National Center for Academic Accreditation and Evaluation
ATTACHMENT 5.

Kingdom of Saudi Arabia
Ministry of Higher Education
Shaqra University
COLLEGE OF APPLIED MEDICAL SCIENCES
(DAWADMI)
Academic Year 2018-2019

CLINICAL LABORATORY SCIENCE DEPARTMENT
COURSE SPECIFICATIONS
of
CLS 362
MEDICAL PARASITOLOGY

Prepared by

Prof. Dr. IntisarElhag Elrayah Signature: _____
Full Professor (Female Section) Date Completed: **30 January 2019**

Mr. Suhas Kaniyarakkal Thazha Signature: _____
Lecturer (Male Section) Date Completed: **30 January 2019**

Noted by

PROF. DR. Intisar Elhag Elrayah Signature: _____
Supervisor of the Department (Female Section)

Approved by

DR. Ali Ismail Ali Abdul Rahim Signature: _____
Program Supervisor

Dr. Masha'el Al-Ruwais Signature: _____
Vice Dean (Female Section)

DR. Nahed Bin Abdullah Alqweiz Signature:_____
College Dean

هيئة تقويم التعليم
Education Evaluation Commission

Course Specifications

Institution: Shaqra University	Date: 30/01/2019
College/Department : College of Applied Medical Sciences / Clinical Laboratory Science at Al Dawadmi Campus	

A. Course Identification and General Information

1. Course title and code: Medical Parasitology, CLS 362
2. Credit hours: : 4 (3 Lecture + 1 Practical)
3. Program(s) in which the course is offered.
(If general elective available in many programs indicate this rather than list programs)
Bachelor of Science in Clinical Laboratory Science (BSCLS**)**
4. Name of faculty members responsible for the course:
Prof. Dr. Intisar Elhag Elrayah, Full Professor (Female Section)
Mr. Suhas Kaniyarakkal Thazha, Lecturer (Male Section)
5. Level/year at which this course is offered: Level 6/3rd year
6. Pre-requisites for this course (if any): CLS 241
7. Co-requisites for this course (if any): None
8. Location if not on main campus: College of Applied Medical Sciences – Al Dawadmi Campus
9. Mode of Instruction (mark all that apply):

a. traditional classroom	√	What percentage?	70
b. blended (traditional and online)	√	What percentage?	10
c. e-learning		What percentage?	
d. correspondence		What percentage?	
f. other	√	What percentage?	20

Comments:

B Objectives

1. What is the main purpose for this course?

This course will enable the CLS students to:

- Explain and understand the characteristics of parasites of medical importance to man with emphasis on the morphology, epidemiology, pathogenicity, laboratory diagnosis of diseases, distribution and life cycles as well as preventive measures against infection;
- Perform the different laboratory procedures contained in the series of activities to explain the characteristics of parasites of medical importance to man with emphasis on the morphology, epidemiology, pathogenicity, laboratory diagnosis of diseases, distribution and life cycles as well as preventive measures against infection; and
- Acquire the basic concepts of quality assurance and safety in the performance of laboratory procedures.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- Feedbacks from the previous course reports.
- Reference to student evaluation results.
- Increased use of IT or web-based reference materials.
- Regular updating of the course objectives and scientific content as required.
- Utilization of various internet resources that offer informative details to support the lecture course material.
- Utilization of materials on the website that could be accessed by students.
- Tutorial, reading assignments and relevant research papers using university online library will enrich the scope of the course.
- Use of Power point (ppt) or Multimedia Presentation

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course deals with the classification, morphological characteristics, life cycles, pathogenicity, epidemiology of parasites, namely: Protozoa- pathogenic and non-pathogenic amoebae,free living pathogenic amoebae, intestinal and urogenital flagellates, blood and tissue flagellates, ciliates, malarial parasites and other coccidia. Helminths- Cestodes (pseudophyllidea and cyclophyllidea), Nematodes (intestinal and tissue worms), Trematodes (Intestinal,hepatic and lung flukes). The clinical presentation of the diseases caused by these parasites will be fully discussed, as well as their transmission, prevention and control, and laboratory diagnosis.

