

Course title: Medical Parasitology & Medical Entomology.	اسم المادة: الطفيليات الطبية والحشرات الطبية
INTENDED TERM : 3,4	رمز المادة : 2033 طفل، 2043 طفل
Course Duration: . 30weeks	الفترة الدراسية: 3 و4
- Lectures : 4 hours	مدة المقرر: 30 اسبوع
- Practical: 6 hours	عدد ساعات النظري: 4 ساعة
TOTAL CONTACT HOURS: 150hours	عدد ساعات العملي: 6 ساعة
COURSE CREDIT: 6 hours	عدد ساعات الاتصال: 150 ساعة
	الساعات المعتمدة: 6 ساعات

رمز المادة : 2033 طفل ، 2043 طفل

وصف المادة:

الطفيليات الطبية والحشرات الطبية: التعرف على تركيبية وتصنيف وخصائص الطفيليات ومعرفة انواع الحشرات والمفصليات الناقلة للانسان وطرق مكافحتها.

General objectives:-

By the end of the course, the student should understand:

- (1) The Biological, ecological and epidemiological concepts of medical parasitology.
- (2) The taxonomy, morphology, life cycles, transmission and basis of pathogenicity of human parasites.
- (3) Diagnosis of parasitic infections and their vectors using suitable techniques, procedures and tests for both direct and indirect diagnosis. Also, culture, animal inoculation techniques and microscopic diagnosis.

Specific objectives:-

Upon the completion of the course student be able to:

- (1) Define terms relating to parasitism.
- (2) Outline a basic classification of human parasitic.
- (3) Define modes of parasitic infection.
- (4) Demonstrate good knowledge about the important parasitic infections in the Sudan.
- (5) Define the roles of vectors in the transmission of parasitic infections.
- (6) Parasitic basic techniques used for the diagnosis of parasitic infections.
- (7) Demonstrate some basic knowledge of immunological response and immunodiagnostic of parasitic infections.

مفردات المادة:

- 1- مقدمة الطفيليات الطبية والحشرات الطبية.
- 2- تصنيف الطفيليات الطبية (وتشمل الالوي والسوطيات والمتصورات والديدان الطبية والمسطحة والشريطية والمستديرة).
- 3- طرق انتقال الطفيليات الطبية.
- 4- امراضية الطفيليات الطبية .
- 5- الطرق المعملية وكيفية تشخيصها.
- 6- الحشرات والمفصليات الناقلة للامراض .

Contents: -

Term 1:

Title of the course

Medical Parasitology :

General objectives:-

By the end of this course medical laboratory sciences students should be able to:

- Understand the role of protozoa in causation of diseases in man.
- Understand the relationship between environment and transmission of protozoa.
- Practice basic laboratory skills that used in the technology of the parasite diagnosis.
- Understand the main taxonomic frame of classification of Phylum Arthropoda.

Specific objectives:-

By the end of this course medical laboratory sciences students should be able to:

- 1) Demonstrate adequate knowledge and understanding of the scope of medical parasitology together the basic terminology and definitions as well as the nomenclature of protozoa.
- 2) Know and understand the biology and taxonomy of protozoa.
- 3) Practice the basic skills and techniques for stool examination.
- 4) Demonstrate adequate knowledge about the main properties of different intestinal protozoa.
- 5) Demonstrate adequate knowledge about the principles, and to practice the basic parasitology techniques used in the diagnosis of blood parasites.
- 6) Know and understand the scope of Medical Entomology together with the main taxonomic frame of classification with the basic terminology and definitions.

Course content:

Competency

- Biological concepts of parasitology: introduction and definition of terminology.
- Taxonomy of protozoa cell, tissue, organs and system level of organization.
- Quality control of stool examination.
- Sarcodina.
- Entamoeba histolytica
- Entamoeba coli and other intestinal ameba.
- Flagellates- Giardia lamblia
- General introduction to medical Entomology
- Musca domestica & Cockroach.
- Seminar .
- intestinal parasite .(characteristic & classification,
- Cryptosporidium , Isospora belli.
- Tutorial.
- Blantidium.coli.
- Apicomplexa .
- Toxoplasma , Toxoplasmosis.
- Sarcocyst, Penumocysis.

