric and Plastic surgery in the form of lectures and seminars will be provided at the end of the clerkship.
Assessment:

NBME Shelf Test: 50%
Department clinical evaluation including student requirements below: 50%

Student requirements:

- Submit 10 admission forms by conclusion of clerkship
- Complete 5 on-calls by conclusion of clerkship
- Blood draw each morning, in pairs
- Submit 10 patient stickers by conclusion of clerkship
- Participation in at least 15 surgeries including submission of patient stickers and title of the surgery
- Seminars will be prepared before the Pediatric Surgery Day and given by the students on the same day under the supervision of a teacher.

Time required for individual work: in addition to attendance in class, the students are expected to do their assignment and individual work:
Approximately 3 hours per day for completing tasks and reading relevant material.

Required reading:

2. Current Surgical Diagnosis and Treatment. Lange, 13th Ed. 2012
3. TEAM – Trauma Evaluation and Management

Prerequisites

1. Fluids, Electrolytes, Acid-Base balance, Shock
2. Nutrition in the Surgical Patient
3. Hemostasis, Coagulation & Transfusion
4. Wound Healing
5. Embryology & Anatomy
I. Diseases per Organs

1. **Thyroid**  Nodules, Multinodular Goiter, Cancer
2. **Parathyroid**  Adenoma, Hyperplasia, Hyperparathyroidism
3. **Breast**  Abscess, Fibrocystic Disease, Benign & Malignant Tumors
4. **Adrenal**  Adenoma, Pheochromocytoma
5. **Esophagus**  Hiatal Hernia, G.E.R.D., Esophagitis, Mallory-Weiss, Cancer
6. **Stomach & Duodenum**  Ulcer disease, Morbid Obesity, Gastric Cancer
7. **Small Intestine**  Small Bowel Obstruction
8. **Inflammatory Bowel Disease**  Crohn’s Disease, Ulcerative Colitis
9. **Large Bowel**  Diverticular Dis., Bleeding, Volvulus, Polyp, Colorectal Cancer
10. **Appendix**  Appendicitis
11. **Anus**  Fissure, Hemorrhoids, Perianal Abscess & Fistulas
12. **Abdominal Hernias**  Inguinal, Umbilical, Femoral, Incisional
13. **Liver**  Portal Hypertension, Echinococcal Cysts, I° & II° Cancer
14. **Biliary Tract**  Lithiasis, Cholecystitis, Biliary Obstruction, Surgical Jaundice
15. **Pancreas**  Pancreatitis, Cysts, Cancer
16. **Peritoneum**  Peritonitis, Intra-abdominal Abscess, Cancer
17. **Surgical Pre- & Post operative Care**
18. **Surgical Complications**  Fever, Wound Infection, Bleeding, Postoperative Complications: Cardiac, Pulmonary, Neurological

II. Problem-Based Surgery

1. **Abdominal Pain**
2. **Abdominal Mass**
3. **Inguinal Mass**
4. **Cervical Mass**
5. **Breast Mass**
6. **Dysphagia**
7. **Heart-burn**
8. **Jaundice**
9. **Gastro-intestinal Bleeding**
10. **Anal Pain**
11. **Bowel habit change**
12. **Shock**
13. **Intestinal obstructions**
14. **Adrenal mass**
15. **Ascites**
16. **The catabolic state**
17. **Imaging in surgery**

III. Specific Topics

1. **Organ Transplantation**  Waiting Lists, Donors, Indications, Immunosuppression, Complications
2. **Trauma**  Mechanism, Evaluation & Priorities, Resuscitation, Imaging, Surgery, Intensive Care, Specific Topics
   (Head, Orthopedics, Vascular, Pediatric)
3. **Pediatric Surgery**  Inguinal Pathology, GI Tract, Trauma
4. **Plastic Surgery**  Burns, Reconstruction, Hand, Microsurgery
Fourth Year Electives/Sub-internship, GHM Clerkship and Selectives
**Name of the course:** 4th Year Elective  
**Number of course:** 481-8-4001/2/3

<table>
<thead>
<tr>
<th><strong>BGU Credits:</strong></th>
<th>6</th>
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<tbody>
<tr>
<td><strong>ECTS credits:</strong></td>
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</tr>
<tr>
<td><strong>Academic year:</strong></td>
<td>2019-20</td>
</tr>
<tr>
<td><strong>Semester:</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>Hours of instruction:</strong></td>
<td>160</td>
</tr>
<tr>
<td><strong>Location of instruction:</strong></td>
<td>Israel</td>
</tr>
<tr>
<td><strong>Language of instruction:</strong></td>
<td>English</td>
</tr>
<tr>
<td><strong>Cycle:</strong></td>
<td>1st</td>
</tr>
<tr>
<td><strong>Position:</strong></td>
<td>Mandatory elective</td>
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<tr>
<td><strong>Field of Education:</strong></td>
<td>MD</td>
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<tr>
<td><strong>Responsible department:</strong></td>
<td>MSIH</td>
</tr>
<tr>
<td><strong>General prerequisites:</strong></td>
<td></td>
</tr>
</tbody>
</table>
Completion of 3rd year requirements USMLE  
Step 1 |
| **Grading scale:** | Honors/High Pass/Pass/Fail |

**Course Description:**

The elective provides a general overview to the nature of the selected field of medicine and its practice. It consists of a four-week rotation on a designated service contained within the department of choice. Depending on the chosen elective the student may be exposed to operating room procedures, emergency room diagnosis and treatment, care and evaluation of in-house patients and the varying didactic programs of the department. It is designed for students interested in gaining additional knowledge about a particular field of medicine. The student will be supervised at all times by housestaff or faculty based on the hospital specific guidelines.

