

# Graduate Programs Committee (GPC)

## AGENDA

**Date:** Tuesday, October 3, 2017  
**Time:** 12:30 p.m. to 2:00 p.m.  
**Location:** School of Nursing—Conference Room 200

I. [Approval of Minutes: September 5, 2017](#) (click/scroll to see minutes below)

**Discussion:** Changes/Modifications/Corrections

**Action:**

II. **Course/Program Additions, Modifications, Deletions:**

**ACTION ITEMS:**

A. **College of Social Sciences**

1. [Psychology Department](#) (click for CSS submission)

**Originator:** Neill Korobov

**Program/Course:** *Ph.D. in Psychology: Consciousness + Society*

**Request:** Modify Existing Program (Action Item)

**Details:**

Add **PSYC 8581 Independent Project** to list of approved electives. May be repeated for up to 12 credits. NOTE: The limit to the number of times this course number could be repeated has been an impediment to student progression toward graduation.

**Rationale:**

This is to modify the list of approved electives and to offer students ability to develop course content specific to academic area of interest and/or specialty. [Click to see list of approved electives—or scroll below.](#)

B. **College of Science + Mathematics**

1. [Biology Department](#) (click for CSS submission)

**Originator:** Sara Molesworth-Kenyon

**Program/Course:** *BIOL 5727: Essentials of Immunology*

**Request:** Modify Existing Course (Description/Credit)

**Details:**

Seeking **Essentials in Immunology (BIOL 5727)** be modified by inclusion of a laboratory component and conversion of the course to a 4-credit

hour course (3/3/4). These changes are reflected in the modified course description below:

*Essentials of Immunology (BIOL 5727) is designed as an introduction to the immune response. The student will obtain a broad, comprehensive understanding of the principles of immunology. The course will focus on a detailed study of antigen-antibody interactions, humoral immunity, and cell-mediated immunity. Medically important syndromes, including AIDS, will be discussed to reinforce the principles of immunology. A laboratory component is included for the exploration of clinical immuno-diagnostic techniques.*

**Rationale:**

The addition of the **BIOL 5727** laboratory course will cover a wide variety of experimental techniques geared towards development of the advanced skills required for a career within the field of immunology. [Click to see course syllabus—or scroll below.](#)

2. [Biology Department](#) (click for CSS submission)

**Originator:** William Kenyon

**Program/Course:** **BIOL 5728: Bacterial Pathogenesis**

**Request:** Modify Existing Course (Description/Credit)

**Details:**

**Bacterial Pathogenesis (BIOL 5728)** will become a 4-credit hour, graduate-level course (3/3/4) with an addition of a laboratory component. These changes are reflected in the modified course description below:

*Bacterial Pathogenesis (BIOL 5728) is intended to familiarize graduate students with advanced topics in medical microbiology and the study of infectious disease. The course includes detailed discussions of factors involved in the infectious disease process, epidemiology, host defenses, and bacterial virulence factors. In addition, graduate students will be required to analyze and critique articles from the scientific literature, to compose a synopsis of their literature research, and orally present their work to the class. The laboratory component will focus on methods routinely used to isolate, culture, and identify bacterial pathogens. Graduate students will be required to present articles from microbiology journals and lead classroom discussions.*

**Rationale:**

The addition of a laboratory component will give graduate students the opportunity to experience a more focused, and in-depth, laboratory in pathogenic bacteriology, making them more competitive in the job market. [Click to see course syllabus—or scroll below.](#)

3. [Biology Department](#) (click for CSS submission)

**Originator:** Sara Molesworth-Kenyon

**Program/Course:** **BIOL 5729: Medical Virology**

**Request:** Modify Existing Course (Description/Credit)

**Details:**

Seeking **Medical Virology (BIOL 5729)** be modified by inclusion of a laboratory component and conversion of the course to a 4-credit hour course (3/3/4). These changes are reflected in the modified course description below:

*Medical Virology (BIOL 5729) is designed as an introduction to viruses that are involved in human disease. The student will obtain a broad, comprehensive understanding of the principles of virology using specific medical examples. The course will focus on a detailed study of the viral structure, replication, gene expression, pathogenesis, and host defense. A laboratory component is included for the exploration of clinical techniques.*

**Rationale:**

The addition of the **BIOL 5729** laboratory course will cover a wide variety of experimental techniques geared towards development of the advanced skills required for a career within the field of virology. [Click to see course syllabus—or scroll below.](#)

III. **New Business**

- A. Nomination of GPC Committee Chair for 2018-2019 Academic Year
- B. Graduate School Updates (any new information or points of interest)

IV. **Adjournment**

**Faculty Senate – Graduate Programs Committee... 2017-2018 Member List**

	<b>Senate Members</b>	
Webb, Susan Hall (Chair)	<a href="mailto:swebb@westga.edu">swebb@westga.edu</a>	Senate—RCOB (2018)
Varga, Matt	<a href="mailto:mvarga@westga.edu">mvarga@westga.edu</a>	Senate--COE (2018)
Bertau, Marie Cecile	<a href="mailto:mbertau@westga.edu">mbertau@westga.edu</a>	Senate—COSS (2020)
Khodkar, Abodollah	<a href="mailto:akhodkar@westga.edu">akhodkar@westga.edu</a>	Senate—COSM (2020)
Vasconcellos, Colleen	<a href="mailto:cvasconc@westga.edu">cvasconc@westga.edu</a>	Senate--COAH (2020)
	<b>Faculty Members</b>	
Berding, Christy	<a href="mailto:cberding@westga.edu">cberding@westga.edu</a>	SON (2018)
Rogers, Shelley	<a href="mailto:shelley@westga.edu">shelley@westga.edu</a>	Library (2018)
Skott-Myhre, Kathleen	<a href="mailto:kskott@westga.edu">kskott@westga.edu</a>	COSS (2018)
Austin, Adrian	<a href="mailto:aaustin@westga.edu">aaustin@westga.edu</a>	RCOB (2019)
Fain, Christi	<a href="mailto:afain@westga.edu">afain@westga.edu</a>	COE (2019)
Genz, Janet	<a href="mailto:jgenz@westga.edu">jgenz@westga.edu</a>	COSM (2019)
Harrison, Rebecca	<a href="mailto:rharriso@westga.edu">rharriso@westga.edu</a>	COAH (2019)
	<b>Administrators</b>	
Overfield, Denise	<a href="mailto:doverfie@westga.edu">doverfie@westga.edu</a>	Administrator – Dean, Graduate School (Associate VP)
Jenks, David	<a href="mailto:djenks@westga.edu">djenks@westga.edu</a>	Administrator- Associate VP for Academic Affairs
	<b>Student</b>	
Hogle, RaeAnna	<a href="mailto:rhogle1@my.westga.edu">rhogle1@my.westga.edu</a>	Student Representative
<b>GPC Group Email: <a href="mailto:fs-gp-list@westga.edu">fs-gp-list@westga.edu</a></b>		

MINUTES

Date: Tuesday, September 5, 2017
Time: 12:30 p.m. to 2:00 p.m.
Location: School of Nursing—Conference Room 200

Present: A. Austin; C. Berding; M. Bertau; J. Genz; R. Harrison; D. Jenks; A. Khodkar; D. Overfield; S. Rogers; K. Skott-Myhre; C. Vasconcellos

Absent: M. Vargas; C. Fain; R. Hogle

I. Approval of Minutes: April 4/16/2015
Discussion: Changes/Modifications/Corrections
Action: Approved
Motion: S. Rogers; Second: K. Skott-Myhre

II. Course/Program Additions, Modifications, Deletions:

Action Items:
N/A

Information Items:

A. College of Education

1. Literacy and Special Education Department
Originator: Bucholz, Jessica
Program/Course: Master of Education with a Major in Special Education and Teaching, General
Request: Modify
Details:
Current admission criteria:
Complete requirements for a Bachelors degree from an accredited institution; Present a cumulative 3.0 (4.0 scale) grade point average or higher on all undergraduate work; Present a current renewable certificate in Special Education; Present current official scores on the Graduate Record Examination (GRE) showing competitive scores; Submit a personal statement of purpose, not to exceed 200 words, that identifies the applicant's reasons for pursuing graduate study.