Term II:

Medical Protozoology:

Specific objectives:-

By the end of this course medical laboratory sciences students should be able to:

- Demonstrate adequate knowledge about the biology and epidemiology of leishmania parasite as well as to practice the basic technique applied in the diagnosis of different type of trypanosomiasis.
- Know the biology and epidemiology of plasmodium spp as well as the diagnosis of malaria.

Contents:

Leishmania (1) cutaneous leishmaniasis.

Leishmania (11) visceral leishmaniasis.

Class insect the sand flies.

Leishmania in Sudan .

Trypanosoma 1 African trypanosomiasis .

Trypanosoma 11 American trypanosomiasis.

Glossina (Tse tse fly)

Plasmodium spp : biology , general characteristic .

Plasmodium falciparum.

Plasmodium vivax .

Plasmodium malariae .

Plasmodium ovale .
Class insecta (mosquitoes)

INSTRUCTIONAL METHODS:	طرق تدريس المادة
1- Lectures	1- محاضرات
2 - Lab. practical	2- دروس عملية
3- Tutorials	3- حلقات نقاش
4- Seminars	4- سمینارات
5- Assignments and Reports	5- ملخصات وتقارير

Evaluation:

طرق القياس والتقييم:

- 20% annual assessment.
- 80% final examination held at the end of the course.
- Theory 50%.
- Practical 50%.

References:

1. Fleck. S.L, Moody.A.H. Diagnostic technique in Medical Parasitology.11th edition.ELBS,with Butterworth-Heinemann, 1993.
2. Peters. W and Gilles H.M: Color Atlas of Tropical Medicine and Parasitology.4th edition. London, Mosby Wolfe 1995.
3. Bell. D.R. Lecture notes on Tropical medicine. 4th edition Blackwell sciences, oxford 1995.
4. Gillespie SH, Hawkey PM. Medical parasitology; a practical approach. Oxford: IRL Press, 1995: pp 295.

مقرر الطفيليات الطبية والحشرات الطبية الفرقة الثالثة:

Course title: Medical parasitology & Medical Entomology	اسم المادة: الطفيليات الطبية و الحشرات الطبيه
Intended term : 5, 6	رمز المادة : 3053 طفل ، 3063 طفل
Course duration: 30 weeks	الفترة الدراسية: 5,6
- Lectures : 4 hours	مدة المقرر : 30 اسبوع
- Practical: 6 hours	عدد ساعات النظري: 4 ساعة
Total contact hours: 150 hours	عدد ساعات العملي: 6 ساعة
Course credit: 6hours	عدد ساعات الاتصال: 150 ساعة
	الساعات المعتمدة: 6 ساعة

رمز المادة : 3053 طفل ، 3063 طفل

وصف المادة:

تعتبر الأمراض الطفيلية في السودان من أمراض المرتبطه بالصحة و النظافة العامه و الشخصية وذات أثر اقتصادي بل وتعتبر وأن الأمراض الطفيلية اعتمدت محليا وعالمياً الأولى في الاعتبار والأولى بالمكافحة والجهود الوقائية والعلاجية المكثفة، كما هو الحال في سائر أنحاء العالم والعالم المداري والأستوائي. تعتبر مادة الطفيليات واحدة من فروع علم الامراض كما هي واحدة من الفروع الأساسية لعلوم المختبرات الطبية.

الاهداف العامة للمادة:

1- تزويد الطالب لهذا المنهج بالمفاهيم والمهارات الأساسية والمتطورة لعلم الطفيليات الطبية والحشرات الطبية والمفصليات الناقلة والجهود الوقائية والعلاجية المكثفة للأمراض المستوطنة في السودان.