**Objectives of the course:**

1. To gain a general understanding of the various different types of practices and procedures.
2. To understand the principles behind the evaluation and treatment of patients.
3. To gain exposure and experience in different hospitals' patterns of care.
4. To demonstrate the ability to present a cogent focused and comprehensive case presentation, history, and discussion.

**Student responsibilities:**

1. The student is an integral member of the team and responsible for rounding on patients and providing clinical care on the ward/Emergency Room and/or operating theatre.
2. The student is required to spend one night a week on-call and spend one weekend day/night during the rotation. While on-call, the students are expected to assist the junior resident on-call in the evaluation and management of acute cases.
3. The student is also responsible for preparing and giving a case presentation to his/her preceptor twice during the 4 week rotation, as well as actively participating in weekly student conferences and weekly team conferences.
4. Student may present a seminar.
Didactic Program

Each student is assigned a preceptor, who is a member of the full-time faculty. The student will meet with his/her preceptor twice during the rotation and present a case followed by a discussion with their preceptor. The didactic program includes all department daily and weekly conferences as well as weekly Grand Rounds. Students may be asked to participate in researching and answering varying clinical questions tailored to their abilities and knowledge. Students will also be required to attend skills sessions during the rotation.

Method of Evaluation

- The students are evaluated by the chief resident assigned to their service and also by their preceptor. Students will be evaluated on our approved written evaluation which evaluates students based on the ACGME milestones and core competencies.
- They are evaluated based on their performance during the rotation, including knowledge base, ability to work as a team member and interactions with patients and peers.
- In addition, the student is required to submit an evaluation of the rotation itself prior to leaving the evaluation.
**Name of the course:** 4th Year Research Elective  
**Number of course:** 481-8-4060

<table>
<thead>
<tr>
<th>BGU Credits:</th>
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</thead>
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<td>ECTS credits:</td>
<td></td>
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<td>Academic year:</td>
<td>2019-20</td>
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<td>Semester:</td>
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</tr>
<tr>
<td>Hours of instruction:</td>
<td>160</td>
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<td>Location of instruction:</td>
<td>US/Canada/Israel</td>
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<td>Language of instruction:</td>
<td>English</td>
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<tr>
<td>Cycle:</td>
<td>1st-4th</td>
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<td>Position:</td>
<td>Elective course</td>
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<tr>
<td>Field of Education:</td>
<td>MD</td>
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<tr>
<td>Responsible department:</td>
<td>MSIH</td>
</tr>
<tr>
<td>General prerequisites:</td>
<td>None</td>
</tr>
<tr>
<td>Grading scale:</td>
<td>Pass/Fail</td>
</tr>
</tbody>
</table>

**Course Description:**

The elective provides a general overview of the performance of research in a selected field. The elective consists of a 4-week rotation on under direct observation by the research mentor at an approved location, preferably academic Medical Center. The student will be exposed to research methods and procedures including but not limited to project selection, creation of a research protocol, ethics of research, patient privacy, and data collection / analysis. The project can be laboratory, epidemiological or clinical in scope. Multiple month research electives can be performed with approval of the associate director or director of the medical school.

**Objectives of the course:**

1. To gain the general understanding of methods practices and Protocols of medical research
2. To gain an understanding of the background information and knowledge in the field of research
3. To properly construct a hypothesis or theory for further research
4. Understand how to monitor the research project, collect data, and perform proper analysis.

**Student responsibilities:**

The student is expected to participate as an integral member of the research team. This includes but is not limited to

- involvement in daily activities with the research team / laboratory.
- presence at all collaborative conferences and research team meetings.
- cooperation with the research team for hopeful publication of research.
- presentation at Regional meetings.
- Students are required to complete a research paper based on their subject of research during this elective. The research paper need not include original research, although that is encouraged. A summary of current medical knowledge and proper presentation of the research project goals can satisfy this requirement.
Didactic Program

Prior to starting the research elective, the students must identify a preceptor / mentor scientist. The student will meet with his/her preceptor weekly (at least) during the elective to review research results, processes, and materials up to that point to discuss as well as to plan immediate directional changes if identified. Students are encouraged to complete a course in research ethics and code of conduct (such as the Helsinki course).

Method of Evaluation

- The students are evaluated by their preceptor.
- Students are evaluated based on their performance during the elective, including knowledge base, project development and implementation and ability to work as a team member.
- In addition, the student is required to submit an evaluation of the elective itself prior to leaving the evaluation.
- Thesis paper

Elective Coordinator:

Contact details: Prof. Taragin
Office phone: 08-6479907
Email: taraginb@bgu.ac.il

Course evaluation:
Student evaluation submitted at completion of elective.

