



Texas A&M University-Commerce

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Biological and Environmental Sciences
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BSc 428 – Intro Medical Microbiology

Syllabus (Fall 2015)

Instructor: DongWon Choi, PhD

12:00 – 12:50 PM, MWF

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Classroom: AGIT233

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University Statements

Academic integrity: As members of Texas A&M University-Commerce academic community, we all are responsible to underpin the principles of academic integrity expressed by this community. We are expected to watch these principles to be kept and appreciated by others.

- The first instance of cheating will result in an automatic Zero on the exam. A second instance will result in Zero course grade (automatic F).
- Plagiarism is a serious academic criminal activity. You must cite all sources of information with properly accredited. Copying material, whether parts or whole, will result in Zero for your term paper and can incur in further University disciplinary consequences.

Accommodations: The American with Disability Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other aspects, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have disability requiring accommodation, please contact:

Office of Student Disability Resources or Services

Texas A&M University-Commerce

Gee Library, Room 132

Tel) 903-886-5150, 903-886-5835

Fax) 903-468-8148

Email) StudentDisabilityService@tamuc.edu

Access to student work: Copies or your work in this course including copies of any submitted papers and your portfolios may be kept on file storage for institutional research, assessment, and accreditation purposes. All work used for these purposes will remain anonymous.

Course Description

BSc 428, Intro Medical Microbiology, is a course for junior or senior biology undergraduate students designed to help understanding basic principles of pathogenic microorganisms, infection, and human-pathogen interactions. Specific topics covered during this class include pathogenic microorganisms, diagnostic laboratory procedures, infection controls, and emerging diseases. This course includes many etiological agents responsible for infectious diseases. This introductory level medical microbiology course will focus on the principles of pathogenic mechanisms, rather than individual cases of diseases, in order to foster a student's ability to develop fundamental understanding required for their future clinical career.

Prerequisite:

BSc 306, Applied Microbiology or Equivalent.

Textbook:

Kenneth J. Ryan and others. 2010. Sherris Medical Microbiology. 5th edition.
McGraw-Hill. ISBN: 978-0-07-163854-7

Student Learning Outcomes

Upon completion of this course, you should be able to;

1. Explain the nature of infection.
2. Distinguish pathogenic and non-pathogenic microorganisms.
3. Identify different morphologies of pathogenic microorganisms and determine corresponding, efficient treatments.
4. Explain basic principles of disease control.
5. Explain how disease control is tightly linked to the growth control of microorganisms.
6. Explain the importance of the growing incidence of antimicrobial resistance and seek possible solutions to control antimicrobial resistance.

Classroom Policy

- For successful course completion, your presence and participation is essential. Your attendance grade will be determined by your presence, your participation in class discussion, and your attention to the class discussion, whether by the instructor or a fellow student.
- Students should arrive ON TIME. Late arrivals are NOT acceptable.
- Students are expected to read the assigned textbook material prior to the class.
- To create a pleasant learning environment, students MUST turn their cell phones and other potentially disruptive electronic devices. Only laptop computers are allowed to take class notes. Those laptop computers should be operated with MUTE function on (i.e. sound off). Remember, laptop is only for taking notes. You give up the privilege of using your laptop computers in class if you caught using your

computer for other activities such as reading emails, chatting, watching videos, etc.

Grading Policy

Grade portion consists as below;

Topic Presentation	= 100 points
3 Exams (100 pts. each)	= 300 points
Comprehensive Final	= 150 points
5 quizzes (10 pts. each)	= 50 points
Attendance	= <u>50 points</u>
Total	650 points

Grading Scale

The final course grade will be assigned based on the following break-down;

90 - 100%	= A
80 - 89%	= B
70 - 79%	= C
60 - 69%	= D
59% and below	= F

Teaching Methodology

Web-Enhanced Course Classroom lecture will be supplemented with lecture slides and answer keys for quizzes and exams via eCollege. Students are strongly encouraged to print lecture slides (4-6 slides per page) prior to the class and bring to the class. Periodically check course homepage as well as your email for course announcements.

Topic Presentations Each student will give a presentation summarizing his/her chosen topic and lead class discussion. The summary should include i)the nature of infection, ii)Causative agents and their mechanisms of pathogenesis, iii)Diagnosis, iv)Treatment and prevention v)One exemplary clinical case study. The presentations should be well-prepared, concise, and include sufficient visual aids. The presentation will be evaluated by your classmates (40%) and the instructor (60%). Topics are;

- Skin and Wound infections (chapt. 57)
- Bone and Joint infections (chapt. 58)
- Eye, Ear, and Sinus infections (chapt. 59)
- Dental and Periodontal infections (chapt. 60)
- Respiratory infections (chapt. 61)
- Enteric infections (chapt. 62)
- Urinary tract infections (chapt. 63)
- Genital infections (chapt. 64)
- Central nervous system infections (chapt. 65)

Your topic selection comprises 10% of your topic presentation grade (i.e. 10 pts out of 50). To earn your topic selection points, you have to submit a PDF file of your case study source. Your case study source should be a scientific journal article.

Mid-term Exams There will be 3 mid-term exams. The exams will consist of multiple choices and short answer questions. Large portion of EXAM questions will be drawn from the same test pool as quiz pool. Thus, make sure to study materials covered by quiz-pool first. Mid-term exams will be taken in class hours.

Comprehensive Final The final exam will consist of multiple choices and short

answer questions. The exam will cover all class materials covered through the semester with emphasis on materials not covered by mid-term exams (70% from materials covered by mid-term exams and 30% from materials NOT covered by mid-term exams). Large portion of Final Exam questions will be drawn from the same test pool as Mid-term pool and Quiz pool. Thus, make sure to study materials covered by those pools.

Quizzes There will be 5 quizzes given during the semester. Quiz schedule will be announced during class hours one week prior to the quiz. A typical quiz comprises seven 1-point questions. You will get 3 points by simply taking the quiz.

Makeup The student is responsible for requesting a makeup when they are unable to take the regularly scheduled exams. The request should be made within 3 days of the absence. Makeup exams will be scheduled only in the event of EXCUSED absence (as defined in the Student's Guidebook). If the test is not made-up, the student will receive Zero for that exam. No make-ups for quizzes. Excused absences include;

- Verified illness (with Doctor's note)
- Death in a student's immediate family
- Obligation of student at a legal proceedings in fulfilling responsibility as a citizen
- Elective TAMUC activities (with the activity director's note)

Class Schedule

Week 1 – 4 (Topic selection due: Sept 25)

The nature of infection

- Infection
- Immune response
- Growth control
- **Exam I (Friday, Sept 25)**

Week 5 - 8

Pathogenic bacteria

- Pathogenesis
- Antibacterial agents and resistance
- Pathogenic bacteria
- **Exam II (Friday, Oct 23)**

Week 9 - 12 (Presentation outline due: Nov. 18)

Pathogenic virus and fungi

- Pathogenesis
- Antifungal and antiviral agents and resistance
- Pathogenic virus and fungus
- **Exam III (Friday, Nov 20)**

Week 13

Thanksgiving break, no classes

Week 14 - 15

Clinical aspects of Infection

- Student presentations and discussions

Week 16 (Check TAMUC final exam schedule)

Comprehensive Final Exam (8-10AM, Dec 18)

All dates and assignments are tentative and subject to change.