Syllabus of Experiments of Human parasitology_ (Experiment)

Shandong University School of Medicine

Writers: All Teachers in the department of Human parasitology

Time: 2019.7.10

1. Basic information of the course

Course Name	Experiment of Human parasitology				
Course Code	sd02321490				
Teaching Department	Department of Human parasitology				
Experiment Type	√Professional basic experiment □Professional experiment □Comprehensive experiment □Innovative experiment □Open experiment				
Course Type	√Compulsory □Elective				
Experimental Type	√Independent course □Non-independent course				
For Which Major	Foreign students				
Credits		Lecture Hours	16	Experiment Hours	16
Prerequisite course					
Website of the course	http://www.course.sdu.edu.cn/G2S/Template/View.aspx?action=view&courseType=1&courseId=164&ZZWLOOKINGFOR=G http://www.pathobio.sdu.edu.cn/sdjsc/				

2. Course Description

《Experiment of Human Parasitology》 is medical basic experimental and skill subject which

trains student's skill of observing and recognizing specimens of human parasites and medical arthropods, and verifies and enhances the lectures in the class of 《Human Parasitology》.

3. Nature of courses and Teaching aims

【Teaching aims】

Verifies and enhances the theory in the class of 《Human Parasitology》; Train students' skill of observing and recognizing specimens of human parasites and medical arthropods.

4. Teaching contents and Class hour

Experiment 1 Ascaris lumbricoides Trichuria trichiura and Enterobius vermicularis（3 class hours）

【teaching objectives and Requirements】

1. Observations

Lips of A. lumbricoide**s,** eggs of A. lumbricoides （fertilized, unfertilized and decorticated eggs）; egg and adult of T. trichiura; egg and adult of E. vermicularis.

2. Demonstration

Different stages of A. lumbricoides, T. trichiura and E. vermicularis.

3. Video 《Ascaris lumbricoides》

4. Technique demonstration

Preparation of a direct fecal film and brine flotation method.

【instrument and equipment】

Light microscope

【requirements】

1. Study the morphological characters of ova and adult worms of A.

lumbricoides, T. trichiura and E. vermicularis.

2. Learn the inhabiting site, infective stage, and method of transmission.
3. Master the direct smear method in fecal examination.

Lab report: Draw a fertilized egg of A. lumbricoides；an egg of T. trichiura；an egg of E. vermicularis.

Experiment 2 Hookworms filariae and Trichinella spiralis （3 class hours）

【teaching objectives and Requirements】

1. Observations

Hookworm eggs, adult of Ancylostoma duodenale and Necator americanus; microfilariae of Wuchereria Bancrofti and Brugia malayi; Larvae of Trichinella spiralis.

2. Demonstration

Different stages of Hookworms, filariae and Trichinella spiralis.

3. Video 《filariae》

4. Technique demonstration

Preparation of thick blood film.

【instrument and equipment】

Light microscope

【requirements】

1. Study the morphology of hookworm egg, adult, bancroftian and malayan microfilariae and larva of T. spiralis.
2. Study the life cycles of hookworm, filariae and T. spiralis.
3. Study the site of inhabitation, infective stage, and method of transmission of hookworm, filariae and T. spiralis.

4. Master the technique of blood film preparation for examining microfilariae.

Lab report: Draw a hookworm egg；microfilariae of Wuchereria Bancrofti and Brugia malayi

Experiment 3 Clonorchis sinensis Paragonimus westermaniand and Fasciolopsis buski（3 class hours）

【teaching objectives and Requirements】

1. Observations

Eggs and adults of Clonorchis sinensis, Paragonimus westermaniand and Fasciolopsis buski.

2. Demonstration

Different stages of C. sinensis, P. westermaniand and F. buski.

3. Video 《Clonorchis sinensis》

【instrument and equipment】

Light microscope

【requirements】

1. Study the morphology of C. sinensis, P. westermani and F. buski.

2. Study the life cycles of C. sinensis, P. westermani and F. buski..

3. Study the site of inhabitation, infective stage, and method of transmission of C. sinensis, P. westermani and F. busk.

Lab report: Draw an egg of C. sinensis, an egg of P. westermaniand and an egg of F. buski

Experiment 4 Schistosoma japonicum Taenia solium Taenia

saginata and Echinococcus granulosus （3 class hours）

【teaching objectives and Requirements】

1. Observations

Eggs and adults of Schistosoma japonicum, Taenia solium, Taenia saginata and hydatid cyst.