**Proposed admission criteria:**

Complete requirements for a Bachelors degree from an accredited institution; Present a cumulative 3.0 (4.0 scale) grade point average or higher on all undergraduate work; Present a current renewable certificate in Special Education.

**Rationale:**

The changes are to align with other admission requirements of MEd programs in the COE and to be competitive with programs at other institutions. The faculty believe the decrease in the number of applicants has been due to the more rigorous requirements for admission that are not required of other programs.

2. Leadership, Research, and School Improvement Department

**Originator:** Varga, Mary Alice

**Program/Course:** *Doctor of Education with a Major in School Improvement*

**Request:** Modify

**Details:**

The School Improvement Doctoral Program currently requires applicants to complete the verbal and quantitative portions of the GRE and does not require the writing portion of the GRE as part of the application process. We would like to modify these admission requirements to include the GRE Writing Score.

**Rationale:**

Since the major culminating project in the doctoral program is writing a dissertation, the GRE Writing Score would be an important factor to assist with choosing competitive candidates for the program. A 4.0 recommended Writing Score will be communicated as the preferred score for applicants. Kaplan notes a 4.0 as a moderate score.

III. **Announcements**

- Discussion of GPC Committee Members and Terms; Indicated one of the GPC Senators (term ending 2020) will need to take the role of committee chair for the 2018-2019 academic year.

CHECKLIST FOR PH.D. STUDENTS IN PSYCHOLOGY

1. Earn 60 credits in approved doctoral level courses.

These requirements are in accordance with prevailing standards for psychology doctoral programs. At least 48 credits must be attained from the Psychology Department. The remaining 12 may, upon approval, be comprised of coursework from outside of the Psychology Department but within the University of West Georgia; 9 of these 12 hours can be transferred in from outside of the University, pending approval. Hours counted towards the completion of another degree will not transfer. At least 40 credits must consist of courses numbered 8000 or above. The remainder may include courses numbered 7000 or above. All required course credits are 4 hours with the exception of PYSC 9002 (which is 2 hours).

2. Earn credit for the following required courses named below. Other 8000 level courses require permission of instructor if required doctoral courses have not been completed.

3. Required 60 hours do not include dissertation hours.

4. No more than 12 credits of Independent Study (8581) can count towards the 60 required hours.

Core Courses

- \_\_\_\_\_ PSYC 8000 Consciousness and Experience
- \_\_\_\_\_ PSYC 8001 Culture & Subjectivity
- \_\_\_\_\_ PSYC 8002 Studies in Mind/Body

Foundations

*Take one of the following:*

- \_\_\_\_\_ PSYC 7004 Historical Foundations of Psychology
- \_\_\_\_\_ PSYC 8007 Critical Foundations of Psychology
- \_\_\_\_\_ PSYC 8008 Humanistic Foundations of Psychology
- \_\_\_\_\_ PSYC 8009 Transpersonal Foundations of Psychology

Research Methods

- \_\_\_\_\_ PSYC 8005 Human Science Methodologies

Other

- \_\_\_\_\_ PSYC 9002 Doctoral Qualifying Seminar (2 hrs)
- \_\_\_\_\_ PSYC 9087 Teaching Practicum (only required for GTAs)
- \_\_\_\_\_ Fulfillment of quant/stats requirement (requires approval by Doctoral Director and Chair)

Electives:

Electives may also be taken outside of the psychology department. Transfer credits, up to 9 hours, may be applied to program and electives chosen by the student, pending conditions of approval noted above.

Electives List:

Course Number	Course Name	Semester Taken	Approval by (if needed)


**Psychology Electives:**

At the 8000 Level:

___	PSYC 8006 -- Advanced Human Science Methodologies	4 credit hours
___	PSYC 8010 -- Theoretical Foundations of Psychological Inquiry	4 credit hours
___	PSYC 8185 -- Special Topics in Human Development	4 credit hours
___	PSYC 8102 -- Psychospirituality and Transformation	4 credit hours
___	PSYC 8103 -- Science, Technology and Consciousness	4 credit hours
___	PSYC 8260 -- Epistemology and Ethics	4 credit hours
___	PSYC 8270 -- Depth Psychology	4 credit hours
___	PSYC 8280 -- History and Consciousness	4 credit hours
___	PSYC 8290 -- Approaches to Community	4 credit hours
___	PSYC 8300 -- Exploratory Methods in Consciousness Studies	4 credit hours
___	PSYC 8301 -- Program Evaluation	4 credit hours
___	<b>PSYC 8581 -- Independent Project</b>	<b>1 to 4 credit hours</b>
___	PSYC 8884 -- Psychology Pro-seminar	3 credit hours
___	PSYC 8887 -- Adv. Practicum in Psychology	1 to 3 credit hours
___	PSYC 9999 -- Dissertation (Required, but do not count towards 60)	1 to 9 credit hours

At the 7000 Level:

___	PSYC 7003 -- Statistics for the Social Sciences	3 credit hours
___	PSYC 7020 -- Transpersonal Development	3 credit hours
___	PSYC 7030 -- Introduction to Organizational Development	3 credit hours
___	PSYC 7050 -- Consciousness Studies	3 credit hours
___	PSYC 7250 -- Foundations of Psychoanalysis	3 credit hours
___	PSYC 7430 -- Cross-Cultural Communication	3 credit hours
___	PSYC 7470 -- Advanced Organizational Development	3 credit hours
___	PSYC 7490 -- Phenomenology of Social Existence	3 credit hours
___	PSYC 7500 -- Existential Psychology	3 credit hours
___	PSYC 7600 -- Personality and Motivation	3 credit hours
___	PSYC 7650 -- Buddhist Psychology	3 credit hours
___	PSYC 7670 -- Music and the Mind	3 credit hours
___	PSYC 7810 -- Tutorial 1	1 to 4 credit hours
___	PSYC 7820 -- Workshop 1	1 credit hours
___	PSYC 7830 -- Invited Lectures 1	1 credit hours



[Dr. Molesworth.](#)

## Essentials in Immunology (BIOL 4727/5727)

### Lecture Syllabus

#### Description of Course

This is an introductory level immunology course in which the fundamentals of the subject will be covered for both the innate and adaptive immune systems.

Subjects to be covered will include antibody structure and function, antigen recognition, B and T cell development and immunity.

#### Academic Goals for the Course

- It is the goal of this course to provide students with a fundamental knowledge of immunology.
- Students will complete this course understanding the role of the immune system in defense against disease.
- They will know the cell types which compose both branches of the immune system and understand the function and role of each cell when the body is under attack from the microbiological world.
- In addition students will understand the complex processes which are in place to control and organize cells of the immune system and the failsafe mechanisms which the body has in place to avoid damage to host tissue by the highly reactive immune defense cells.
- Lastly students will gain an insight into the diseases which can result when the immune system fails to function normally.
- Laboratory sessions will use a clinical approach to illustrate immunological mechanisms and demonstrate diagnostic techniques relating to the field.

#### Instructor Contact Information and Office Hours

Dr. Sara Molesworth  
Department of Biology  
University of West Georgia  
Office: Room 206 Biology Building  
Phone: 678-839-4028  
E-Mail: please use Course Den  
Office hours: 8:30-9:30am and 11-noon M-F

#### Textbook and Reading Assignments

Text Title: ***The Immune system***  
Edition: 4<sup>th</sup> edition  
Authors: Peter Parham  
Publishers: Garland Science  
ISSBN: 978-0-8153-4146-8

## Reading Assignments

Students are expected to read each chapter in its entirety before the chapter is covered in lecture (see lecture schedule). Students should set aside several hours each week for the sole purpose of reading the textbook.

Reading assignments are mandatory and will be used to generate classroom discussion.

## Assignments, Examinations and Final Grades

### UNDERGRADUATES:

#### Assignments

- A Total of 3 take home/group work assignments consisting of multiple choice questions,
- Scantron form #229633 required for each.
- Every question carries equal weight.
- 200 points per assignment.
- If a student is absent on the completion date for an assignment a valid written excuse must be provide to submit the work late.

#### Exam

- There will be one introductory exam (50 pts) and one final exam (100 points),
- Scantron form #229633 required.

#### Final Grade

- 1000 grade points available, **remember that 10 grade points = 1 % point.**
- Final letter grades use the following standard scale without exception (no bumping, sliding or curving):

UNDER GRADUATE Biol 4727

A = 90-100%,

B = 80-89.9%,

C = 70-79.9%,

D = 60-69.9%,

F = below 60.0%

- The lab contribute 25% of the grade (250 pts).