Confirmation:
The syllabus was confirmed by the faculty academic advisory committee to be valid on 2019-20

Last update: March 2019
**Name of the course:** 4th Year Sub-internship  
**Number of course:** 481-8-4004

| BGU Credits: 6 |
| ECTS credits: |
| Academic year: 2019-20 |
| Semester: 1 |
| Hours of instruction: 160 |
| Location of instruction: US/Canada/Israel |
| Language of instruction: English |
| Cycle: 4th year |
| Position: 1st semester |
| Field of Education: MD |
| Responsible department: MSIH |
| General prerequisites: |
| - Completion of 3rd year requirements |
| - USMLE Step 1 |
| Grading scale: Honors/High Pass/Pass/Fail |

**Course Description:**

The Sub-internship experience is the culmination of medical training where the student can translate their various years of training into clinical practice. The level of student responsibility is greater than for the elective and includes on-calls with the team. More time is spent with the team/attending which results in more intense learning and teaching. The student functions as a supervised intern and is required to "carry" at least 0.5 of a clinical interns' patient load.

**Objectives of the course:**

Generally the role of a medical student during a sub-I is to function as an intern and work effectively with the hospital teams (including nursing, ancillary services, referral services, social work...) in managing patient care.

**Student responsibilities:**

A student who participates in this Sub-Internship will be expected to:

- Be included in the Intern’s call schedule. The clinical care responsibilities include weekends and holidays during the block that are identical to the intern schedule. Currently this does not include any independent overnight calls and is compliant with ACGME requirements.
- Work closely with the supervising Resident and Attending Physician to care for assigned patients, including appropriate documentation, order entry and consultation.
- Attend and participate in daily work rounds as well as attending rounds at the assigned teaching hospital.
- Perform appropriate procedures under the supervision of Residents or Attending Physicians.
- Be aware of assigned teaching sites’ patient safety protocols, including appropriate escalation procedures and activation of Codes/Rapid Response teams.
- Attend assigned sites daily didactics, including weekly Conference and Department Grand Rounds.
Didactic Program

The visiting student must be present at daily Morning, and Attending Rounds as well as Noon Conference at each of their assigned institutions. Students will also attend weekly Conference and the Department of Medicine Grand Rounds.

Method of Evaluation

Students will be evaluated by the Chief Residents and select faculty members (preceptors), with whom they will interact during the sub-internship. Students will be evaluated on our approved 360 degree written evaluation which evaluates students based on the ACGME milestones and core competencies.

At the completion of the rotation a departmental evaluation in the format of the standardized letter of recommendation will be provided to ERAS at student request. Additionally, students are welcome to ask for letters of recommendation from faculty with whom they have worked during the rotation.

Sub-internship Coordinator:
Prof. Shimon Glick

Contact details:
Office phone: 08-6479909
Email: gshimon@bgu.ac.il

Course evaluation:
Student evaluation submitted at completion of the Sub-I.

Confirmation:
The syllabus was confirmed by the faculty academic advisory committee to be valid on June 2019

Last update: June 2019
Name of the course: Global Health and Medicine (GHM) Clerkship

Number of course: 481-8-4005

<table>
<thead>
<tr>
<th>BGU Credits: 12</th>
<th>Course Description:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECTS credits:</td>
<td>The Global Health and Medicine (GHM) Clerkship is the culmination of a unique program at MSIH in which students acquire practical knowledge and exposure to the core Global Health competencies, namely:</td>
</tr>
<tr>
<td>Academic year: 4th Year</td>
<td>1. Cross-cultural health and medicine</td>
</tr>
<tr>
<td>Semester: 2</td>
<td>2. Global burden of disease</td>
</tr>
<tr>
<td>Hours of instruction: 8 weeks</td>
<td>3. Geographic medicine</td>
</tr>
<tr>
<td>Location of instruction: Global Health sites</td>
<td>4. Global factors and organizations</td>
</tr>
<tr>
<td>Language of instruction: English</td>
<td>5. Vulnerable populations</td>
</tr>
<tr>
<td>Cycle: 1st</td>
<td>6. Impact of global health on primary care</td>
</tr>
<tr>
<td>Position:</td>
<td>The GHM Clerkship is an eight week capstone clinical experience that takes place in a developing country or in a specifically approved clinical setting related to Global Health. The Clerkship is scheduled from mid-January to mid-March.</td>
</tr>
<tr>
<td>Field of Education: MD</td>
<td>Aims of the course:</td>
</tr>
<tr>
<td>Responsible department: MSIH</td>
<td>The goal of the GHM Clerkship is to learn to apply the GH competencies in the clinical setting, and to experience how different cultures and medical teams promote health and provide good medical care in the face of severely limited resources. In so far as is possible, MSIH students should be integrated with the training programs of local medical students.</td>
</tr>
<tr>
<td>General prerequisites: None</td>
<td>Objectives of the course:</td>
</tr>
<tr>
<td>Grading scale: Honors/High Pass/Pass/Fail</td>
<td>1. To learn about the country, its people and their culture:</td>
</tr>
<tr>
<td></td>
<td>2. To learn about important public health issues of the country</td>
</tr>
<tr>
<td></td>
<td>Teaching arrangement and method of instruction:</td>
</tr>
<tr>
<td></td>
<td>MSIH students will do clinical rotations in the teaching hospital, elective weeks and community medicine rotation</td>
</tr>
<tr>
<td></td>
<td>Attendance regulation:</td>
</tr>
<tr>
<td></td>
<td>Assessment:</td>
</tr>
<tr>
<td></td>
<td>Evaluation by Site supervision</td>
</tr>
<tr>
<td></td>
<td>2 case report</td>
</tr>
<tr>
<td></td>
<td>Writing blog once a week</td>
</tr>
<tr>
<td></td>
<td>Time required for individual work: in addition to attendance in class, the students are expected to do their assignment and individual work:</td>
</tr>
</tbody>
</table>
Module Content\ schedule and outlines:

Example Schedule for Global Health and Medicine Clerkship 2020
Location: India

<table>
<thead>
<tr>
<th>Week</th>
<th>Student 1</th>
<th>Student 2</th>
<th>Student 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 14-18</td>
<td>Ophthalmology</td>
<td>General Medicine</td>
<td>Anaesthesia</td>
</tr>
<tr>
<td>Jan 21-25</td>
<td>Ophthalmology</td>
<td>General Medicine</td>
<td>Anaesthesia</td>
</tr>
<tr>
<td>Jan 28-Feb1</td>
<td>Ophthalmology</td>
<td>General Medicine</td>
<td>Anaesthesia</td>
</tr>
<tr>
<td>Feb 4-8</td>
<td>Community Health</td>
<td>Community Health</td>
<td>Intensive Care</td>
</tr>
<tr>
<td>Feb 11-15</td>
<td>Neurosurgery</td>
<td>Radiology</td>
<td>Community Health</td>
</tr>
<tr>
<td>Feb 18-22</td>
<td>Neurosurgery</td>
<td>Radiology</td>
<td>Dermatology</td>
</tr>
<tr>
<td>Feb 25- Mar 1</td>
<td>ENT</td>
<td>Endocrine</td>
<td>Radiology</td>
</tr>
<tr>
<td>Mar 4-6</td>
<td>ENT</td>
<td>Endocrine</td>
<td>Radiology</td>
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</table>

Vehicle Departure Time | Doctor In-charge | Activity                          | Place       |
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>9.00 am</td>
<td>Urban Health Centre and Govt. Maternity Hospital</td>
<td>Austin Town</td>
<td></td>
</tr>
<tr>
<td>8.30 am</td>
<td>Eye Clinic and Visit to the GHK (elderly day care centre)*</td>
<td>Mugalur</td>
<td></td>
</tr>
<tr>
<td>8.30 am</td>
<td>Geriatric Clinic</td>
<td>Kugur</td>
<td></td>
</tr>
<tr>
<td>8.45 am</td>
<td>Maternal and Child Health Clinic *</td>
<td>Mugalur</td>
<td></td>
</tr>
<tr>
<td>8.30 am</td>
<td>Community Psychiatry program *</td>
<td>Mugalur</td>
<td></td>
</tr>
<tr>
<td>9.00 am</td>
<td>Urban Health Centre and Govt. Maternity Hospital</td>
<td>Austin Town</td>
<td></td>
</tr>
<tr>
<td>8.30 am</td>
<td>Eye Clinic and Visit to the GHK (elderly day care centre) *</td>
<td>Mugalur</td>
<td></td>
</tr>
<tr>
<td>8.30 am</td>
<td>Geriatric Clinic</td>
<td>V Kalahalli</td>
<td></td>
</tr>
<tr>
<td>8.45 am</td>
<td>NCD clinic</td>
<td>Austin Town</td>
<td></td>
</tr>
<tr>
<td>8.30 am</td>
<td>Community Psychiatry program *</td>
<td>Mugalur</td>
<td></td>
</tr>
</tbody>
</table>

Resources:

* All learning material will be available to the students on the module's website (high-learn)/ library/ electronic documents available to BGU students.
Name of the course: Anesthesiology
Number of course: 481-8-4096

**BGU Credits:** 2.5

**ECTS credits:**

**Academic year:** 2019-2020

**Semester:** 2

**Hours of instruction:** 2 weeks

**Location of instruction:** Soroka University Medical Center

**Language of instruction:** English

**Cycle:** 1st

**Position:** Elective course

**Field of Education:** MD

**Responsible department:** MSIH

**General prerequisites:** NA

**Grading scale:** Pass/Fail

**Coordinator:** Dr. Tomer Kotek

**Office phone:**

**Email:** tomerko@clalit.org.il

**Office hours:** TBA

**Course evaluation:**
Debriefing at completion of all selectives.

**Confirmation:**
September 2019-20

**Last update:**
2019

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**Course Description:**

Aims of the course:
To teach topics in clinical Anesthesiology and Critical Care.

Objectives of the course:
To provide basic knowledge and skills in clinical anesthesiology and critical care.

Learning outcomes of the course:
On successful completion of the course, the student should be able to:

1. Draw blood from a peripheral vein
2. Measure blood gases
3. AL, CVP, SG
4. Insert a catheter
5. Insert a naso-gastro tube
6. Insert a urinary catheter
7. Intubate
8. Extubate
9. Manual ventilation by mask

**Attendance regulation:** Mandatory

**Teaching arrangement and method of instruction:**
Bedside teaching: In operation rooms (OR) and Intensive Care Unit (ICU). Students will have supervised rounds, will see and present patients and will be exposed to the various patients in anesthesiology and critical care setting.