2- تزويد الطالب بفنون وطرائق البحث العلمي والقدرة على القيام بأعمال بحثية والتسجيل والحصول على الدرجات العلمية فوق الجامعية في مجالات علوم الطفيليات الطبية

مفردات المادة:

- 1- مقدمة الطفيليات الطبية والحشرات الطبية
- 2- تصنيف الطفيليات الطبية والديدان المستديره المسطحة
- 3- طرق انتقال الطفيليات الطبية
- 4- امراضية الطفيليات الطبية للانسان وعلاقتها بالحيوان
- 5- الطرق المعملية وكيفية تشخيصها
- 6- الحشرات والمفصليات الناقلة للأمراض

Course contents:

The course covers the following topics the morphology , biology, transmission, pathology and diagnosis of parasitic worms.

General objectives:

By the end of this course, medical laboratory student should be able to:

- Understand the pathogenicity of parasites of medical importance.
- Understand the features and transmission methods of parasitic diseases.
- Know the technical procedures employed in the diagnosis of parasitic infections in the laboratory.

Specific objectives:

By the end of this course, medical laboratory student should be able to:

- 1- Understand the taxonomy and morphology of helminthes.
- 2- Understand the factors affecting nutrition, growth, and methods of reproduction and multiplication of platyhelminthes of medical importance.
- 3- Understand the pathogenicity and toxin production of platyhelminthes together with the allergens resulting from their pathogenic effects.
- 4- Understand the feature and spread of platyhelminthes.
- 5- Know the laboratory techniques use for **platyhelminthes** diagnosis.

Term I:

- 1- Medical Entomology (2) (Ticks -Mitts – snails **and** mayasis).
- 2- Interoduction of Helminthology (classification)
- 3- Trematoda (introduction and classification)
- 4- Blood flukes (Schistosoma spp)
- 5- Schistosoma monsoni
- 6- Schistosoma haenatobium.
- 7- Schistosma japonicum and schistosma inercalatam.
- 8- Amphistoma & Distoma flukes (fasciola hepatica, fasicolopsis buski, fasciola gigantica).
- 9- paragonimus.
- 10- Heterophyes heterophyes & chlonorches sincesis.
- 11- Taenia saginata.
- 12- Taenia solium, Hymenolpis nana, Hymenolpis deminesta.
- 13- Echioncoccus granulosus.
- 14- Diphytobothrium latum, spragnosis, Dipyledium caninum.
- 15- Tutorials sessions.

Term II:

A- Intestinal Nematodes:

- 1- Nemetodes (introduction and classification) intestinal Nematodes.
- 2- Ascaris lumbricoides.
- 3- Tricharis trichura.
- 4- Entrobilus vermicularis.
- 5- Hook worms.
- 6- Strongyloides stercoralis.
- 7- Larva migrans.

B- Tissue Nematodes:

- 1- Wucheraria bancrofti.
- 2- Loa loa, Mansosella spp.
- 3- Brugia malayi, brugi timori.
- 4- Onchocerca volvulus.
- 5- Drarconculus medinesis.
- 6- Trichenella spiralis.
- 7- Tutorials sessions.
- 8- Miscellaneous (in brief) :
 - Babaisia.
 - Acatheopla.

Instructional methods:	طرق تدريس المادة
1- Lectures	1- محاضرات
2 - Lab. practical	2- دروس عملية
3- Tutorials	3- حلقات نقاش
4- Seminars	4- سمنارات
5- Assignments and Reports	5- ملخصات وتقارير

Evaluation :

- 20% annual assayment
- 80% final examination held at the end of the course
- Theory 50%
- Practical 50%

References:

1. Fleck. S.L, Moody.A.H.Diagnostic technique in Medical Parasitology.11th edition.ELBS,with Butterworth-Heinemann, 1993.
2. Peters. W and Gilles H.M: Color Atlas of Tropical Medicine and Parasitology.4th edition. London, Mosby Wolfe 1995.
3. Bell. D.R. Lecture notes on Tropical medicine. 4th edition Blackwell sciences,oxford 1995.