### GRADUATES

#### Assignments

- A Total of 3 take home/group work assignments
- Scantron form #229633 required for each.
- Every question carries equal weight.
- 100 points per assignment.
- If a student is absent on the completion date for an assignment a valid written excuse must be provide to submit the work late.
- A 20 minute formal presentation on the immunological disease case study of your choice will be performed.

- a. Abstracts for the presentation and a copy of the power point slides to be presented will be submitted at week 7 (50 pts).
- b. Presentations will be given at the end of the semester and students will run three per class in alphabetical order (250) pts.

### **Exam**

- There will be one introductory exam and one final exam each worth 200 points,
- Scantron form #229633 required

### **Final Grade**

- 1000 points available.
- Final letter grades are based on the following standard scale:

#### GRADUATE Biol 5727

- A = 90-100%,
  - B = 80-89.9%,
  - C = 70-79.9%,
  - D = 60-69.9%,
  - F = below 60.0%
- 
- The lab contribute 25% of the grade (250 pts).

### **Studying Advice**

1. Read the textbook before coming to lecture!!!
  - For every hour spent in a lecture you should spend at least two or three extra hours studying the book and working on your notes.
2. Attend every lecture.
3. Take detailed notes during lecture.
4. Ask questions during lecture.
5. After lecture, review the text and organize your notes.
6. Use the study aids at the end of each chapter.
7. Discuss the material with classmates.
  - Study groups may be helpful for some students BUT be cautioned that these will not replace individual time spent on the subject.
  - Study groups are useful for discussion of topics to clarify the key points and may be of most help for revision i.e. select a topic amongst your group, study on your own, then and only then meet as a group to reinforce the material.
8. See the instructor during office hours if anything is unclear.
  - If you are confused about a topic or find yourself lost in a chapter do not rely on your friends to teach you – that is why I have office hours.
  - Never delay asking for help – it is not a weakness but strength to identify when you need more guidance.

## 9. *Work consistently hard throughout the semester!!!!!!*

- It is far better to maintain a good grade than try to pull your grade up at the end of the semester.

### Suggestions for what to do before each lecture:

Study the book!

If you come prepared to a lecture everything you hear will reinforce what you have already learnt and if you have question we can address them immediately.

I suggest that you get into a routine of doing the following before each lecture:

- read the chapter(s) quickly
- note any words which are unfamiliar to you as you read
- use the glossary to define these terms and keep a record of them in your notes
- re-read the chapter in detail
- use the summary in the book to identify the key concepts that you have learnt
- make revision notes
- use your revision notes to produce a one page chapter map or summary.

**Never leave revision notes to the last minute it will only cause you unnecessary stress just before an exam.**

Remember there are no short cuts to success..... only hard work.

### **Attendance and Classroom Behavior**

- Attendance is mandatory and role will be taken.
- If you are absent repeatedly from the role you will be reported on Banweb as not engaged
- All cell phones, and any other electronic devices that create disruptive noise, must be silenced during lectures.
- Lectures will begin promptly, any late comers who cause disruption will be asked to leave.
- Excessive talking during the lecture period is distracting to me and other students and you may be asked to leave.

### **Academic Integrity**

Cheating and plagiarism will not be tolerated in any form. Any student who cheats on an exam or assignment will receive zero points with no chance of recovering those points later. Refer to the UWG Student Handbook for university policies.

### **Final Words**

- You are responsible for your own actions and must remain self-motivated with your studies.
- As your lecturer I can only help if you ask for it – if you do not take advantage of my office hours that is your decision.
- **REMEMBER I DO NOT GIVE YOU YOUR GRADE YOU**

## **EARN IT.**

All Students Please Note!

- For important policy information, i.e., the UWG Honor Code, Email, and Credit Hour policies, as well as information on Academic Support and Online Courses, please review the information found in the **Common Language for Course Syllabi** documentation at [http://www.westga.edu/assetsDept/vpaa/Common\\_Language\\_for\\_Course\\_Syllabi.pdf](http://www.westga.edu/assetsDept/vpaa/Common_Language_for_Course_Syllabi.pdf)
- Additions and updates are made as institution, state, and federal standards change, so please review it each semester

## Essentials in Immunology (BIOL 4727/5727)

	Week		Lecture	3E	4E	Chapter Reading Assignments
Aug 11	1	Th	Syllabus & Introduction Video			
16		T	Elements of the immune system and their roles in defense (59 slides)	1	1	
18	2	Th				
23		T				
25	3	Th	Innate immunity (84 slides)	2	2&3	
30		T				
Sept 1	4	Th				
6		T				Introductory Exam 50 mins
8	5	Th	Principals of adaptive immunity (62 slides)	3	merged	
13		T			into	
15	6	Th			4&5	
20		T	Antibody structure and the generation of B-cell diversity (65 slides)	4	4	Assignment 1 due
22	7	Th				
27		T				Graduate Abstract and slide handout due
29	8	Th	Antigen recognition by T lymphocytes (39 slides)	5	5	
Oct 4		T				
6	9	Th	T cell-mediated immunity (56 slides)	8	8	
11		T				No CLASS
13	10	Th				Assignment 2 due
18		T	Immunity mediated by B cells and antibody (65 slides)	9	9	
20	11	Th				
25		T				
27	12	Th	Infection at the mucosal surface. (60 slides)	10	10	
Nov 1		T				Assignment 3 due
3	13	Th				
8		T	Failures of the body's defenses (66 slides)	11	11	
10	14	Th				
15		T	Catch up			
17	15	Th	Word cloud and crossword 20 points			
29		T	Graduate Presentations			
Dec 1	16	Th	Graduate Presentations			
<b>DEC 8<sup>th</sup> Final exam 8 am</b> <b>Note time change!!!!!!!!!!!!!!!!!!!!!!</b>						

**Room 144 Biology 9.30am- 10.50am  
T. Th.**

PRESENTATION SKILL:	Agree strongly 5	Agree 4	Neutral 3	Disagree 2	Disagree strongly 1
<b><u>1. QUALITY OF SLIDES:</u></b>					
Appropriate use of fonts, bullets and highlights.					
Animation and background were clear yet not distracting.					
Figures and images were copied clearly					
Citations appeared on relevant slides.					
<b>Comments:</b>					
<b><u>2. QUANTITY OF INFORMATION:</u></b>					
No overcrowding of slides.					
Over view and introduction were relatively short					
Focus of details was on the results and interpretation of data.					
The significance of the study was described in terms of it's clinical or environmental impact.					
<b>Comments:</b>					
<b><u>3. STRUCTURE OF PRESENTATION</u></b>					
Introduction was informative and relevant to understanding the data.					
Background was interesting and defined the context of the study within the field of biology.					
Focus of presentation was on specific data and unique features of study.					
Concluding comments and critique were substantiated.					
<b>Comments:</b>					
<b><u>4. BACKGROUND UNDERSTANDING</u></b>					
Limited reading from the slides or notes.					
Verbal expansion of the information on the slides was evident.					
Questions were answered appropriately.					
Speaker attempted to stimulate discussion with audience.					



<b>Comments:</b>					
	<b><u>5. TIME KEEPING</u></b>				
16-20 mins	excellent				
13-15.5 mins	good				
10.5-12.5 mins	average				
Below 10 mins	poor				

## Essentials in Immunology Lab Syllabus.

Location: New Micro unit in biology building.

### General information:

Lab is scheduled for a 3 hour block one day a week:

**DO NOT ARRIVE LATE TO LAB – IF YOU MISS THE LAB INTRO. YOU WILL BE DENIED ACCESS TO THE PRACTICAL ON GROUNDS OF LACK OF TRAINING AND SAFETY.**

### Lab Manual and lab record book:

- All protocols will be provided via Course den for preview.
- Laboratory sessions will utilize specialized kits with detailed instructions obtained from commercial suppliers.
- No specific lab manual is required for purchase.
- A laboratory notebook for record keeping will be supplied in lab.

### Examination and Grading:

- The laboratory course contributes 25% of the final grade for BIOL 4727/5727.
- Each week you will be assessed on your preparation and practical work.

### Assessment:

- There will be 10 lab tests, each worth 20 points (total of 200 points).
- Laboratory record book assessment will be worth 50 pts.