Frontal teaching: Daily frontal teaching

**Assessment:**
Tutor assessment of student's participation

**Work and assignments:**
Reading relevant material

**Course Content\ schedule and outlines:**
Students will perform all the above mentioned procedures.
Students will observe the following:
- Epidural spinal and local blocks
- Caesarian Section
- Outdoor procedure

**Required reading:**

*All learning material will be available to the students on the course's website.
.Moodle/ library/ electronic documents available to BGU student
| **Name of the course:** Dermatology  
<table>
<thead>
<tr>
<th><strong>Number of course:</strong> 481-8-4098</th>
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</table>
| **BGU Credits:** 2.5  
| **ECTS credits:**  
| **Academic year:** 2019-20  
| **Semester:** 2  
| **Hours of instruction:** 2 weeks  
| **Location of instruction:** Soroka University Medical Center  
| **Language of instruction:** English  
| **Cycle:** 1st  
| **Position:** Mandatory course  
| **Field of Education:** MD  
| **Responsible department:** MSIH  
| **General prerequisites:**  
| **Grading scale:** Pass/Fail  
| **Coordinator:** Prof. A. Cohen  
| **Contact details**  
| **Office phone:**  
| **Email:** arcohen@clalit.org.il  
| **Office hours:** TBA  
| **Course evaluation:** Debriefing at completion of all selectives  
| **Confirmation:** 2019-20  
| **Last update:** November 2019  

**Course Description:**

**Learning outcomes of the course:**

On successful completion of the course, the student should be able to:

1. Diagnose common skin diseases and prescribe treatment  
2. Diagnose severe skin diseases  
3. Diagnose signs of early-stage skin cancer

**Attendance regulation:**

Mandatory

**Teaching arrangement and method of instruction:**

Frontal lectures and small groups, attendance at rounds and clinics

**Assessment:**

Tutor assessment of student's participation and clinical performance.

**Work and assignments:**

Reading of dermatologic oriented literature

**Time required for individual work:**

In addition to attendance in class, the students are expected to do read the relevant material.

**Course Content\ schedule and outlines:**

During the rotation students will join the physicians at regular busy clinics

**Required reading:**


* All learning material will be available to the students on the course's website (Moodle)/ library/ electronic documents available to BGU students.
**Name of the course:** Ear Nose and Throat (ENT) Selective

**Number of course:** 481-8-4090

**Course Description:**

**Aims of the course:**

1. Introduction to Otolaryngology
   a. Otolaryngology – Head and Neck Exam
   b. Basic Anatomy/Physiology of Head/Neck region
   c. When to refer to an Otolaryngologist

2. Basic Audiology

3. Pathophysiology/treatment of common problems in Otolaryngology:
   a. Acute/Chronic Otitis Media
   b. Hearing loss, tinnitus, vertigo
   c. Acute/Chronic Sinusitis
   d. Neck Masses, head and neck neoplasms
   e. Tonsils/adenoids (hypertrophy/infections)
   f. Otolaryngologic emergencies

**Objectives of the course:**

Exposure to the above

**Attendance regulation:**

Mandatory participation in all activities mentioned below.

**Teaching arrangement and method of instruction:**

Students will participate in Departmental activities including outpatient clinics, surgery, Audiology and the Emergency Room. There may also be participation in oral surgery clinics and/or surgery.

**Assessment:**

Participation
Seminar
Case presentation

**Work and assignments:**

Students will be expected to present a seminar on a specific subject within the specialty of Otolaryngology, and each student will be expected to participate in the comprehensive evaluation of at least one patient admitted to the department.

There will be a pre- and post test as well, which will be discussed and evaluated in open forum after they are administered.

* All learning material will be available to the students on the course’s website (Moodle)/ library/ electronic documents available to BGU students.
**Name of the course**: Neurosurgery

**Number of course**: 481-8-4018

| **BGU Credits**: 2.5 |
| **ECTS credits**: |
| **Academic year**: 2019-20 |
| **Semester**: 2 |
| **Hours of instruction**: 2 weeks |
| **Location of instruction**: Soroka University Medical Center |
| **Language of instruction**: English |
| **Cycle**: 1st |
| **Position**: Elective course |
| **Field of Education**: MD |
| **Responsible department**: MSIH |
| **General prerequisites**: |
| **Grading scale**: Pass/Fail |
| **Coordinators**: Dr. Tehila Kaisman-Elbaz, Dr. Melamed |
| **Email**: kaisman@bgu.ac.il |
| **Course evaluation**: Debriefing at completion of all selectives. |
| **Confirmation**: 2019-20 |
| **Last update**: Sept. 2019 |

**Course Description**:

**Learning outcomes of the course**:

On successful completion of the course, the student should be able to:

1. Become familiar with common neurosurgical conditions and learn how to identify patients with these disorders;
2. Learn and practice clinical observation and examination of patients with neurological disease;
3. Recognize the signs and symptoms of the most common neurosurgical diseases and their initial evaluation and treatment.
4. Become familiar with common imaging modalities used in neurosurgery, especially CT and MRI.
5. Participate in the neurosurgical operations.
6. Learn the initial evaluation of a patient with head trauma.

**Attendance regulation**:

1. Mandatory attendance and on call.
2. Participation in all activities of the department, including patients rounds, surgeries, departmental meetings, consultations, journal club and radiology conferences.

**Teaching arrangement and method of instruction**:

1. Bedside teaching.
2. Small group discussion.
3. Departmental activities: seminars, lectures, meetings and conferences.

**Assessment**:

Tutor evaluation of student’s professional conduct and clinical performance.