	1. Topics to be Covered		
List of Topics(theory Topics(3 contact hours /wk)	Practical Practical (2 contact hours/wk	No. of Weeks	Contact hours
• Introduction to medical parasitology • Parasites and parasitism parasitic infections and diseases • Types of parasites • Types of host • Host parasite relationship • Factors presence of parasites at their hosts • Parasites reproduction in their hosts •	Introduction to Parasitology Lab	1	5
Introduction to Protozoa: T axonomy, Habitat, Morphology, Life cycle, Pathogenicity of protozoa medical importance **Intistenal protozoa** - Amoeba: *Entamoeba histolytica* - Flagellates: *Giardia lamblia* - Sporozoa: *Cryptosporidium parvum* - Ciliate: *Balantidium* - Flagellates:*Trichomonas vaginali* **Blood and Tissue Protozoa** ○ Flagellates: *Trypanasomes* ○ Flagellates: *Leishmania* ○ Sporozoa: *Plasmodium* ○ Sporozoa: *Toxoplasma*	Type of Special Stains and preparation of specimens for parasitic investigations	2	5
	Demonstrations of different parasites vectors	3	5
	Blood techniques : Thin and thick blood films Buffy coat techniques(QBC)	4	5
Introduction to Helminths: : Taxonomy, Habitat Morphology, Life cycle, Pathogenicity, Diagnosis and Control classification and structure of Nematoda, Cestoda , and trematod of medical importances:, • **Platyhelminths** Trematods Cestodes • **Nematohelmints:** Nematodes	Identification and illustration of parasites in this section (1)	5	5
Platyhelminths Trematodes : - Liver fluke e.g *Fasciola Spp* - Lung fluke : Paragnomanos Westermani - Blood fluke : *Schistoma spps* - Intestinal fluke	identification and illustration of parasites in this section(2)	6	5
	identification and illustration of parasites in this section(3)	7	5
Cestodes - *Taenia saginata*	Identification and illustration of parasites in this section (1)	8	5

- *Taenia solium* - : *Echynococcus granulosus*	Identification and illustration of parasites in this section (2)	9	5
Nematodes: - *Ancylostoma duodenale* - *Enterobius vermicularis* - *Ascaris lumbricoides* - *Trichuris trichiura* - *Lymphatic Filariasis* -	Fecal Concentrations methods	10	5
	Routine urine analysis for parasitic infection	11	5
• **Medical entomology** • Insects , ticks , and other related vectors	Fecal routine analysis for parasitic infections	12	5
• Parasitic & Zoonotic Diseases of Public Health Importance in KSA •	Serological tests for parasitic infection		
• Diagnosis of parasitic infections ,clinical and laboratory Diagnosis • Molecular diagnosis	Molecular techniques	13	5
• Immunity to the parasitic infections	Revision	14	5
.			

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planed	45	--	30	--	--	75
	Actual	45	--	30	--	--	75
Credit	Planed	45	--	15	--	--	60
	Actual	45	--	15	--	--	60

3. Additional private study/learning hours expected for students per week. 2

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process.

(Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	**Knowledge**		
1.1	Discuss the life histories of parasites of medical importance in relation to transmission, prevention and control;	(a) Interactive Lecture/Discussion (b) Report Back Session (c) Power point/Multimedia Presentation (d) CD/Video viewing (f) Large Group Discussion (g) Reading (h) Online assignment/Assigned Homework	(a) Paper and Pencil Tests (b) Baseline Assessments (c) Oral Reports (d) Interviews (e) Multiple choice questions (f) Open-book examinations and Closed-book examinations (g) Tests and quizzes (h) Assignments (i) Final written examination at the end of semester
1.2	Review the key features of the epidemiology of major parasites in humans, including the role of human behavior in transmission;		
1.3	Recognize the clinical significance of laboratory procedures in the diagnosis and treatment of diseases.		
2.0	**Cognitive Skills**		
2.1	Explain the development of parasites in the human body in relation to clinical signs and potential pathology, including an outline of key interactions between parasites and immune and genetic host factors;	(a) Interactive Lecture/Discussion (b) Report Back Session (c) Power point/Multimedia Presentation (d) CD/Video viewing (f) Large Group Discussion (g) Reading (h) Online assignment / Assigned Homework	(a) Paper and Pencil Tests (b) Demonstration (c) Role Play (d) Lab report (e) Prepare an illustrated manual on using the equipment (f) Observation of real or simulated professional practice (g) Final written examination at the end of semester
2.2	Analyze the advantages and disadvantages of different approaches to the diagnosis of parasites;		
2.3	Discuss current approaches to the control, elimination and eradication of selected parasites of medical importance; and		
2.4	Relate laboratory test results to common disease processes by recognizing the principles and methodologies practiced in the parasitology department.		
3.0	**Interpersonal Skills & Responsibility**		
3.1	Demonstrate the public health significance of parasites in humans including the potential interactions between infection with specific parasites and other agents of	(a) Assignment (b) Internet search (c) Group dynamics (d) Online	(a) Journal (b) Portfolio (c) Group work (d) Oral examination