### Attendance:

- Labs will start punctually.
- Role will be taken.
- Arrive on time - you **will not** be given additional time for completing your assessments.
- Absence will require written documentation of illness etc. within 1 week.
- Worksheets may be made up at instructor's discretion after a permitted absence.

### Laboratory Rules and Safety:

- Silence cell phones.
- Listen to all announcements.
- Talking during the instructional period should only be directed towards the instructor.
- Excessive noise levels during practical work will not be tolerated for reasons of safety. You must be attentive to the instructor's advice at all times.
- **If I have to shout you are too loud!!!!**

- Absolutely no food or drink in the lab. (This includes items in a bag or pocket.) If found you will have to dispose of the item due to possible contamination. This includes items such as gum and lip balm.
  - Lockers are provided outside the laboratory to secure for your bags and other belongings.
  - Wear a lab coat and sensible clothing – you will be using flammables, stains and biohazardous materials.
  - Adequate foot wear is required – **no open toes no excessive heels.**
  - Long hair should be tied away from face for safety.
  - No hats to be worn in the lab.
  - **REPORT ALL ACCIDENTS IMMEDIATELY IN A CALM MANNER.**
  - Treat all equipment with respect – it is expensive and potentially hazardous!!
  - Consider all micro-organisms as potential pathogens.
- **If you are immuno-compromised for any reason you must receive clearance from your Doctor and the Instructor prior to entering the lab (this includes pregnancy).**
- Wash hands whenever you leave the lab.
  - Disinfect your work area with 70% ethanol at the start of the lab and again at the end.
  - Use caution when operating electric sterilizers they are extremely hot.
  - If you are confused about any procedure or concept, ask questions.
  - Check course den for announcements.
  - All tubes and plates should be labeled legibly with the student's code (initials plus bench number). You may need to add other descriptions depending upon the lab exercise.
  - Agar plates should be labeled on the bottom with a marker; do not use tape.
  - Slides should be labeled with a pencil or alcohol resistant marker.
  - Electric sterilizers are hot!! Do not leave your inoculating loop in the sterilizer – it will melt!
- It is **your** responsibility to clean up your work area at the end of the lab period. Your instructor will designate an area to place supplies and used culture tubes for disposal.
- **Safety is of the utmost importance when working in a laboratory.** Please conduct yourself in a responsible manner at all times. Listen attentively to your instructor on all matters.

### Academic Integrity

- University policy is adhered to regarding cheating and plagiarism.

### Basic Lab Equipment and Supplies

Your station should contain:

2 inoculating loops  
 1 inoculating needle  
 1 box of microscope slides  
 1 book of lens paper  
 1 book of bibulous paper  
 1 giant clothes pins  
 1 pencil  
 Tube rack

Sharpie®  
DI water  
70% ethanol  
1 Bactcinerater  
1 staining kit

### **Microscopes**

Proper knowledge of microscope use is essential to getting the most out of your lab experience. Each student will be assigned a microscope and will be responsible for the proper use and care of that microscope.

General guidelines for microscope use are on courseDen. Please familiarize yourself with those guidelines as well as rules for set-up and storage of microscopes (listed below).

1. Always carry your scope with two hands - one on the arm and one under the base.
2. Place your scope on the bench away from the edge. Make sure it is a safe distance away from sterilizers, or anything else that is hot.
3. Before turning on microscope, make sure the light intensity control is on its lowest setting.
4. ONLY THE OIL IMMERSION OBJECTIVE SHOULD BE PLACED IN OIL.
5. Be careful not to get oil on the other objectives.
6. The following steps should be performed after use of microscope and before storage:
  - Wipe the objective lenses with lens paper. Clean the oil immersion lens last.
  - Rotate the nosepiece so that the lowest power objective is pointing downward.
  - Clean stray oil from the stage.
  - Turn the light intensity control to its lowest setting.
  - Lower the stage as far as possible.
  - Carefully coil or fold the cord and tuck it at the SIDE of the scope NOT under the condenser.
  - Move the scope to the back of your bench.

### **Learning objectives:**

- To develop the skills required for performance of tissue culture.
- To understand the mechanism behind antibody-antigen interaction.
- To learn techniques which enable immunological detection of proteins and diagnosis of disease.
- To develop skills in data interpretation and analysis.

## Laboratory Schedule

Lab	Experiment	Aim
<b><i>Some labs will take more than one week for completion</i></b>		
1	Eukaryotic cell Biology	To introduce the concepts of aseptic manipulation of tissue cultures.
2	Analysis of mammalian cell types	Staining and microscopic observation of human cells
3	Morphology of cancer cells. Blood based cancer diagnosis.	To demonstrate the diagnostic changes observed in cancer cells and explore clinical methods for confirming cancer in a patient.
4	Radial immunodiffusion	To demonstrate the physical interaction between antigen and antibody.
5	Blood typing	Immunological basis for blood typing – agglutination assay
6	Immunoblot for clinical diagnosis	To demonstrate the specificity of antibody antigen interactions
7	Western blot analysis	To explore protein identification through their detection by antibodies
8	Quantitative ELISA	To explain a key immunological assay used clinically and for research.
9	In search of the kissing disease	Use of the ELISA technique to diagnose patients with mononucleosis due to infection with Epstein-Barr virus
10	Immunology of the pregnancy test Diagnosis of AIDS	To demonstrate the theory behind the use of rapid immunological tests .

### All Students Please Note!

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## [Bacterial Pathogenesis \(BIOL 4728/5728\)](#)

### **Lecture Syllabus**

### **Spring Semester 2018**

#### **COURSE DESCRIPTION**

Bacterial Pathogenesis introduces students to the field of medical microbiology and the study of infectious disease. Topics covered include a discussion of environmental and host factors involved in bacterial infection and disease, an introduction to epidemiology and nosocomial infections, an overview of innate and acquired host defenses, and an extensive survey of bacterial pathogens with special emphasis on virulence factors and molecular mechanisms underlying disease processes. The laboratory component will focus on methods routinely used to isolate, culture, and identify bacterial pathogens.

#### **PREREQUISITE**

- Microbiology (BIOL 3310)

#### **MEETING TIMES**

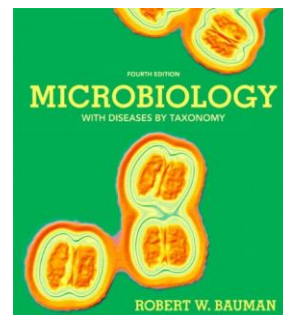
Starting Date: Monday, January 8th  
Ending Date: Monday, April 30th  
Lecture: MWF, 9:05-9:55AM, classroom in newly renovated Biology Building  
Laboratory: MW, time TBD, teaching laboratory in new Biology Building

#### **INSTRUCTOR**

Name: Dr. William J. Kenyon  
Office: Room 149 Strozier (or new office in Biology Building)  
Office Hours: 8:00-9:00AM (MWF), 8:00AM-12:00PM (T), and 8:00-11:00AM (R)  
Office Phone: 678-839-4033  
Primary Email: via CourseDen  
Secondary Email: wkenyon@westga.edu

#### **REQUIRED TEXTBOOK**

Text Title: ***Microbiology with Diseases by Taxonomy***  
Edition: 4<sup>th</sup> edition (2014)  
Authors: Robert W. Bauman  
Publishers: Benjamin Cummings Publishing Company  
ISSN-13: 978-0-321-81931-4  
ISSN-10: 0-321-81931-4



## **LEARNING OBJECTIVES**

- To recognize that parasitism is a type of symbiotic relationship resulting in disease
- To identify the environmental and host factors affecting bacterial infection and disease
- To define factors affecting the spread of bacterial infections through populations
- To survey the immune system as a defense against microbial invasion
- To compare and contrast the survival strategies of various bacterial pathogens
- To categorize bacterial virulence factors and their roles in pathogenesis
- To apply laboratory techniques commonly used in diagnostic bacteriology

## **READING ASSIGNMENTS**

- Reading the textbook is critical for success in the course.
- The reading schedule is included at the end of this syllabus.
- Students are expected to read the material before it is covered in lecture.
- Reading the material again following lecture is highly recommended.
- Several hours per week should be devoted to reading the textbook.

