MICR 5025 EUKARYOTIC PATHOGENS
Spring 2022

CLASS DAYS and TIME: 10:00 – 11:00 am, Monday – Thursday, May 9 – June 2

CLASSROOM: ALTC1.105

COURSE FACULTY:

David Kadosh, Ph.D., Prof., MIMG
Course Director, kadosh@uthscsa.edu

Evelien Bunnik, Ph.D., Asst. Prof., MIMG, bunnik@uthscsa.edu

Ian Cheeseman, Ph.D., Asst. Prof., TxBiomed,
icheeseman@txbiomed.org

Winka LeClec'h, Ph.D., TxBiomed, winkal@txbiomed.org

Frederic Chevalier, Ph.D., TxBiomed, fcheval@txbiomed.org

Brian Wickes, Ph.D., Prof., MIMG, wickes@uthscsa.edu

Nathan Wiederhold, PharmD., Prof., PATH,
wiederholdn@uthscsa.edu

Chiung-Yu Hung, Ph.D., Assoc. Prof., MMI (UTSA),
Chiungyu.Hung@utsa.edu

Connie Gibas, Ph.D., PATH, gibas@uthscsa.edu

OFFICE HOURS: By appointment

EMAIL: kadosh@uthscsa.edu

TELEPHONE: Kadosh: 567-3976

READ THIS DOCUMENT CAREFULLY - YOU ARE RESPONSIBLE FOR ITS CONTENTS.
COURSE DESCRIPTION

MICR5025 is designed to build on the microbiological concepts covered in IBMS5000 taken by the first-year PhD students in the Fall semester. For the MS students this course will build on the microbiological concepts covered in MICR5031 during the Fall semester. The MICR5025 Eukaryotic Pathogens course will provide students with a basic comprehensive understanding of parasitology and mycology. Topics include virulence mechanisms and the host immune response with respect to a variety of parasites that cause major human diseases as well as several important areas of medical mycology such as taxonomy/phylodgeny, diagnostics/epidemiology, mating/phenotypic switching, morphology, pathogenesis and antifungal therapies. Students will gain a more detailed understanding of the current concepts, approaches, and applications of research in the field of eukaryotic pathogens.

COURSE ORGANIZATION

The MICR5025 course is divided into two 2-week sections. The first section covers medical mycology and the second section is focused on parasitology.

Reading Assignments – Certain instructors may assign paper(s) as required reading prior to lecture, which will be posted to Canvas. These reading assignments are required and not optional. Unless specifically noted by the instructor, anything in the required readings, whether emphasized in class or not, is considered testable on exams.

Lectures – All of the presentations are given in lecture format and are accompanied by PowerPoint slide files or PDF-converted PowerPoint slide files, which will be posted on Canvas. You are responsible for all information included in the lecture materials. However, you should not assume that all testable lecture material is found only in the posted materials. That is, lectures may be expanded and enhanced during in-class presentations. So, take good notes because any information discussed in class (regardless of whether it is on a slide) is considered testable.

Discussions – Occasionally instructors may assign specific papers for class discussion. Please be sure to read the paper(s) well in advance and come to class prepared to fully participate in the discussion.

Mycology Essay/Presentation –

- **Groups** - Each student will be assigned to a group and each group will have a designated group leader. The group leader will be responsible for the entire oral presentation as well as the entire powerpoint presentation. All other members of the group will be responsible for writing a section of the essay of no longer than 1 page of text (1 page per person) as well as answering questions during the Q & A period.

- **Topic Selection** - You should consult with other group members to select a topic for the essay/presentation. Try to pick a topic related to fungal infections in the current news and media. Your goal is to explain the scientific basis for the news story using the available literature. However, your perspective should be that you are the expert and you should be prepared to go deeper than just a layman’s explanation of the relevant scientific facts. The group leader should send your group’s proposed essay topic to Dr. Kadosh by email for approval by the designated deadline. It’s fine to include links to relevant websites describing the news story.

- **Written Essay** - All essays must have a title page, which does not count towards the page limit. Each group member, except the leader, is responsible for writing a single complete page of text of the essay (single-spaced, 0.5 inch margins, Arial 12 point font). It’s fine to insert figures/tables after the text is written but figures/tables will not
count towards the 1 page requirement. You should decide as a group on the sections of the essay and which group member will write each section (each section = 1 page text excluding figures). Be sure to include an Introduction section which provides background information on the specific fungal pathogen (you will need to also explain why infections by this pathogen are significant). It is also important to describe the news event and explain the scientific basis for the observations. All scientific descriptions, claims and observations that you make must be supported by published references. Individual figures/tables plus legends (9 point Arial) should be no longer than 20 single-spaced lines long and one-half page wide per legend or table. There is no page limit for references. By 10:00 am on May 17 the group leader should send the essay by email to Dr. Kadosh and also provide two hard-copies to Dr. Kadosh in class. Each group member (except the group leader) is also required to upload a document containing main text and figure legend text for their section only (NOT the entire essay) to the Turnitin plagiarism checker on Canvas by 10:00 am on Tuesday, May 17. Essay sections that do not contain original text will not be accepted. All essays that meet these requirements will be immediately distributed by email to the entire class.