	disease;	assignment/Assigned Homework (e) Small Project	(e) Evaluation of assignments and search work. (f) Observation of student ethical and moral behavior.
3.2	Demonstrate professional conduct and interpersonal communication skills with patients, laboratory personnel, other health care professionals, and with the public.		
3.3	Apply principles of laboratory safety, including Universal Precautions; and		
3.4	Establish and maintain continuing education as a function of growth and maintenance of personal and professional competence.		
4.0	**Communication, Information Technology, Numerical**		
4.1	Recognize and apply principles related to the use of laboratory information systems used in the parasitology department; and	(a) Teaching and learning in English to improve student communication skills. (b) Training on numerical skills and data presentation. (c) Student involvement in seminars. (d) Internet search and assignments	(a) Written presentation (essay, report, reflective paper etc.) (b) Oral presentation (c) Group work (d) Discussion/debate/role play (e) Observation of real or simulated professional practice (f) Problem scenario (g) Work-based problem (h) Analyze a case (i) Seminar evaluation (j) Examinations should be answered in English language (k) Marks given to for good reports and presentations
4.2	Perform and monitor routine departmental quality control within the established guidelines by applying the principles of critical thinking and problem solving.		
5.0	**Psychomotor**		
5.1	Collect, process and analyze parasitology specimens as appropriate;	(a) Laboratory classes (b) Emulation of the study skills for scientists and quantitative methods (c) Reporting of laboratory exercises (d) Engage students in analysis and evaluation of their practical work (e) Training on methods of data manipulation and	(a) Demonstration (b) Role Play (c) Make a video (write script and produce/make a video) (d) Lab report (e) Prepare an illustrated manual on using the equipment, for a particular audience (f) Observation of real or
5.2	Perform analytical tests on specimens tested in the parasitology department; and		
5.3	Perform preventive and corrective maintenance of equipment and instruments and refer to appropriate sources as necessary.		

		presentation.	simulated professional practice (g) In-class tests (h) Assessed laboratories

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	1st Midterm Test	6th week	15%
2	2nd Midterm Test	12th week	15%
3	Attendance & Quizzes	1-15 weeks	05%
4	Online assignment & Presentation	7th and 12th week	05%
	Practical midterm& activities	6th/12th	20%
5	Final Exam		40%
6			
7	Total		100%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

All the Teaching Staff are available to assist and support the students if they have any questions or inquiries. From the start, they were given the schedule of their lectures, tutorials, clinical session for the whole semester. The students were divided into small groups and are allocated to each Teaching staff. They can have clinical sessions with their Consultants 2–3 times week. In addition to attending daily rounds, clinics, and theatres with the teaching staff.

(a) Office hours (4 hours / week / staff)
(b) Regular meeting with course organizer and the team leader.
(c) Course 3 hours per day, 5 days a week for any inquiry and support for the students.

E Learning Resources

1. List Required Textbooks

- Leventhal, Ruth and Russell F. Cheadle. Medical Parasitology: A Self-Instructional Text. 6th ed. F. A. Davis Company, 2012.
- David M. Advances in Parasitology Control of Human Parasitic Diseases. 2008.
- Mcpherson, Richard A. and Matthew R. Pincus. HENRY' S CLINICAL DIAGNOSIS AND MANAGEMENT BY LABORATORY METHODS. 21st ed. Philadelphia: Elsevier Inc., 2007.