## **ATTENDANCE AND TARDINESS POLICIES**

- Attendance is mandatory, and class roll will be taken regularly throughout the semester.
- If you miss a lecture, you must provide a written excuse as soon as possible.
- If planning to miss more than one lecture, you must give prior notice.
- Tardiness is disruptive. Please arrive a few minutes before each lecture begins.
- If attendance and/or tardiness continue to be a problem, you will be officially reported to the university.

## **CLASSROOM RULES OF BEHAVIOR**

- Talking among students is expected to immediately cease once class begins.
- Electronic devices that create disruptive noise must be turned off or silenced.
- Your attention should be focused on the instructor and the lecture presentation.
- If these issues become a problem, you will be officially reported to the university.
- However, you are strongly encouraged to ask questions during the lecture.

## EXAMINATIONS AND GRADING

### Exams

- There will be a total of 4 regular exams during the semester.
- Each regular exam is worth 100 points for a total of 400 points.
- There will be approximately 50-100 questions per exam. Therefore, the number of points per question may vary.
- Most questions will be in multiple choice format, but other formats are possible.
- You will need a large Scantron form #229633 for each exam.

### Missed Exams

- If you miss an exam, you must immediately contact the instructor to reschedule.
- You must have a valid written excuse (e.g., from a physician) to make up an exam.
- With a permitted absence, missed exams can be made up within one week.
- No make-up exams will be allowed during the last week of the course.
- It is your responsibility to regularly check your Email and your grades.

### Micro-Slides and MMWR Presentations

- Each undergraduate student enrolled in BIOL 4728-01W (DSW) is required to submit a set of "Micro-Slides" using PowerPoint. More information on how to create your *Micro-Slides*, and how they will be graded, will be provided later in the semester.
- Graduate students enrolled in BIOL 5728-01 are required to give a 15-20 minute PowerPoint presentation based on an article from the *Morbidity and Mortality Weekly Report (MMWR)* published by the Centers for Disease Control and Prevention (CDC). Graduate *MMWR* presentations are scheduled for the last week of the semester. More information regarding the organization of *MMWR* presentations, including a suggested outline and grading rubric, will be provided later in the semester.
- *Micro-Slides* and *MMWR* presentations are each worth 200 points.

### Extra Credit Opportunity

- Attendance at the graduate *MMWR* presentations during the last week of the semester will be worth extra credit points. This extra credit is for undergraduates only.
- These points will simply be added to your point total for the course.

### Final Grades

- There are **800 total points** possible for the course:
  - 400 regular exam points +
  - 200 points for either *Micro-Slides* or *MMWR* presentation +
  - 200 lab points
- Total points ÷ 800 points possible = final percentage
- Letter grades are based on your final percentage according to the standard scale:  
**A = 90-100%, B = 80-89.9%, C = 70-79.9%, D = 60-69.9%, F = below 60.0%**
- It is your responsibility to regularly check your grades throughout the semester.

## STUDYING ADVICE

- 1) Read the material in the textbook before coming to class.
- 2) Attend every lecture and be on time for the beginning of class.
- 3) Study the lecture slides.
- 4) Take detailed notes during each lecture.
- 5) Ask questions during each lecture.
- 6) After class, review the text and organize your notes.
- 7) Use the study aids at the end of each chapter.
- 8) Discuss the material with classmates.
- 9) Spend several hours per week studying for this course.
- 10) See the instructor during office hours if anything is unclear.

## ACADEMIC INTEGRITY

- Cheating and/or plagiarism will not be tolerated in any form.
- During exams, keep your eyes on your exam, and do not let others look at your exam.
- Cheating and/or plagiarism will result in no points for that exam or assignment.
- Please refer to the UWG Student Handbook for official university-wide policies:  
[https://www.westga.edu/administration/vpsa/ocs/assets/docs/2016\\_2017\\_UWG\\_Student\\_Planner.pdf](https://www.westga.edu/administration/vpsa/ocs/assets/docs/2016_2017_UWG_Student_Planner.pdf)

### REGARDING SEATS FOR BIOLOGY COURSES

Seats for all courses offered by the Biology Department are limited. Even though the Biology Department continues to increase the supply of seats for popular courses on an annual basis, the Biology Department cannot guarantee a seat for all interested students in a given semester. To plan for the possibility of a seating shortage, most students are advised to build a flexible course schedule each semester. Other students, especially students who have a pre-major or have not declared a major, are advised to consider alternative course-providers as a contingency for semesters in which a specific biology course is critically important.

#### All Students Please Note!

For important policy information, i.e., the UWG Honor Code, Email, and Credit Hour policies, as well as information on Academic Support and Online Courses, please review the information found in the **Common Language for Course Syllabi** documentation at [http://www.westga.edu/assetsDept/vpaa/Common\\_Language\\_for\\_Course\\_Syllabi.pdf](http://www.westga.edu/assetsDept/vpaa/Common_Language_for_Course_Syllabi.pdf). Additions and updates are made as institution, state, and federal standards change, so please review it each semester.

#### Other important information:

<https://www.westga.edu/police/campus-carry.php>



**Bacterial Pathogenesis (BIOL 4728/5728) Lecture & Exam Schedule – Spring Semester 2018**

Date	Day of Week	Lecture and Exam Schedule	Chapters to Read
Jan 8	M	Course Description and Syllabus	
Jan 10	W	Infection, Infectious Diseases, and Epidemiology	Chapter 14
Jan 12	F	Infection, Infectious Diseases, and Epidemiology	
Jan 15	M	<b>No Class, MLK Day</b>	
Jan 17	W	Infection, Infectious Diseases, and Epidemiology	Chapter 14
Jan 19	F	Infection, Infectious Diseases, and Epidemiology	Chapter 14
Jan 22	M	Infection, Infectious Diseases, and Epidemiology	Chapter 14
Jan 24	W	Infection, Infectious Diseases, and Epidemiology	Chapter 14
Jan 26	F	Infection, Infectious Diseases, and Epidemiology	Chapter 14
Jan 29	M	Infection, Infectious Diseases, and Epidemiology	Chapter 14
Jan 31	W	Infection, Infectious Diseases, and Epidemiology	Chapter 14
Feb 2	F	Infection, Infectious Diseases, and Epidemiology	Chapter 14
Feb 5	M	Infection, Infectious Diseases, and Epidemiology	Chapter 14
Feb 7	W	Infection, Infectious Diseases, and Epidemiology	Chapter 14
Feb 9	F	<b>Exam 1</b>	<b>Chapter 14</b>
Feb 12	M	Innate Immunity	Chapter 15
Feb 14	W	Innate Immunity	Chapter 15
Feb 16	F	Innate Immunity	Chapter 15
Feb 19	M	Innate Immunity	Chapter 15
Feb 21	W	Innate Immunity	Chapter 15
Feb 23	F	Adaptive Immunity	Chapter 16
Feb 26	M	Adaptive Immunity	Chapter 16
Feb 28	W	Adaptive Immunity	Chapter 16
Mar 2	F	Adaptive Immunity	Chapter 16
Mar 5	M	Adaptive Immunity	Chapter 16
Mar 7	W	Adaptive Immunity	Chapter 16
Mar 9	F	Adaptive Immunity	Chapter 16
Mar 12	M	<b>Exam 2</b>	<b>Chapters 15 and 16</b>
Mar 14	W	Pathogenic Gram-Positive Bacteria	Chapter 19
Mar 16	F	Pathogenic Gram-Positive Bacteria	Chapter 19
Mar 19	M	<b>No Class, Spring Break</b>	
Mar 21	W	<b>No Class, Spring Break</b>	
Mar 23	F	<b>No Class, Spring Break</b>	
Mar 26	M	Pathogenic Gram-Positive Bacteria	Chapter 19
Mar 28	W	Pathogenic Gram-Positive Bacteria	Chapter 19
Mar 30	F	Pathogenic Gram-Positive Bacteria	Chapter 19
Apr 2	M	Pathogenic Gram-Positive Bacteria	Chapter 19
Apr 4	W	Pathogenic Gram-Positive Bacteria	Chapter 19
Apr 6	F	<b>Exam 3</b>	<b>Chapter 19</b>
Apr 9	M	Pathogenic Gram-Negative Cocci and Baccilli	Chapter 20
Apr 11	W	Pathogenic Gram-Negative Cocci and Baccilli	Chapter 20
Apr 13	F	Pathogenic Gram-Negative Cocci and Baccilli	Chapter 20
Apr 16	M	Pathogenic Gram-Negative Cocci and Baccilli	Chapter 20
Apr 18	W	Rickettsias, Chlamydias, Spirochetes, and Vibrios	Chapter 21