- **Oral Presentation and Discussion of Essay** - The group leader should prepare a very brief powerpoint presentation (most slides should come from the essay figures) to present in class on the designated date. The group leader’s initial presentation, including background, significance, a description of the news story and scientific basis, should be no more than 10 minutes. Each presentation will be followed by an additional 20 min. of Q & A. All members of the group, except the group leader, will be responsible for answering questions. All other members of the class are expected to read each essay ahead of time and come prepared to ask questions.

**Schedule**

See class schedule on last page of syllabus.

**Attendance**

In order to achieve the expected level of competency, students must be fully engaged. **Students are therefore expected to attend every lecture in person on time.** It is recognized that a student may occasionally arrive late to class due to unexpected problems. However, chronic lateness is considered an unprofessional behavior that disrupts the learning environment for everyone else in the classroom.

**Textbooks**

There is no required textbook. However, for general background reading, students may find the following textbooks of interest: *Foundations of Parasitology* by Roberts & Janovy (Dr. Kadosh has a copy), *Medical Mycology* by Topley & Wilson (Dr. Wickes has a copy) and *Medical Mycology* by Kwon-Chung & Bennett (Dr. Wickes has a copy).

**Grading Policies and Examination Procedures**

- **Grading System** – Final letter grades will be based on performance on 2 exams (40% each) and a written mycology essay/oral presentation (20%).
Grading may be curved at the discretion of the course director and is based on the following scale:

- A = 90-100%
- B = 80-89%
- C = 70-79%
- D = 60-69%
- F = < 60%

**Note:** Fractions of grades are rounded to the nearest whole number for your final course grade. For example, 89.45 is an A, but 89.44 is a B.

**Examination Protocol** – All exams will be held in class. Exams will be composed of multiple choice, short answer, and/or essay questions. The proportion represented by each question type can vary between the 2 exams.

**Grading Procedures** – Exam results will be provided to students as quickly as possible. If you have questions about the grading of specific exam questions, please contact the relevant instructor.

**Make-up Examinations** – A student who must miss a scheduled exam for a serious reason must request an excused absence from the Course Director as soon as possible. Acceptable “serious reasons” usually involve serious illness or injury to the student (doctor’s excuse may be required) or the student’s family member. Examples of unacceptable reasons include: not prepared or incomplete studying and other appointments or scheduled professional or personal commitments.

If it is determined that missing an exam is justified, a make-up examination will be scheduled. The make-up exam will be given as soon as possible at a time designated by the Course Director. Any student who misses an exam and does not receive an excused absence will receive a grade of zero for that exam.

**Requests For Accomodations For Disabilities**

Information regarding accommodations for disabilities is available in the UTHSCSA Catalog. A student who wishes to request accommodation for a disability should contact the Associate Dean for Students, Graduate School of Biomedical Sciences. The Student Request for Accommodations under Americans with Disabilities Act form and additional information may be obtained at [http://www.uthscsa.edu/eeo/request.html](http://www.uthscsa.edu/eeo/request.html).

**Scientific Integrity / Professional Conduct**

The expectation is that all students will exhibit the highest standards of scholastic and scientific integrity as elaborated on page 99 of the current UTHSCSA Student Catalog. Any student who commits an act of academic dishonesty is subject to discipline as prescribed by the UT System Rules and Regulations of the Board of Regents. Academic dishonesty includes, but is not limited to, cheating on exams, plagiarism, tampering with reference materials or files, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person (e.g. copying material from the web without proper attribution), and any act designed to give unfair advantage to a student or the attempt to commit such an act. Failure to abide by these rules of professional conduct will result in a grade of zero for the exam in question and, depending on the nature of the infraction, the consequences may include dismissal from the program.
If you suspect another student of professional misconduct, please bring your suspicions directly to the Course Director. Confidentiality will be maintained at every level during any ongoing investigation of suspected academic or scientific misconduct.

