

Biology 313- Cell Biology class SYLLABUS, Fall 2016

COURSE TIMES: Monday, Wednesday, Friday; 8:30 – 9:20 AM in HWWE 211.

LECTURES: 8-24-2015 to 12-05-2016., first and last days, respectively.

HOLIDAY DAYS: Fall Break: Sun Nov. 6, 2016 – Tue Nov. 8, 2016, classes resume on Wed. Nov. 9, 2016.
Thanksgiving: Wed Nov. 23, 2016 – Sun Nov 27, 2016, Classes resume: Nov. 28, 2016.

FINAL EXAM: Monday Dec 12, 2016 in HWWE 211 at either 8:15 or 8:30 am
(to be decided by class vote in December).

INSTRUCTOR: Dr. Richard Southgate. Biology PhD, University of Geneva, Switzerland, 1984.

MOLECULAR BIOLOGY RESEARCHER:

PAST: Harvard University, Boston University School of Medicine, M.I.T., Lehigh University and now at the College of Charleston. Currently I only partially contribute to Dr. Agnes Southgate's research interests in her CofC's laboratory (due to my teaching load) on the origin and evolution of insect flight at the molecular level in insects but we have collaborated on this research theme since the early 1990s.

OFFICE: HWWE (Harbor Walk West) 308, Harbor Walk, 360 Concord Street, Charleston SC 29401.
As the official office Tel.: 843-953-0340 is not very reliable as I am only sometimes in this room to my teaching load, please communicate with me by e-mail: southgater@cofc.edu. I teach three hours in class room teaching, 9 hours per week [6 hours at MUSC] in three laboratories that does not include extra time for lab. prep. (One lab. requires Sunday afternoon prep for the Monday lab!), lab. clean-up, buying life materials, grading (quizzes, exams, final, reports etc.), lecture prep. & quiz/exam preparations) etc.

OFFICE HOURS: Due to the time constrictions as listed above, my office hours are **9:30 – 12:30 pm** on **FRIDAYS** only in HWWE 308 or if these times are not good for your schedule, set up an appointment (via by e-mail; southgater@cofc.edu) or even short questions after lab. sessions.

TEXT BOOK: "Molecular Cell Biology" by Lodish *et al.*, Version 8, April 1st 2016. Hardcover: 1280 pages; Publisher: W. H. Freeman; Language: English; ISBN-10: 1464183392; ISBN-13: 978-1464183393
Product Dimensions: 8.8 x 1.8 x 11.4 inches; Shipping Weight: 5.7 pounds.

ALTERNATIVE TEXTS:

<http://www.ncbi.nlm.nih.gov/books/NBK21475/?term=cell%20biology>;
<http://www.macmillanhighered.com/catalog/static/whf/lodish4e/> Molecular Cell Biology. 4th ed. Lodish H, Berk A, Zipursky SL, *et al.* New York: W. H. Freeman; 2000.

ALL COURSE WEBSITE INFORMATION: is found on My Charleston, OAKS, CONTENTS: all as PDFs (or some Voice Thread communications) notes, notices, etc. **You are, therefore, responsible for ALL the related information on OAKS in the Fall 2016 CELL BIOLOGY course in relation to Class quizzes, exam and final testing questions etc.**

COURSE OBJECTIVES: This course focuses on the structure and function of cells.

BIOL 313 Cell Biology (3) a study of the structural and functional correlates in cell biology. Topics include membrane specialization and organization, cytoskeleton structure and function of cellular organelles, adhesion, motility, mitotic mechanisms, transport mechanisms, nucleus functions including transcription and translation, simple immunology, bioenergetics, and cell signaling.

(Signal Transduction Pathways (STP) are probably something new for you, but if you wish to work in medicine or research, you absolutely need to learn its basics by at least your graduation....).

Expectations: the below guidelines should create a comfortable and productive learning environment throughout the semester.

You can expect me:

- To start and end class on time (8:30 – 9:20 am, M, W and F in HWWE 211).
- To reply to e-mails within 24 hours on weekdays and 48 hours on weekends (and hopefully quicker).
- To assign homework that adequately covers the material and meets the learning objectives of the course.
- To give exams that accurately reflect the material covered in class and assigned in homework.
- To release the grades to you, at the best of my ability, within ~1.5 -2 weeks max. unless I am ill etc. but I do not have a TA and I do have 12 hours of teaching per week, so I grade as fast I can but also being accurate and unbiased, so no haste.
- To help all student in this classroom who asks for help. My advice for you, if you are struggling with understanding the course materials, is to set up a meeting or even a series of meetings, either alone or with a friend or 2 or 3 students earlier rather than later i.e. not later than mid-term. I have many requests for urgent help within the last two or three weeks before the end of the course for extra credit and the worst is that there is very little I can do to really help these students as it is simply way too late.

I can expect you:

- To come to class on time (OK within 5 minutes due to CARTA).
- To be attentive, engaged in class and ask questions.
- To respect others and adhere to the rules of the honor code.
- To refrain from using laptops, cell phones and other distracting electronic devices during the class time.
- To spend an **adequate amount of time** on the homework each week (for every 1 hour in class = min. 2 hours at home but this equation was for BIOL-111 and now in BIOL-313, it can take even more time so, as to understand the biological concepts that are behind every aspect of Cell Biology, for answering quiz, exam or home-assignment correctly.
- To seek help when needed.