Apr 20	F	Rickettsias, Chlamydias, Spirochetes, and Vibrios	Chapter 21
Apr 23	M	Rickettsias, Chlamydias, Spirochetes, and Vibrios	Chapter 21
Apr 25	W	<i>Graduate Student MMWR Presentations</i>	
Apr 27	F	<i>Graduate Student MMWR Presentations</i> <i>Micro-Slides Due</i>	
Apr 30	M	<i>Exam 4</i>	<i>Chapters 20 and 21</i>

# Bacterial Pathogenesis (BIOL 4728/5728)

## Laboratory Syllabus

### Instructor:

Dr. William Kenyon

Office: 149 Strozier Hall

Phone: 678-839-4033

Email: via Course Den or wkenyon@westga.edu

### General information:

Recommended Lab Manual: Microbiology A Laboratory Manual, 11<sup>th</sup> Edition

Authors: Cappuccino and Welsh

Publisher: Pearson

### Examination and Grading:

- The laboratory course contributes 200 pts. to the final grade for the course.
- Each week you will be assessed on your preparation and practical work.

### Assessment:

- There will be 10 lab exams, worth 20 points each (total of 200 points).

### Attendance:

- Labs will start punctually.
- Role will be taken.
- Please arrive on time!
- You **will not** be given additional time for completing your lab work.
- Absences will require written documentation of illness within 1 week.

### Laboratory Rules and Safety:

- Silence cell phones.
- Listen to all announcements.
- Talking during the instructional period should only be directed towards the instructor.
- Excessive noise levels during practical work will not be tolerated for reasons of safety. You must be attentive to the instructor's advice at all times.
- **If I have to shout you are too loud!!!!**
- Absolutely no food or drink in the lab. (This includes items in a bag or pocket.) If found you will have to dispose of the item due to possible contamination. This includes items such as gum and lip balm.
- Wear a lab coat or sensible clothing. You will be using flammables and stains.
- Adequate foot wear is required.
- **Open toed shoes and excessive heels are not permitted.**
- Long hair should be tied away from face for safety.
- **Hats are not permitted in the lab.**
- All bags should be stowed neatly at the side of the lab – not in walkways.
- **REPORT ALL ACCIDENTS IMMEDIATELY IN A CALM MANNER.**
- Treat all equipment with respect. It is expensive and potentially hazardous!
- Consider all microorganisms potential pathogens.
- **If you are immuno-compromised for any reason you must receive clearance from your Doctor and the Instructor prior to entering the lab (this includes pregnancy).**
- Wash hands whenever you leave the lab.
- Disinfect your work area with 70% ethanol at the start and end of lab.
- Use caution when operating electric sterilizers. They are extremely hot!
- If you are confused about any procedure or concept, ask questions.
- Check CourseDen for announcements.
- All tubes and plates should be labeled legibly with the student's code (initials plus bench number). You may need to add other descriptions depending upon the lab exercise.
- Agar plates should be labeled on the bottom with a marker. Do not use tape.
- Slides should be labeled with a pencil or alcohol resistant marker.
- Electric sterilizers are hot! Do not leave your inoculating loop in the sterilizer because it will melt.
- It is **your** responsibility to clean up your work area at the end of the lab period.
- Your instructor will designate an area to place supplies and used culture tubes for disposal.
- **Safety is of the utmost importance when working in a laboratory.**
- Please conduct yourself in a responsible manner at all times. Listen attentively to your instructor on all matters.

## Lab Equipment and Supplies

Your station should contain:

- 2 inoculating loops
- 1 inoculating needle
- 1 box of microscope slides
- 1 book of lens paper
- 1 book of bibulous paper
- 1 giant clothes pins
- 1 pencil
- Tube rack
- Sharpie®
- DI water
- 70% ethanol
- 1 Bacinerater (electric sterilizer)
- 1 staining kit

## Microscopes

Proper knowledge of microscope use is essential to getting the most out of your lab experience. Each pair of students will be assigned a microscope and will be responsible for the proper use and care of that microscope.

General guidelines for microscope use are on CourseDen. Please familiarize yourself with those guidelines as well as rules for set-up and storage of microscopes (listed below).

7. Always carry your scope with two hands. Use one on the arm and one under the base.
8. Place your scope on the bench away from the edge. Make sure it is a safe distance away from sterilizers, or anything else that is hot.
9. Before turning on microscope, make sure the light intensity control is on its lowest setting.
10. ONLY THE OIL IMMERSION OBJECTIVE SHOULD BE PLACED IN OIL.
11. Be careful not to get oil on the other objectives.

12. The following steps should be performed after use of microscope and before storage:

- Wipe the objective lenses with lens paper.
- Clean the oil immersion lens last.
- Rotate the nosepiece so that the lowest power objective is pointing downward.
- Clean stray oil from the stage.
- Turn the light intensity control to its lowest setting.
- Lower the stage as far as possible.
- Carefully coil or fold the cord and tuck it at the SIDE of the scope NOT under the condenser.
- Move the scope to the back of your bench.

### Laboratory Learning objectives:

- To understand the importance of aseptic technique within microbiology.
- To understand the relative size of microorganisms.
- To learn techniques which will enable a student to isolate, culture and identify a specimen obtained from the environment.
- To develop skills in data interpretation and analysis.

#### REGARDING SEATS FOR BIOLOGY COURSES

Seats for all courses offered by the Biology Department are limited. Even though the Biology Department continues to increase the supply of seats for popular courses on an annual basis, the Biology Department cannot guarantee a seat for all interested students in a given semester. To plan for the possibility of a seating shortage, most students are advised to build a flexible course schedule each semester. Other students, especially students who have a pre-major or have not declared a major, are advised to consider alternative course-providers as a contingency for semesters in which a specific biology course is critically important.

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<https://www.westga.edu/police/campus-carry.php>

<b>Priliminary Laboratory Schedule for Bacterial Pathogenesis (BIOL 4728/5728)</b>		
<b>Day 1 - Tuesday</b>		<b>Day 2 - Thursday</b>
Pre-Lab	Lab orientation Syllabus	Pre lab exercises <ul style="list-style-type: none"> <li>• How steady is your hand exercise?</li> <li>• Viral Contamination Demonstration</li> </ul>
Lab 1	1. Common aseptic transfers and inoculation methods <ul style="list-style-type: none"> <li>• plate to broth</li> <li>• broth to swab plate</li> </ul> 2. Ubiquity of microorganisms <ul style="list-style-type: none"> <li>• environmental sample to swab plate</li> </ul>	3. Hand washing DVD <ul style="list-style-type: none"> <li>• Glow germs hand washing effectiveness</li> <li>• Observe cultures</li> </ul>
Lab 2	DVD : Microscopy <ul style="list-style-type: none"> <li>• Microscopy with prepared slides</li> <li>• Colored thread</li> <li>• Eukaryotes</li> <li>• Take home tube for water sample</li> </ul>	4. Microscopy with live sample <ul style="list-style-type: none"> <li>• Pond Water on well slide</li> </ul>
	<i>Class does not meet. Independent revision session</i>	<b>Lab Test:</b> <b>Pre-lab, Lab 1, Lab 2</b>
Lab 3	5. Simple stains <ul style="list-style-type: none"> <li>• Produce a smear</li> <li>• Stain smear</li> <li>• Observe under microscope</li> <li>• Progress to oil immersion</li> </ul>	6. Negative stain <ul style="list-style-type: none"> <li>• Produce stain</li> <li>• Observe slides under microscope</li> <li>• Progress to oil immersion</li> </ul>
Lab 4	7. Isolation of a pure culture <ul style="list-style-type: none"> <li>• Mixed culture transfer to streak plate</li> </ul>	<ul style="list-style-type: none"> <li>• Observe results from streak plate</li> </ul>
Lab 5	8. Identification of cell wall type <ul style="list-style-type: none"> <li>• Produce a separate smear for each of the two organisms</li> <li>• Store heat fixed smear</li> </ul>	<ul style="list-style-type: none"> <li>• Gram Stain smears</li> <li>• Observe under oil immersion</li> </ul>
	<i>Class does not meet. Independent revision session</i>	<b>Lab Tests:</b> <b>Lab 3, Lab 4, Lab 5</b>
Lab 6	9. Selective and Differential Testing - Gram positive <ul style="list-style-type: none"> <li>• Streak organism on Mannitol salt agar</li> <li>• Streak organism on Blood agar</li> </ul>	<ul style="list-style-type: none"> <li>• Observe plates</li> </ul>
Lab 7	10. Selective and Differential testing - Gram negative <ul style="list-style-type: none"> <li>• Streak organism on MacConkey agar</li> <li>• Perform Oxidase test</li> </ul>	<ul style="list-style-type: none"> <li>• Observe plates</li> <li>• Perform Catalase test</li> </ul>
Lab 8	11. Antimicrobial susceptibility <ul style="list-style-type: none"> <li>• Kirby Bauer test</li> </ul>	<ul style="list-style-type: none"> <li>• Results and data analysis</li> </ul> <p><b>Dispose of ALL bacterial samples.</b></p>
	<i>Class does not meet. Independent revision session</i>	<b>Lab Tests:</b> <b>Lab 6, Lab 7, Lab 8</b>
Lab 9	<ul style="list-style-type: none"> <li>• Class Review</li> </ul>	Contagion group lab assignment