**Email Policy**

Every student is issued a University e-mail address and account at the time of enrollment. As a matter of University Policy, communications between students and faculty that occur using the student’s University e-mail address are considered official business. Therefore, **students are expected to check their university email inboxes on a regular basis** so that any announcements, instructions, or information regarding this course will be received in a timely manner. **In addition, students should check Canvas on a regular basis for posting of course-related materials.** Missed communications due to inadequate monitoring of incoming emails on the University’s email server or failure to check Canvas will never be a valid excuse for unsatisfactory academic progress.

**Use Of Recording Devices**

Recording of lectures and other learning activities in this course by any means (e.g., video, audio, etc.) is only permitted if approved by the course director or required for compliance with Americans with Disabilities Act (ADA).

**Electronic Devices**

Cell phones must be turned off during all class meetings and exams. Computers and electronic tablets are allowed only for participating in classroom activities (e.g., viewing slides presented in lecture or conference materials). Texting, tweeting, emailing, web-surfing, gaming, or any use of electronic devices that is not directly connected with classroom activities is NOT permitted.

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**MICR5025**

**EUKARYOTIC PATHOGENS**

**2022 CLASS SCHEDULE**

Mon, Tues, Wed, Thurs 10:00-11:00 AM

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Lecture topic</th>
<th>Faculty</th>
<th>Room</th>
<th>Reading Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-May</td>
<td>10:00-11:00 am</td>
<td>Mycology: taxonomy/phylogeny/nomenclature</td>
<td>Gibas</td>
<td>ALTC1.105</td>
<td>TBA</td>
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<td>10-May</td>
<td>10:00-11:00 am</td>
<td>Mycology: pathogenesis</td>
<td>Wickes</td>
<td>ALTC1.105</td>
<td>TBA</td>
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<tr>
<td>11-May</td>
<td>10:00-11:00 am</td>
<td>Mycology: genomics and toxins</td>
<td>Wickes</td>
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<td>TBA</td>
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<td>12-May</td>
<td>10:00-11:00 am</td>
<td>Mycology: mating mechanisms</td>
<td>Wickes</td>
<td>ALTC1.105</td>
<td>TBA</td>
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<td>16-May</td>
<td>10:00-11:00 am</td>
<td>Mycology: morphology</td>
<td>Kadosh</td>
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<td>17-May</td>
<td>10:00-11:00 am</td>
<td>Mycology: host response to fungal infections</td>
<td>Hung</td>
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<td>18-May</td>
<td>10:00-11:00 am</td>
<td>Mycology: antifungal therapies</td>
<td>Wiederhold</td>
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<td>19-May</td>
<td>9:00-11:00 am</td>
<td>Mycology essay presentations</td>
<td>Kadosh/Wickes</td>
<td>ALTC1.105</td>
<td>TBA</td>
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<tr>
<td>Date</td>
<td>Time</td>
<td>Title</td>
<td>Speaker</td>
<td>Room</td>
<td>Notes</td>
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<tr>
<td>23-May</td>
<td>10:00-11:00 am</td>
<td>Introduction to malaria parasites and pathology</td>
<td>Bunnik</td>
<td>ALTC1.105</td>
<td>TBA</td>
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<td>24-May</td>
<td>10:00-11:00 am</td>
<td>Malaria immunology</td>
<td>Bunnik</td>
<td>ALTC1.105</td>
<td>TBA</td>
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<tr>
<td>25-May</td>
<td>10:00-11:00 am</td>
<td>Malaria vaccine development</td>
<td>Bunnik</td>
<td>ALTC1.105</td>
<td>TBA</td>
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<td>26-May</td>
<td>10:00-11:00 am</td>
<td>The power of genetics in schistosome parasites</td>
<td>LeClec'h</td>
<td>ALTC1.105</td>
<td>TBA</td>
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<td>27-May</td>
<td>9:00-12:00 pm</td>
<td>EXAM 1 - Mycology</td>
<td>Kadosh</td>
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<td>31-May</td>
<td>10:00-11:00 am</td>
<td>Exploring the genetic basis of biomedically relevant traits in schistosome</td>
<td>Chevalier</td>
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<td>1-June</td>
<td>10:00-11:00 am</td>
<td>Antimalarial drugs and drug resistance</td>
<td>Cheeseman</td>
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<td>2-June</td>
<td>10:00-11:00 am</td>
<td>Malaria parasite epidemiology and genetics</td>
<td>Cheeseman</td>
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<td>13-June</td>
<td>1:00-4:00 pm</td>
<td>EXAM 2 - Parasitology</td>
<td>Kadosh</td>
<td>ALTC3.302</td>
<td>N/A</td>
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