Human Biology --- Biol 125 Spring 2019

Course Coordinator and Instructor: Janette Gomos Klein, PhD klein@genectr.hunter.cuny.edu
Office hours: Th 10:00am—12:00pm, Room 818HN (subject to change)

Lab Coordinator:
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Laboratory Instructors:

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Course Description:
BIOL 125 Human Biology (4.5 cr, 6 hrs). BIOL 125.00 explores the biology that underlies current health and disease topics (including diabetes, cancer, sexually transmitted diseases, nutrition). Using a topics approach, the course provides a survey of human anatomy and physiological function, along with the biological principles of genetics and cellular interactions that comprise our current understanding of the human organism. Laboratory exercises will introduce students to a scientific approach in studying human disease and physiology. BIOL 125 is for non--- biology majors and does not count toward the Biology Major. The course counts toward GER2/E (Broad Exposure: Natural Science) with laboratory or LiPS.

Required:

1. HUMAN BIOLOGY (LAB MAN), Author: ATSMA, ISBN: 9780134283814
Price New: $57.40 Price Used: $42.95

2. TopHat mobile clicker/tool will be used and must be purchased for attendance and participation grade in this course. You MUST use this to complete your assignments. Course Name: BIOL125 - Human Biology - Spring 2019 Join Code: 097850 direct URL- https://app.tophat.com/e/097850/

3. Blackboard (Bb) is a tool that will be used regularly in class. Please make sure that you have access to this. If additional support is needed, contact ICIT or Bb support (studenthelpdesk@hunter.cuny.edu or bb@hunter.cuny.edu) for guidance. You must be registered for the class to have access. Your instructors cannot help you gain access if you do not have a valid and current CUNY user name.

4. Short articles may be assigned for class/group discussion regarding the current trends as it applies to human biology. Speakers are regularly invited to the class to discuss relevant topics to Human Biology. Articles will be posted on Bb and you will be responsible for relevant materials during exams. If speakers provide slides, they will also be posted here.

For supplemental understanding and review: Campbell, Neil et al. *Biology*. New York, NY: Pearson. This text is available in the Main Library on reserve at Hunter College.

Course Point Breakdown:	500 points
Attendance and Participation (TopHat (60pts)/Quizzes (64pts):	120 points
Exam--- best 3 of 4 (60 each):	180 points
Laboratory Quizzes (10pts/wk):	100 points
Laboratory Notebook/Report:	30 points
Lab Practical:	30 points
Presentation:	40 points

Attendance/Participation. TopHat is a mobile phone clicker technology where students will be expected to answer questions or text discussion questions during specific lecture times. Grade will be given for participation (and correctness when applicable). There will be extra credit opportunity with the technology as well. Mobile phone texting, smartphone, tablet or computer is required to participate using TopHat. This must be purchased for attendance and participation grade in this course. You MUST use this to complete your assignments.

Do not wait if there is an issue. Speak with Dr. Gomos Klein immediately for any questions or concerns regarding lecture or grading.

Laboratory attendance is mandatory. If you miss a laboratory session, your total lab score will be reduced as follows: 1 absence= (total lab score) will be multiplied by 0.9. Two absences = (total lab score) will be multiplied by 0.8. Three absences = (total lab score) will be multiplied by 0.7, etc. If you are more than 20 minutes late, it will count as an absence--------- no exceptions. You will be able to take the laboratory quiz at the discretion of your instructor.

Syllabus: Syllabus is a guideline of what will be covered. You are responsible for any changes or materials covered in class. Syllabus will be updated regularly on Bb. Please note the "version" (ex. V6) of your syllabus when studying for exams!

Lecture Exams: Tests will cover the material in the Text and supplemental topics discussed during class and posted on Bb. There will be 4 tests each worth 60 points. The exams are not cumulative. The lowest grade of the 4 tests will not be counted in your final grade calculation. Valid Identification (ex. Valid Student ID), #2 pencils and an eraser are necessary at the time of each exam. If student is satisfied with the first three lecture exam grades and the lecture exam grade average is >70% (C), student may elect to drop the final exam (exam 4). **No make-–up exams will be given.**

Cheating: Any sign of cheating (including plagiarism and copying) will result in **immediate failure** (grade of 0) of the quiz, test, report, or presentation and will not be dropped as part of the grade.

Academic Integrity Statement: "Hunter College regards acts of academic dishonesty (e.g. plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures."