[Dr. Molesworth.](#)

## **Medical Virology (BIOL 4729/5729)**

### **Lecture Syllabus**

#### **Description of Course**

This is an introductory course for virology. The course places emphasis on viruses which cause disease in humans. Aspects of virology which will be covered include, virus classification, mode of infection, symptoms of disease and control of infection.

#### **Academic Goals for the Course**

- It is the goal of this course to provide students with a fundamental knowledge of human virology.
- Students will gain an understanding of the methods by which viruses and the host interact.
- They will learn that viruses exhibit various methods of replication and have evolved sophisticated means to exploit the host.
- In addition students will understand the basic immunological mechanisms by which the host defends itself against attack by viruses.
- Students will gain an insight into the variety of diseases which are produced by viruses.
- The laboratory component of this course will provide instruction for students in key techniques required in a virology lab. These will include safe working at the bio hazard II safety level, propagation, observation and detection of viruses.

#### **Instructor Contact Information and Office Hours**

Dr. Sara Molesworth  
Department of Biology  
University of West Georgia  
Office: Room 206 Biology Building  
Phone: 678-839-4028

E-Mail: please use Course Den  
Office hours: 8:30-9:30am and 11-noon M-F

#### **Textbook and Reading Assignments**

Text Title: ***Understanding Viruses***  
Edition: 3rd edition.  
Authors: Teri Shores  
Publishers: Jones and Bartlett Learning  
ISBN: 978-0-7637-8553-6

## Reading Assignments

Students are expected to read each chapter in its entirety before the chapter is covered in lecture (see lecture schedule). Students should set aside several hours each week for the sole purpose of reading the textbook. Reading assignments are mandatory

## Assignments, Examinations and Final Grades

### UNDERGRADUATES:

#### Assignments

- A Total of 3 take home/group assignments.
- Scantron form #229633 (large, pink form) required for each.
- Every question carries equal weight.
- 200 points per assignment.
- If a student is absent on the completion date for an assignment a valid written excuse must be provide to submit the work late.

#### Exams

- There will be one introductory (50 pts) and one final exam (100 points).
- Scantron form #229633 required.

#### Final Grade

- 1000 points available, **remember that 10 grade points = 1 % point.**
- Final letter grades are based on the following standard scale without exception (no bumping, sliding or curving):

A = 90-100%,

B = 80-89.9%,

C = 70-79.9%,

D = 60-69.9%,

F = below 60.0%

- The lab contribute 25% of the grade (250 pts).

### GRADUATES

#### Assignments

- A Total of 3 take home/group assignments.
- Scantron form #229633 required for each.
- Every question of carries equal weight.
- 100 points per assignment.
- If a student is absent on the completion date for an assignment a valid written excuse must be provide to submit the work late.
- A 20 minute formal presentation on the virus of your choice will be performed.
  - a. Abstracts for the presentation and a copy of the power point slides to be presented will be submitted at week 7 (50 pts).



- b. Presentations will be given at the end of the semester and students will run three per class in alphabetical order (250) pts.

### **Exam**

- There will be one introductory (50pts) and one final exam (100 points).
- Scantron form #229633 required.

### **Final Grade**

- 1000 points available.
- Final letter grades are based on the following standard scale:

GRADUATE Biol 5727

- A = 90-100%,
  - B = 80-89.9%,
  - C = 70-79.9%,
  - D = 60-69.9%,
  - F = below 60.0%
- 
- The lab contribute 25% of the grade (250pts).

### **Studying Advice**

1. Read the textbook before coming to lecture!!!
  - For every hour spent in a lecture you should spend at least two or three extra hours studying the book and working on your notes.
2. Attend every lecture.
3. Take detailed notes during lecture.
4. Ask questions during lecture.
5. After lecture, review the text and organize your notes.
6. Use the study aids at the end of each chapter.
7. Discuss the material with classmates.
  - Study groups may be helpful for some students BUT be cautioned that these will not replace individual time spent on the subject.
  - Study groups are useful for discussion of topics to clarify the key points and may be of most help for revision i.e. select a topic amongst your group, study on your own, then and only then meet as a group to reinforce the material.
8. See the instructor during office hours if anything is unclear.
  - If you are confused about a topic or find yourself lost in a chapter do not rely on your friends to teach you – that is why I have office hours.
  - Never delay asking for help – it is not a weakness but strength to identify when you need more guidance.
9. *Work consistently hard throughout the semester!!!!!!*
  - It is far better to maintain a good grade than try to pull your grade up at the end of the semester.

### **Suggestions for what to do before each lecture:**

Study the book!

If you come prepared to a lecture everything you hear will reinforce what you have already learnt and if you have

questions we can address them immediately.

I suggest that you get into a routine of doing the following before each lecture:

- read the chapter(s) quickly
- note any words which are unfamiliar to you as you read
- define these terms and keep a record of them in your notes
- re-read the chapter in detail
- use the summary in the book to identify the key concepts that you have learnt
- make revision notes

**Never leave revision notes to the last minute it will only cause you unnecessary stress just before an exam.**

Remember there are no short cuts to success..... only hard work.

## **Attendance and Classroom Behavior**

- Attendance is mandatory and role will be taken.
- If a student is repeatedly absent from the role they will be reported on Banweb as not engaged.
- All cell phones, and any other electronic devices that create disruptive noise, must be silenced during lecture.
- Lectures will begin promptly, any late comers who cause disruption will be asked to leave.
- Excessive talking during the lecture period is distracting to both myself and other students and will not be tolerated.

## **Academic Integrity**

Cheating and plagiarism will not be tolerated in any form. Any student who cheats on an exam or assignment will receive zero points with no chance of recovering those points later. Refer to the UWG Student Handbook for university policies.

## **Final Words**

- You are responsible for your own actions and must remain self-motivated with your studies.
- As your lecturer I can only help if you ask for it – if you do not take advantage of my office hours that is your decision.
- **REMEMBER I DO NOT GIVE YOU YOUR GRADE YOU EARN IT.**

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Additions and updates are made as institution, state, and federal standards change, so please review it each semester

## Medical Virology (BIOL 4729/5729)

	Week	Day	Lecture	Slides	Chapter Reading Assignments
Aug 11	1	Th	Syllabus		
16		T	Introduction DVD Understanding viruses	15 54 mins	1
18	2	Th	Host cell constraints, virus architecture and nomenclature	18+27	2-3
23		T	Replication and diagnosis	25+34	4-5
25	3	Th	Viral entry and infection	28	6
30		T	DVD Your immune system	28 mins	
Sept 1		Th	Introductory exam	50 mins	
6		T	Host resistance	50	7
8	4	Th	Epidemiology	41	8
13		T	Group work: 20 points Contagion – glow germs & Build a Virus		
15		Th	Medicine and clinical trials	28	9
20	5	T	Viruses and cancer	55	10
22		Th	Polio	50	11
27	6	T	Influenza	79	12
29		Th			
Oct 4	7	T	Rabies	53	13
6		Th			
11	8	T	Poxviruses (Smallpox)	69	14
13		Th			
18	9	T	Herpesviruses	68	15
20		Th			
25	10	T	HIV	80	16
27		Th			
Nov 1	11	T	Hepatitis	84	17
3		Th			
8	12	T	New and reemerging viruses	68	18
10		Th	DVD: The age of viruses	50 mins	
15	13	T	Prions and Viroids	60	19
17		Th			
29	14	T	Graduate Presentation		
Dec 1		Th	Graduate Presentation		
<b>DEC 6<sup>th</sup> Final exam 2pm</b>					