2. Demonstration

Different stages of S. japonicum, T. solium and T. saginata

3. Video 《Taenia solium》

【instrument and equipment】

Light microscope

【requirements】

1. Study the morphology of egg and adult of S. japonicum, T. solium and T. saginata.

2. Study the life cycles of S. japonicum, T. solium and T. saginata.

3. Study the site of inhabitation, infective stage, and method of transmission of S. japonicum, T. solium and T. saginata.

Lab report: Draw an egg of S. japonicum and a tapeworm egg

Experiment 5 amoebae Leishmania donovani Trichomonas vaginalis and Giardia lamblia（3 class hours）

【teaching objectives and Requirements】

1. Observations

Trophozoites and cysts of amoebae. Trichomonas vaginalis and Giardia lamblia;

amastigotes and promastigotes of Leishmania donovani.

2. Demonstration

Different stages of amoebae, T. vaginalis and G. lamblia and L. donovani.

3. Video 《amoeba》

【instrument and equipment】

Light microscope

【requirements】

1. Study the morphology of amoebae, T. vaginalis and G. lamblia and L.donovani.
2. Study the life cycles of amoebae, T. vaginalis and G. lamblia and L. donovani..
3. Study the site of inhabitation, infective stage and method of transmission of amoebae, T. vaginalis, G. lamblia and L. donovani.

Lab report: Draw: a Trophozoites and cysts of T. vaginalis and G. lamblia

Experiment 6 Plasmodium opportunistic protozoan（3 class hours）

【teaching objectives and Requirements】

1. Observations

Ring form, large trophozoite, immature schizont, mature schizont and gametocytes (male and female) of plasmodium vivax; Ring form and gametocytes (male and female) of P. falciparum; trophozoite of Toxoplasma gondii,.

2. Demonstration

Different stages of p. vivax, P. falciparum and T. gondii

3. Video 《malaria and mosquito》

【instrument and equipment】

Light microscope

【requirements】

1. Study the morphology of p. vivax, P. falciparum and T. gondii.

2. Study the life cycles of p. vivax, P. falciparum and T. gondii .

3. Study the site of inhabitation, infective stage, and method of transmission of p. vivax, P. falciparum and T. gondii.

Lab report: Draw erythrocytic stages of P. vivax

Experiment 7 Mosquito Flea and Louse（3 class hours）

【teaching objectives and Requirements】

1. Observations

Adults, eggs and larvae of Culex pipiens pallens, Anopheles sinensis and Aedes albopictus; adults of Pulex irritans and Xenopsylla cheopis; adults of Pediculus humanus and Phthirus pubis.

2. Demonstration

Different stages of C. pipiens pallens, A. sinensis and A. albopictus, P. irritans, X. cheopis, P. humanus and P. pubis.

【instrument and equipment】

Light microscope

【requirements】

1. Study the morphology of C. pipiens pallens, A. sinensis and A. albopictus, P. irritans, X. cheopis, P. humanus and P. pubis.

2. Study the life cycles of mosquito, flea and louse.

Lab report: Draw a mosquito wing showing its venation.

Experiment 8 Fly tick and mite（3 class hours）

【teaching objectives and Requirements】

1. Observations

Adults of Musca vicina, Lucilia sericata, Chrysomyia megalocephala, Aldrichina grahami, Muscina stabulans, Stomoxys calcitrans, Bellieria melanura and Fannia canicularis; Adults of hard tick, soft tick and Sarcoptes scabiei.

2. Demonstration

Different stages of fly, tick and mite.

【instrument and equipment】

Light microscope

【requirements】

1. Study the morphology of common species of flies, ticks and mites
2. Study the life cycles of flies, ticks and mites.

Lab report:

Draw a tarsal terminalia of Musca vicina.

Draw a wing of Musca vicina showing its venation.

4. Annual update of the experimental projects

5. The corresponding relationship of experimental teaching

	1.Practical Ability	2.The ability to use knowledge to analyze phenomena	3.Strengthen the ethical concept of experimental animal	4.Cultivating clinical thinking ability	
Experiment 1					
Experiment 2					
Experiment 3					
Experiment 4					

6. Assessment and evaluation methods

【Examination contents】

Lab report, examination for specimen

【Achievement evaluation】

lab report 20%， examination for specimen 80%

7. Textbooks and bibliography

【Textbooks】

《人体寄生虫学》英文版，主编：何深一，山东大学出版社，2011 年

【Bibliography】