AccessABILITY Statement: "In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical, and/or Learning) consult the Office of AccessABILITY, located in Room E1214B, to secure necessary academic accommodations. For further information and assistance, please call: (212) 772---4857 or (212) 650---3230."

Lecture Calendar: (see *next page for* LAB calendar): Biol 125 Human Biology Spring 2019;
Subject to change at discretion of instructor

Tues	**Thurs**
Jan 29 1. Introduction	**Jan 31** 2. Module 1- Biological Macromolecules
Feb 5 3. Module 1- Biological Macromolecules	**Feb 7** 4. Module 2- Overview of Body Systems
Feb 12 College is closed	**Feb 14** 5. Module 2- Overview of Body Systems
Feb 19 6. Review (**no in-class meeting**; quizzes due)	**Feb 21** 7. Exam 1
Feb 26 8. Module 3- Genetic Disease and Cancer	**Feb 28** 9. Module 3- Genetic Disease and Cancer
Mar 5 10. Module 3/4- Genetic Disease and Cancer	**Mar 7** 11. Module 4/Potential Speaker- Cancer or genetics
Mar 12 12. Module 4- Genetic Disease and Cancer	**Mar 14** 13. Review (quizzes due)
Mar 19 14. Exam 2	**Mar 21** 15. Module 5- Bone/Muscle Disease
Mar 26 16. Module 5- Bone/Muscle Disease	**Mar 28** 17. Module 6- Heart/Circulatory Disease
Apr 2 18. Module 6- Heart/Circulatory Disease	**Apr 4** 19. Review (quizzes due)
Apr 9 20. Exam 3	**Apr 11** 21. Module 7- Kidney/Urinary Disease
Apr 16 22. Module 7- Kidney/Urinary Disease	**Apr 18** 23. Module 7- Kidney/Urinary Disease
Apr 23 Spring break	**Apr 25** Spring break
Apr 30 24. Module 8- Digestive Tract and Nutrition	**May 2** 25. Module 8/potential speaker
May 7 26. Module 8- Digestive Tract and Nutrition	**May 9** 27. Review (quizzes due)
May 14– 28. **Exam 4 (not comprehensive)**	

BIO125 Lab Calendar (see previous page for LECTURE schedule) **Spring 2019**
Note: manual chapters for each lab are in parentheses

	Monday	Tuesday	Wednesday	Thursday
Jan	28 WEEK 1 Safety/Sci Meth/Metric System/Microscopy (1-2)	29 WEEK 1 Safety/Sci Meth/Metric System/Microscopy (1-2)	30 WEEK 1 Safety/Sci Meth/Metric System/Microscopy (1-2)	31 WEEK 1 Safety/Sci Meth/Metric System/Microscopy (1-2)
Feb	4 WEEK 2 *Microscopy/Cell Diversity & Body Tissues (3-4)*	5 WEEK 2 *Microscopy/Cell Diversity & Body Tissues (3-4)*	6 WEEK 2 *Microscopy/Cell Diver-sity & Body Tissues (3-4)*	7 WEEK 2 *Microscopy/Cell Diver-sity & Body Tissues (3-4)*
Feb	11 WEEK 3 Enzymology (Handout)	12 COLLEGE CLOSED	13 WEEK 3 Enzymology (Handout)	14 WEEK 3 Enzymology (Handout)
Feb	18 COLLEGE CLOSED	19 WEEK 3 Enzymology (Handout)	20 WEEK 4 *Genetics (20)*	21 WEEK 4 *Genetics (20)*
Feb	25 WEEK 4 *Genetics (20)*	26 WEEK 4 *Genetics (20)*	27 WEEK 5 DNA extraction/ Finger- printing (ch21+ handout)	28 WEEK 5 DNA extraction/ Finger-printing (21+ handout)
Mar	4 WEEK 5 *DNA Extraction/ Finger-printing (21+handout)*	5 WEEK 5 *DNA Extraction/ Finger-printing (21+handout)*	6 WEEK 6 *Epidemiology (Handout)*	7 WEEK 6 *Epidemiology (Handout)*
Mar	11 WEEK 6 *Epidemiology (Handout)*	12 WEEK 6 *Epidemiology (Handout)*	13 WEEK 7 *Skeletal System (8)*	14 WEEK 7 *Skeletal System (8)*
Mar	18 WEEK 7 *Skeletal System (8)*	19 WEEK 7 *Skeletal System (8)*	20 No Lab	21 No Lab
Mar	25 No Lab	26 No Lab	27 No Lab	28 No Lab
Apr	1 WEEK 8 Cardiovascular (14-15)	2 WEEK 8 Cardiovascular (14-15)	3 WEEK 8 Cardiovascular (14-15)	4 WEEK 8 Cardiovascular (14-15)
Apr	8 WEEK 9 Urinary/Endocrine Systems (parts of 13&18)	9 WEEK 9 Urinary/Endocrine Systems (parts of 13&18)	10 WEEK 9 Urinary/Endocrine Systems (parts of 13&18)	11 WEEK 9 Urinary/Endocrine Syst. (parts of 13&18)
Apr	15 WEEK 10 Digest syst & *Nutrition (17, & handout)*	16 WEEK 10 Digest syst. & *Nutrition (17, & handout)*	17 WEEK 10 Digest syst & *Nutrition (17, & handout)*	18 WEEK 10 Digest syst & *Nutrition (17, & handout)*
Apr	22 SPRING BREAK	23 SPRING BREAK	24 SPRING BREAK	25 SPRING BREAK
Apr/ May	29 *Lab Practical (Open Book & Manual)*	30 *Lab Practical (Open Book & Manual)*	1 *Lab Practical (Open Book & Manual)*	2 *Lab Practical (Open Book & Manual)*
May	6 *Presentations*	7 *Presentations*	8 *Presentations*	9 *Presentations*