**Rm 144      2:00 – 3:20pm T. Th.**

PRESENTATION SKILL:	Agree strongly 5	Agree 4	Neutral 3	Disagree 2	Disagree strongly 1
<b><u>1. QUALITY OF SLIDES:</u></b>					
Appropriate use of fonts, bullets and highlights.					
Animation and background were clear yet not distracting.					
Figures and images were copied clearly					
Citations appeared on relevant slides.					
<b>Comments:</b>					
<b><u>2. QUANTITY OF INFORMATION:</u></b>					
No overcrowding of slides.					
Over view and introduction were relatively short					
Focus of details was on the results and interpretation of data.					
The significance of the study was described in terms of it's clinical or environmental impact.					
<b>Comments:</b>					
<b><u>3. STRUCTURE OF PRESENTATION</u></b>					
Introduction was informative and relevant to understanding the data.					
Background was interesting and defined the context of the study within the field of biology.					
Focus of presentation was on specific data and unique features of study.					
Concluding comments and critique were substantiated.					
<b>Comments:</b>					
<b><u>4. BACKGROUND UNDERSTANDING</u></b>					
Limited reading from the slides or notes.					
Verbal expansion of the information on the slides was evident.					
Questions were answered appropriately.					
Speaker attempted to stimulate discussion with audience.					

<b>Comments:</b>					
	<b><u>5. TIME KEEPING</u></b>				
16-20 mins	excellent				
13-15.5 mins	good				
10.5-12.5 mins	average				
Below 10 mins	poor				

## Medical Virology Lab Syllabus

Location: New Micro unit in biology building.

### General information:

Lab is scheduled for a 3 hour block one day a week:

**DO NOT ARRIVE LATE TO LAB – IF YOU MISS THE LAB INTRO. YOU WILL BE DENIED ACCESS TO THE PRACTICAL ON GROUNDS OF LACK OF TRAINING AND SAFETY.**

### Lab Manual and lab record book:

- All protocols will be provided via Course den for preview.
- Laboratory sessions will utilize specialized kits with detailed instructions obtained from commercial suppliers.
- No specific lab manual is required for purchase.
- A laboratory notebook for record keeping will be supplied in lab.

### Examination and Grading:

- The laboratory course contributes 25% of the final grade for BIOL 4729/5729.
- Each week you will be assessed on your preparation and practical work.

### Assessment:

- There will be 10 lab tests, each worth 20 points (total of 200 points).
- Laboratory record book assessment will be worth 50 pts.

### Attendance:

- Labs will start punctually.
- Role will be taken.
- Arrive on time - you **will not** be given additional time for completing your assessments.
- Absence will require written documentation of illness etc. within 1 week.
- Worksheets may be made up at instructor's discretion after a permitted absence.

### Laboratory Rules and Safety:

- Silence cell phones.
- Listen to all announcements.

- Talking during the instructional period should only be directed towards the instructor.
  - Excessive noise levels during practical work will not be tolerated for reasons of safety. You must be attentive to the instructor's advice at all times.
  - **If I have to shout you are too loud!!!!**
  - Absolutely no food or drink in the lab. (This includes items in a bag or pocket.) If found you will have to dispose of the item due to possible contamination. This includes items such as gum and lip balm.
  - Lockers are provided outside the laboratory to secure for your bags and other belongings.
  - Wear a lab coat and sensible clothing – you will be using flammables, stains and biohazardous materials.
  - Adequate foot wear is required – **no open toes no excessive heels.**
  - Long hair should be tied away from face for safety.
  - No hats to be worn in the lab.
  - **REPORT ALL ACCIDENTS IMMEDIATELY IN A CALM MANNER.**
  - Treat all equipment with respect – it is expensive and potentially hazardous!!
  - Consider all micro-organisms as potential pathogens.
- **If you are immuno-compromised for any reason you must receive clearance from your Doctor and the Instructor prior to entering the lab (this includes pregnancy).**
- Wash hands whenever you leave the lab.
  - Disinfect your work area with 70% ethanol at the start of the lab and again at the end.
  - Use caution when operating electric sterilizers they are extremely hot.
  - If you are confused about any procedure or concept, ask questions.
  - Check course den for announcements.
  - All tubes and plates should be labeled legibly with the student's code (initials plus bench number). You may need to add other descriptions depending upon the lab exercise.
  - Agar plates should be labeled on the bottom with a marker; do not use tape.
  - Slides should be labeled with a pencil or alcohol resistant marker.
  - Electric sterilizers are hot!! Do not leave your inoculating loop in the sterilizer – it will melt!
- It is **your** responsibility to clean up your work area at the end of the lab period. Your instructor will designate an area to place supplies and used culture tubes for disposal.
- **Safety is of the utmost importance when working in a laboratory.** Please conduct yourself in a responsible manner at all times. Listen attentively to your instructor on all matters.

### Academic Integrity

- University policy is adhered to regarding cheating and plagiarism.

### Basic Lab Equipment and Supplies

Your station should contain:

2 inoculating loops  
 1 inoculating needle  
 1 box of microscope slides  
 1 book of lens paper  
 1 book of bibulous paper  
 1 giant clothes pins  
 1 pencil  
 Tube rack

Sharpie®  
DI water  
70% ethanol  
1 Bactcinerater  
1 staining kit

### **Microscopes**

Proper knowledge of microscope use is essential to getting the most out of your lab experience. Each student will be assigned a microscope and will be responsible for the proper use and care of that microscope. General guidelines for microscope use are on courseDen. Please familiarize yourself with those guidelines as well as rules for set-up and storage of microscopes (listed below).

13. Always carry your scope with two hands - one on the arm and one under the base.
14. Place your scope on the bench away from the edge. Make sure it is a safe distance away from sterilizers, or anything else that is hot.
15. Before turning on microscope, make sure the light intensity control is on its lowest setting.
16. ONLY THE OIL IMMERSION OBJECTIVE SHOULD BE PLACED IN OIL.
17. Be careful not to get oil on the other objectives.
18. The following steps should be performed after use of microscope and before storage:
  - Wipe the objective lenses with lens paper. Clean the oil immersion lens last.
  - Rotate the nosepiece so that the lowest power objective is pointing downward.
  - Clean stray oil from the stage.
  - Turn the light intensity control to its lowest setting.
  - Lower the stage as far as possible.
  - Carefully coil or fold the cord and tuck it at the SIDE of the scope NOT under the condenser.
  - Move the scope to the back of your bench.

### **Learning objectives:**

- To master the skills of aseptic technique within microbiology.
- To develop the skills required for performance of tissue culture.
- To understand the modes of transfer for viral infection.
- To learn techniques which will enable a student to propagate and identify viruses in a clinical laboratory setting.
- To develop skills in data interpretation and analysis.

## Laboratory Schedule

Lab	Experiment	Aim
<b><i>Some labs will take more than one week for completion</i></b>		
1	Infectious outbreak	To demonstrate the ability of viral infections to be transmitted throughout a population.
2	Spread of STD	To explore different modes of viral transmission.
3	Tissue Culture	To practice aseptic technique. To learn the protocols involved with the culture of eukaryotic cells required for the propagation of virus particles.
4	Bacteriophage infection	To explore methods for the indirect observation of viral infection.
5	Diagnosis of Influenza	Exploration of clinically relevant testing systems for patient diagnosis.
6	Quick test AIDS	To demonstrate the use of rapid mass screening techniques utilized by healthcare systems.
7	AIDS I ELISA	Increased rigor for testing patients with biosafety level II viral infections.
8	AIDS III protein electrophoresis + gels	Molecular testing techniques for viral infections
9	AIDS II Western Blot	Gold standard testing for disease confirmation
10	EBV ELISA	Confirmatory tests used for clinical diagnosis on basis of medical history, exam and blood work.

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