❖ Laboratory Manual for Medical Parasitology. Revised, 2013 ❖ Paniker's text book of medical parasitology, 8 th edition, Jaypee bothers ❖ Text book of medical parasitology, protozoology & helminthology, subash Chandra parija, All India Publishers & Distributors, 4th edition
2. List Essential References Materials (Journals, Reports, etc.) ❖ International Journal of Parasitology Research ❖ Internet Journal of Parasitic Diseases ❖ Journal of Parasitology and Vector Biology ❖ Cook, C.C. and Zumla, A.I. Manson's Tropical Diseases, 21st ed. Elsevier: Science Ltd, 2003. ❖ Markell, E. K., D. T. John and W. A. Krotoski. Medical Parasitology, 8th ed. Philadelphia: W.B. Saunders Co., 1999. ❖ Malaria Journal ❖ Open Parasitology Journal
3. List Electronic Materials, Web Sites, Facebook, Twitter, etc. ❖ The American Society of Parasitologists, (http://amsocparasit.org) ❖ http://www.la-press.com/human-parasitic-diseases-journal-j142 ❖ http://www.hindawi.com/journals/jpr/ ❖ http://www.epu-eg.com/ ❖ http://www.parasitesonline.net/ http://pathmicro.med.sc.edu/book/parasit-sta.htm
4. Other learning material such as computer-based programs/CD, professional standards or regulations and software. ❖ Parasitology Atlas

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) ❖ Classrooms ready and equipped with educational media ❖ Lecture rooms are air conditioned with at least 35 seats ❖ Labs equipped with material for teaching ❖ LCD projectors are available in the lecture rooms ❖ Smart Board available in the lecture rooms ❖ Laptop and desktop computers ❖ Central printer and scanner ❖ Up-to-date scientific books in the library
2. Technology resources (AV, data show, Smart Board, software, etc.) ❖ LCD Projector ❖ Smart Board ❖ Internet (Wifi) connection in the lecture and laboratory rooms ❖ Desktop computer and microphone in lecture rooms
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) ❖ Light microscopes ❖ Microscope with Video cameras linked to TV circuits ❖ Fluorescent microscope ❖ ELISA machine

- PCR
- Centrifuge, slides, dishes/plates, safety cabinets, hoods, disposals (tips, tubes, etc.)
- Animation models
- Parasites Slides
- Learning program (CD)

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching
   - Regular evaluation of the theoretical and practical parts of the course to identify the weaknesses.
   - Performance appraisal form filled out by each student to show level of fulfillment.
   - Confidential completion of standard course evaluation questionnaire.
   - Interactive Lecture/Discussion
   - Laboratory Activities/Experimentation

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department
   - A statistical regular review and analysis of the students' achievement in the department.
   - Prepare a questionnaire which should be filled by the students at the end of the term.
   - The questionnaire should be analyzed and carefully studied

3. Processes for Improvement of Teaching
   - Provide training and workshop opportunities for the teaching staff to improve their teaching strategies.
   - Form committees to follow up progress and work on improvement.
   - Provide opportunities to improve academic courses and research through conferences.
   - Provide the teaching staff members with all the references and electronic resources.
   - Updating through more reading books and articles related to the course.
   - Improve relations between instructor and students.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)
   - Check marking of the answer sheets of examination papers with other colleagues
   - Check progress level of the students (this can be done by an independent teacher by reviewing students' records and compare the students' work with another from a different institute).

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.
   - Student's feedback on the quality of the course.
   - Consulting other faculty members or collaborators in overseas universities for their views on the method of quality of improvement
   - Check other universities websites to compare our lectures with them.
   - Compare the syllabus with the syllabus of standard universities.
   - Form a specialized committee from the department to review the progress of teaching and update the resources.
   - Consult distinguished students and discuss with them positive and negative points in Lectures.

Name of Course Instructors:

Prof. Dr. Intisar Elhag Elrayah Signature: _____
Full Professor (Female Section) Date Completed: **30 January 2019**

Mr. Suhas Kaniyarakkal Thazha Signature: _____
Lecturer (Male Section) Date Completed: **30 January 2019**

Program Coordinator:

DR. Ali Ismail Ali Abdul Rahim Signature: _____
Assistant Professor (Male Section) Date Completed: **30 January 2019**