**Course Content schedule and outlines**:

Major topics:

- Examination and evaluation of neurosurgical patients
- Basic neurosurgical trauma management
- Surgical approach to Brain Tumors
- Pediatrics neurosurgery
- Normal and pathological brain Imaging

**Required reading**

- Toronto notes - Neurosurgery
- Neurology course lectures

*All learning material will be available to the students on the course’s website (Moodle)/library/electronic documents available to BGU students.*
# Oncology \n\n**Name of the course:** Oncology  
**Number of course:** 481-8-4083

| BGU Credits: | 2.5 |
| ECTS credits: |  |
| Academic year: | 2019-20 |
| Semester: | 2 |
| Hours of instruction: | 2 weeks |
| Location of instruction: | Soroka University Medical Center |
| Language of instruction: | English |
| Cycle: | 1st |
| Position: | Elective course |
| Field of Education: | MD |
| Responsible department: | MSIH |

**Course Description:**

**Aims of the course:**

The purpose of the Oncology and Radiation Therapy elective is to provide senior medical students with an understanding of the basic approach to the treatment of malignant disease by means of exposure to a wide range of cancer patients.

**Objectives of the course:**

1. To give the students an opportunity to see how oncologists approach cancer patients
2. To demonstrate the basic principles of chemotherapy and biologic therapy and how they are used in the treatment of patients
3. To demonstrate the basic principles of radiotherapy and how they are used in the treatment of patients
4. To learn about some of the different types of cancer
5. To be exposed to ethical dilemmas that are faced in cancer treatment

**Learning outcomes of the course:**

On successful completion of the course, the student should be able to:

1. Articulate the differences between palliative and curative cancer care
2. Describe the expected side effects of a number of chemotherapy and biologic agents as well as radiotherapy
3. Understand the concept of adjuvant and neoadjuvant therapy and the types of patients who receive it.

**Attendance regulation:**

Mandatory

**Teaching arrangement and method of instruction:**

The elective will be built on lectures that students have received in earlier years on chemotherapy, radiotherapy, and various malignancies. There will be sessions on radiation treatment planning and radiation safety. Most of the time will be spent with individual physicians seeing patients in the outpatient oncology clinic. Students will learn first hand through direct patient care how diseases are treated and how a doctor communicates with a patient with cancer. The experiences in the clinic will be reinforced by case conferences where students will present cases seen in the clinic. The cases presented will be the basis of learning about different cancers and their management.
Assessment:

Attendance

Work and assignments:

Students will take part in the department's new patient conference, chief's ward rounds and journal club conference. Most days there will be a case conference where students will report on patients they observed with their assigned oncologist. Each student will give a presentation on a type of cancer (to be assigned them) including epidemiology, staging and treatment of that cancer.

Time required for individual work:

In addition to attendance at clinics and conferences, the students are expected to present patients seen in clinic with the oncologists as well as to give a presentation on a type of cancer (to be assigned).

Required reading:

Relevant articles will be forwarded to the students during the rotation to help prepare the student presentations.

* All learning material will be available to the students on the course's website (Moodle)/ library/ electronic documents available to BGU students.
**Name of the course:** Ophthalmology Selective  
**Number of course:** 481-8-4093

<table>
<thead>
<tr>
<th>BGU Credits: 2.5</th>
<th><strong>Course Description:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ECTS credits:</strong></td>
<td><strong>Objectives of the course:</strong></td>
</tr>
<tr>
<td><strong>Academic year:</strong> 2019-20</td>
<td>To provide the student with the knowledge and the ability to offer a diagnostic and therapeutic ocular health plan as part of the medical training.</td>
</tr>
<tr>
<td><strong>Semester:</strong> 2</td>
<td><strong>Learning outcomes of the course:</strong></td>
</tr>
<tr>
<td><strong>Hours of instruction:</strong> 2 weeks</td>
<td>On successful completion of the course, the student should be able to:</td>
</tr>
<tr>
<td><strong>Location of instruction:</strong> Soroka University Medical Center</td>
<td>1. Familiarization with ophthalmology equipment</td>
</tr>
<tr>
<td><strong>Language of instruction:</strong> English</td>
<td>2. Identify emergencies in ophthalmology</td>
</tr>
<tr>
<td><strong>Cycle:</strong> 1st</td>
<td>3. Recognize various eye diseases and their treatment</td>
</tr>
<tr>
<td><strong>Position:</strong> Elective course</td>
<td><strong>Attendance regulation:</strong> Mandatory</td>
</tr>
<tr>
<td><strong>Field of Education:</strong> MD</td>
<td><strong>Teaching arrangement and method of instruction:</strong></td>
</tr>
<tr>
<td><strong>Responsible department:</strong> MSIH</td>
<td>An ophthalmoscope is required for each student and this can be obtained on loan from the department. The course starts with lectures in basic anatomy and physiology, acute and chronic visual loss and red eye. Students will then follow the Ophthalmologist on call to observe “bread and butter” ophthalmology cases in the emergency room.</td>
</tr>
<tr>
<td><strong>Grading scale:</strong> Pass/Fail</td>
<td><strong>Assessment:</strong> a roundtable - Oral exam</td>
</tr>
<tr>
<td><strong>Coordinator:</strong> Dr. R. Kormas</td>
<td><strong>Work and assignments:</strong></td>
</tr>
<tr>
<td><strong>Email:</strong> <a href="mailto:ranko@clalit.org.il">ranko@clalit.org.il</a></td>
<td>1. Mandatory attendance</td>
</tr>
<tr>
<td><strong>Office hours:</strong> TBA</td>
<td>2. During the clinical week each student will stay with the on call resident until 21:00</td>
</tr>
<tr>
<td><strong>Course evaluation:</strong> Debriefing at completion of all selectives.</td>
<td><strong>Time required for individual work:</strong></td>
</tr>
<tr>
<td><strong>Confirmation:</strong> 2019-20</td>
<td>In addition to attendance in class, the students are expected to participate in the clinics and the operating room.</td>
</tr>
<tr>
<td><strong>Last update:</strong> September 2019</td>
<td><strong>Course Content/schedule and outlines:</strong></td>
</tr>
<tr>
<td></td>
<td># 1st day 8:00-16:00 – at the ophthalmology department- Ophthalmic equipment and eye examination.</td>
</tr>
<tr>
<td></td>
<td># Next 8 days:</td>
</tr>
<tr>
<td></td>
<td>08: 00-13: 00 students participate in various clinic work (including primary care clinics / general and clinics in the various sub-specialization) plus operating room.</td>
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<tr>
<td></td>
<td>13: 00-14: 00 Lunch break</td>
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<tr>
<td></td>
<td>14: 00-16: 00 Seminar</td>
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<tr>
<td></td>
<td># 10th day - Roundtable - oral exam</td>
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<td></td>
<td><strong>Required reading:</strong></td>
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<td></td>
<td>Lectures and seminars delivered during the clinical course</td>
</tr>
</tbody>
</table>
**Name of the course:** Orthopedics Selective  
**Number of course:** 481-8-4091