Human Biology Spring 2019. Subject to change.

Please see separate file for updated Laboratory Calendar. Laboratory Additional Information on grading:

Lab Notebook Grading: 30 points.

Your lab instructor will check your laboratory notebook on a weekly basis for a grade. Each week's grading is 3 points. You are responsible for completing all questions/data from the PREVIOUS week. Lab supplements/handouts will be

available on Bb and passed out the week before lab. You are responsible for any of the material that is given to you for completion. Make sure your name is prominently displayed on your lab manual and handouts.
Include: All questions (introduction, data, discussion, supplemental) in each laboratory activity **answered** unless directed otherwise by your instructor.
Details about grading: 3 points for each laboratory exercise (I-II, IV-XI) will be given for answering ALL questions/data in the introduction, procedures, and discussion (if any). Besides, questions, you will also be graded in the completeness of your data: this includes charts, measurements, drawings, observations, and notes.

Weekly Lab Quizzes: 10pts/week (total 100 points).

Quizzes will be given at the beginning of your laboratory period (except week 1, where quiz will be at the end). At the instructor's discretion, questions will be asked on data from the prior week and/or material from the current week.

Lab Practical: 30 points. You may bring your lab manual/notes to this exam.

One or two short answer, multi-part questions from each laboratory exercise will be addressed or explored further. There will likely be NO multiple choice questions for your lab practical. You may use your lab notebook and any handouts as a guide or reference.

Lab Presentations: 40 points.

Individual 5 minute presentation in student teams (for 10-15 minutes total presentation time) based on assigned teams and disease. Details to be discussed in

lecture/ further directions to be handed out in lab. Please be sure to email AND print a handout copy for the instructor the day of the presentation.

Expected Learning Outcomes

Develop ability to apply the scientific method
Identify biological questions and problems that can be answered through scientific investigations
Design and conduct scientific investigations to answer biological questions.
Create testable hypotheses
Identify variables
Use a control or comparison group when appropriate
Select and use appropriate measurement tools
Collect and record data
Organize data into charts and graphs
Analyze and interpret data
Communicate findings
Explain observations
Make inferences and predictions
Explain the relationship between evidence and explanation

Analyze reports of scientific investigations from an informed, scientifically literate viewpoint including considerations of:
Appropriate sample
Adequacy of experimental controls
Replication of findings
Alternative interpretations of the data
Understanding of etiology and epidemiology

Understand chemical, cellular, and physiological basis of specific diseases and gain broad exposure to biological concepts
Homeostasis
Development: organ formation, cell types
Cell structure and function
Cell cycle and regulation
DNA:chemicalmake---------up,genetics,genes,genomics
Proteins, Enzymes, Hormone functions
Virology
Immunology

Understand the metric system

Introduce body systems (Anatomy and Physiology) as they relate to specific disease and biology (examples below)
Skeletal
Cardiovascular system / Blood
Endocrine System
Urinary System

Apply concepts of nutritional components and how it relates to the human body and disease.

Learn, understand and use basic experimental tools in Human Biology
Microscopy
DNA extraction
DNA Fingerprinting
Enzymatic reactions
Serology
Microbiology and epidemiology
Physiological functions: urine output/metabolism, cardiac output
Cell cycles, genetics, and mutation
Methods of measurement