مقرر الطفيليات الطبية والحشرات الطبية الفرقة الرابعة:

Course title: Medical Parasitology & medical entomology - advanced course	اسم المادة: الطفيليات الطبية والحشرات الطبية كورس متقدم
Intended term :7,8	الفترة الدراسية: 7,8
Course duration: 30 weeks	مدة المقرر: 30 أسبوع
- Lectures : 8 hours	عدد ساعات النظري: 8 ساعات
- Practical: 12 hours	عدد ساعات العملي: 12 ساعات
- In-service training: 8 hours	تدريب ميداني: 8 ساعات
Total contact hours: 780 Hours	عدد ساعات الاتصال: 780 ساعة
Course credit: 20 Hours (8+4+8)	الساعات المعتمدة: 20 ساعة (8+4+8)

وصف المادة:

- معرفة الطرق المتقدمة للتشخيص المعملي للطفيليات الطبية وامراضيتها للانسان طرق **مكافحتها**.

Objectives:

By the end of this course, medical laboratory student should be able to:

1. Demonstrate adequate knowledge about the clinical, pathological, epidemiology, and control of parasitic infections.
2. Practice basic and advanced techniques applied for diagnosis of parasitic infections.
3. Present and introduce seminars in topics related to medical parasitology.

Course Contents:

The course consists of three modules:

- **Module I: Diagnostic parasitology :**

- **Specific objectives :**

By the end of this course, medical laboratory student should be able to;

- Demonstrate adequate knowledge about the pathogenicity , pathological bases of practice infection .
- practice and demonstrate basic and advance parasitological techniques applaied in the diagnosis of parasitic infection, including in vitro and in vivo cultivation of parasites.
- Under stand the epidemiological of important parasites in Sudan.

Course contents:

1. Concepts of parasitism and epidemiology.
2. Immunity of parasitic infection.
3. Parasitological methods and techniques.
4. Tutorial
5. Selective topics:
 - Tropical parasitology.
 - Zoonosis.
 - Communicable diseases.
 - Drugs: treatment and resistance.

- module II: clinical parasitology

• Specific objectives:

By the end of the course, medical laboratory sciences should be able to:

- Demonstrate adequate knowledge about the pathology, pathogenicity, and the clinical presentation of parasites.
- Understand the bases of chemotherapy of parasitic infection.
- Understand the epidemiology of important parasitic infections in Sudan.

Course contents:

1. Tropical medicines and parasitic infection of public health importance.

- Malaria.
- Schistosomiasis.
- Flarasis.
- Intestinal nematodes.
- Tissue, nematodes
- Tutorial.

- Module 11:immuno-parasitology :

*** Specific objectives**

By the end of this course medical laboratory students should be able to :

- Understand the immunology to parasitic infections, and the bases of implementation of immunological methods in the diagnosis of parasitic infections.
- Course contents :
- Immunological events during parasitic invasion .(tutorial)
- Principles of immunological techniques .(seminar).
- Immunity to malaria .
- Immunity to leishmania .
- Immunity to trypanosoma .
- Immunity to intestinal parasite .
- Introduction to molecular biology .
- Basess of molecular biology techniques in the diagnosis of parasite infections.

Instructional methods:	طرق تدريس المادة
1- Lectures	1- محاضرات
2 - Lab. practical	2- دروس عملية
3- Tutorials	3- حلقات نقاش
4- Seminars	4- سمنارات
5- Assignments and Reports	5- ملخصات وتقارير

طرق القياس و التقويم: Evaluation

1- امتحانات نهائية (80%) و تشمل:

- امتحان تحريري 40%

- امتحان عملي 50 %

- امتحان شفوي 10%

2- أعمال السنة (20%) وتشمل:

- كتابة الملخصات والتقارير

- اختبارات دورية

References:

1. Fleck. S.L, Moody.A.H.Diagnostic technique in Medical Parasitology.11th edition.ELBS,with Butterworth-Heinemann, 1993.
2. Peters. W and Gilles H.M: Color Atlas of Tropical Medicine and Parasitology.4th edition. London, Mosby Wolfe 1995.
3. Bell. D.R. Lecture notes on Tropical medicine. 4th edition Blackwell sciences,oxford 1995.
4. Gillespie SH, Hawkey PM. Medical parasitology; a practical approach. Oxford: IRL Press, 1995: pp 295.
5. Beaver P.J.Clinical Parasitology . 9th Sub edition. Lea & Febiger 1984.