| BGU Credits: 2.5 | Course Description:  
A comprehensive approach to common orthopedic patients and injuries. |
|------------------|------------------------------------------------|
| ECTS credits:    | Aims of the course:  
1. The students will understand how to approach and treat common orthopedic injuries and diseases  
2. The students will join all types of clinical activities during their clerkship |
| Academic year: 2019-20 | Learning outcomes of the course:  
On successful completion of the course, the student should be able to:  
1. Diagnose and set the treatment course for hip fractures  
2. Diagnose and set treatment course for common fractures  
3. Diagnose and set treatment course for common orthopedic emergencies |
| Semester: 2      | Attendance regulation:  
Attendance is mandatory |
| Hours of instruction: 2 weeks | Teaching arrangement and method of instruction:  
A preliminary discussion will take place on the first day of this rotation to cover goals and objectives. Every day a different tutor will guide the group through the various clinical and academic activities in which students will be expected to play an active part. |
| Location of instruction: Soroka University Medical Center | Assessment: Attendance and participation |
| Language of instruction: English | Work and assignments:  
Each student will stay on call one night in the hospital and will join the residents in the emergency room/operating theatre. |
| Cycle: 1st       | Course Content/schedule and outlines:  
TBA |
| Position: Elective course | Required reading:  
* All learning material will be available to the students on the course’s website (Moodle)/library/electronic documents available to BGU students. |
<p>| Field of Education: MD | |</p>
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<thead>
<tr>
<th>Thu</th>
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<tr>
<td>Dr. Elkarnawi</td>
<td>Dr. Benkovitch</td>
<td>Dr. Elkarnawi</td>
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**Review of radiographs and discussion**

<table>
<thead>
<tr>
<th>Clinics / ER / OR</th>
<th>Approach to:</th>
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<tr>
<td></td>
<td>Osteoarthritis &amp; Joint replacement</td>
<td>Sports injuries</td>
<td>Clinics / OR / ER</td>
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<td>11:15-12:00</td>
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**Physical Examination**

|                   | 12:15-13:00 |
|                   |              |

**Daily seminar (by the students)**

|                   | 13:15-14:00 |
|                   |              |

**Lunch break**

|                   | 14:15-15:00 |
|                   |              |

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<thead>
<tr>
<th>On call - 1-2 students</th>
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<th>On call - 1-2 students</th>
<th>On call - 1-2 students</th>
<th>On call - 1-2 students</th>
<th>15:15-16:00</th>
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<tr>
<td>Dr. Bloom</td>
<td>Dr. Kramer</td>
<td>Dr. Ileeg</td>
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<tr>
<td></td>
<td>Tumors</td>
<td>Spine</td>
<td>Trauma</td>
<td>Foot and Ankle</td>
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<td>4.5.2016</td>
<td>3.5.2016</td>
<td>2.5.2016</td>
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<td>time</td>
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<tr>
<td>Dr Weisel</td>
<td>Dr. Abu-Kian</td>
<td>Dr Ishano</td>
<td>Attending</td>
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**Review of radiographs and discussion**

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</thead>
<tbody>
<tr>
<td>Pediatric ortopedics</td>
<td>Hip fractures</td>
<td>Fractures</td>
<td>Spine</td>
<td></td>
</tr>
</tbody>
</table>

**Time Slots**

- **8:15-9:00**
  - 9:00-10:00
- **10:15-11:00**
  - 11:15-12:00
- **12:15-13:00**
  - 13:15-14:00
- **14:15-15:00**
  - 15:15-16:00

**On call - 1-2 students**

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<tbody>
<tr>
<td>Physical Examination</td>
<td>Daily seminar (by the students)</td>
<td>Lunch break</td>
<td></td>
<td></td>
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</tbody>
</table>

- **Clinics / ER / OR**
  - Approach to:
    - Pediatric ortopedics
    - Hip fractures
    - Fractures
    - Spine

- **Time Slots**
  - 8:15-9:00
  - 9:00-10:00
  - 10:15-11:00
  - 11:15-12:00
  - 12:15-13:00
  - 13:15-14:00
  - 14:15-15:00
  - 15:15-16:00
## Course Description

### Aims of the course:
To give the students very basic knowledge and skills in plastic and reconstructive surgery.

### Objectives of the course:
Participation in all activities of plastic surgery units, including ground rounds in the unit, outpatient clinic work, and operation theatres. Participation in the suturing workshop.

### Learning outcomes of the course:
On successful completion of the course, the student should be able to:
1. Assistance in the operating theatre
2. Assistance in patients’ treatment in the unit and outpatient clinic
3. Very basic skills in wounds suturing.

### Attendance regulation:
Mandatory

### Teaching arrangement and method of instruction:
1. Plastic surgery unit - grand round, ER, consultations
2. Outpatient clinics - general plastic surgery, burns, hand surgery, head and neck, and breast reconstruction clinic.
3. OR - small operations (surgical dermatology), day surgery - bigger operations, MOHS surgery, operations under general anesthesia.

Students also participate in general departmental activities and will attend staff meetings and journal club. Lectures will be given relating to basic plastic surgery including introduction to plastic surgery, surgical dermatology, congenital anomalies, hand and burns.

### Assessment:
Assessment will be based on attendance and participation.

### Course Content\ schedule and outlines:
The course starts on Sunday 07.30 and lasts for two weeks. The students come every day at 07.30 and disperse to participate at the varying working stations (ER, out-patient clinic, operation theatres).

### Required reading:
Nelligan’s Plastic and Reconstructive Surgery

* All learning material will be available to the students on the course’s website (Moodle)/ library/ electronic documents available to BGU students.
**Name of the selective:** Radiology/Imaging  
**Number of course:** 481-8-4097

<table>
<thead>
<tr>
<th>BGU Credits:</th>
<th>2.5</th>
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</thead>
<tbody>
<tr>
<td>ECTS credits:</td>
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<tr>
<td>Academic year:</td>
<td>2019-20</td>
</tr>
<tr>
<td>Semester:</td>
<td>2</td>
</tr>
<tr>
<td>Hours of instruction:</td>
<td>2 weeks</td>
</tr>
<tr>
<td>Location of instruction:</td>
<td>Soroka University Medical Center</td>
</tr>
<tr>
<td>Language of instruction:</td>
<td>English</td>
</tr>
<tr>
<td>Cycle:</td>
<td>1st</td>
</tr>
<tr>
<td>Position:</td>
<td>Elective course</td>
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<tr>
<td>Field of Education:</td>
<td>MD</td>
</tr>
<tr>
<td>Responsible department:</td>
<td>MSIH</td>
</tr>
<tr>
<td>General prerequisites:</td>
<td></td>
</tr>
<tr>
<td>Grading scale:</td>
<td>Pass/Fail</td>
</tr>
</tbody>
</table>

**Course Description:**

**Aims of the course**
The selective in the Radiology Department will expose students to the different aspects of radiology including computer tomography, ultrasound, MRI, PET CT, angiography and fluoroscopy.

**Objectives of the course:**
The general radiology selective is structured to provide an overview of the basic principles of diagnostic imaging, invasive radiology and an introduction to the fundamentals of diagnostic radiology.

**Learning outcomes of the course:**
1. To develop an appreciation of the complexity of diagnostic imaging including an understanding of the types of available choices.
2. To gain an understanding of the clinical indications for obtaining studies, the relative risk/benefit of radiologic procedures and the basic technical aspects of how examinations are performed.
3. To learn limitations and contraindications of the diagnostic studies.

**Attendance regulation:**
Mandatory

**Teaching arrangement and method of instruction:**
The morning conference will include a case presentation and discussion given by the attendant on call the previous night and then students will accompany and assist residents on their rounds.

**Assessment:**
Tutor evaluation of the student's professional conduct and clinical performance

**Work and assignments:**
- The students will be assigned at a workplace for a day rotating between different imaging modalities according to the internal schedule. Student's personal interest might be taken into account.
- At the end of the selective the students will present clinical case and relevant diagnostic studies with typical findings followed by brief discussion.
- Students are required to cover one module/day from the following source: [https://www.cchs.net/onlinelearning/cometvs10/pedrad/default.htm](https://www.cchs.net/onlinelearning/cometvs10/pedrad/default.htm)

**Time required for individual work:** in addition to attendance in class, the students are expected to do their assignment and individual work:
Course Content\ schedule and outlines

The selective is structured from 8.00 AM until 3:00 PM. On Sunday, Tuesday and Friday there is a morning conference, while on Monday and Wednesday students attend teaching session with a staff radiologist. During the day students will be assigned to workplaces where they can observe patient examinations, the working interpretive sessions and the interface of radiology with the referral services.

Required reading:
1. Felson’s Principles of Chest Roentgenology, 3rd Ed.
2. Pediatric Radiology, 3rd Ed. Haller et al
3. Ouellette H., Tétreault P. Clinical Radiology Made Ridiculously Simple
4. Fleckenstein P., Tranum-Jensen J. Anatomy in Diagnostic Imaging

Additional literature:
On-line resources:
For anatomy:
Gray's Anatomy http://www.bartleby.com/107/
https://my.statdx.com/

For cases:
www.auntminnie.com
Case in Point by ACR:http://caseinpoint.acr.org/
https://www.cchs.net/onlinelearning/cometvs10/pedrad/default.htm

For teaching topics:
Learning radiology: http://www.learningradiology.com/
Radiology Assistant http://www.radiologyassistant.nl/
Rads Wiki:http://www.radswiki.net/
Radiopaedia:http://radiopaedia.org/

* All learning material will be available to the students on the course’s website (Moodle)/ library/ electronic documents available to BGU students.