PREREQUISITES: BIOL 111/111L, BIOL 112/112L, and BIOL 211/211D; one year of chemistry.

CO-REQUISITES OR PREREQUISITES: BIOL 305. CHEM 232 can be substituted for BIOL 211 and 305, MATH 250 or equivalent course in statistics or permission of instructor.

QUIZZES: There will be 2 planned quizzes per week, one in class using socrative or paper questions, and one as an OAKS home assignment (available on Sat. and Sun.) for 10 points each i.e. 20 points per week x 10 weeks → total grade: 200 points.

EXAMS: There will be 3, 100 point exams in the semester (F, Sep. 23 '16, F, Oct 21 '16 and F, Dec 2 '16).

CUMULATIVE FINAL: 150 points, 3 hours max. Monday Dec 12, 2016 in HWWE 211 starting at either 8:15 or 8:30 am (to be decided by student democratic vote).

Portfolio: 50 points, half due at the middle and again at the end of the semester i.e. 2 x 25 points.

Your need to find 2 interesting recent, i.e. no longer that 3 years old, peer-reviewed articles on a CELL BIOLOGY theme that was related on topics we looked at in the first and second halves of the lectures. The goal is to find articles that are interesting (and capturing your imagination!) and also novel (i.e. not just a copy of the classroom presented information). Try to find something new on a common classroom topic. You can write your report either solo or as 2 student teams (3 student's reports will not be graded). I hope these article searches will expand your horizons. Your report needs to be researched (and give details how you came to your choice), and document the goal of this research, the known and non-known data

surrounding this document, its main objectives, what was the articles' strengths and weaknesses and any future research subjects.

The due dates will be on: October 14th '16 (a week before mid-term grades) and on:
November 30th '16 (2 days before the final classroom exam 3).

The two reports can be posted on OAKS drop box, for 25 points each, and needs to be TYPED, with figures / tables etc., proper article annotation, for max. 4 pages, 3 pages minimum, double-spaced type (Arial being best at font 12).

SUMMARY:

- QUIZ: 20 @ 5 questions/2 pts. each = 10 points, half in the classroom as either paper quiz or Socrative (see below) = total: 20 X 10 = 200 points.
- EXAM: 3 X 100 points = 350 points.
- FINAL: 150 points.
- PORTFOLIO: 2 x 25 = 50 points

TOTAL: 200 + 300 + 150 + 50 = 700 POINTS.

Your FINAL GRADE is determined as a **percentage (%)** of your collected correct points from the quizzes, exams, final and 2 home-assignments of the portfolio for a max. 700 pts. for the course:

A	93-100	C	73-76
A-	90-92	C-	70-72
B+	87-89	D+	67-69
B	83-86	D	63-66
B-	80-82	D-	60-62
C+	77-79	F	0-59

Please pick up your exam results. In every class there are several students who NEVER pick up ANY of their exams, you can discuss with me about your exam in the office hours, after lab. or by appointment via e-mail.

Quizzes will be 200 / 700 points i.e. ~28.5 % of the total grade.

3 Exams will be 300 / 700 points i.e. ~48 % or 14.3 % of each exam of the total grade.

Cumulative final will be 150 / 700 points i.e. ~21.4% of the total grade.

2 Home-assignments will be 50 / 700 points i.e. ~7% of the total grade.

Some of the classroom quizzes will be tested with Socrative (which can uses either Cell phones, iPads, or Laptops) and the success of this approach solely depends on the strength of Wi-Fi in HWWE 211) ...

SOCRATIVE INSTRUCTIONS: My Socrative #room number is 287796 and you need their app.

<https://play.google.com/store/apps/details?id=com.socrative.student&hl=en>, APP

<https://b.socrative.com/login/student/> login

[http://www.socrative.com/;](http://www.socrative.com/)

OAKS information will be in “Content” that contains pdf copies of class lectures, class notes as well as occasional voice thread and videos. VOICE THREAD is available on OAKS. The first time you use it, you have to sign in with your student ID and password. More info: <http://voicethread.com/about/features/>.
<http://blogs.cofc.edu/tlittutorials/2016/02/09/socrative/>

QUIZZES/EXAMS/FINAL.

- During the exam, I will only answer clarification questions.
- Cell phones must be TURNED OFF (mine will be on for any important College notices) and they should be put away in bags, back packs, or purses during the exams and the final.
- Exams may consist of multiple choice, short answer, and/or essay questions. The questions will come from course material covered in class discussions, OAK PDFs, assigned readings, and from the integration of material from any homework assignments, cases, projects and exercises.

****** STUDENTS WITH DISABILITIES** who have the proper documentation through SNAP services for extended exam times can take the exams at the SNAP office (assuming you want to use the additional time, if not you are welcome to take the exam with your classmates and as they will be on Fridays, you can finish the exam in my office [this not the case in the final, due to CofC policy]). Those students who will take their exams in the SNAP office must schedule their exams with them and inform me when they will be taken before the event. See Center for Disability Services (SNAP) for more info. <http://disabilityservices.cofc.edu>
Please see me in class, lab. or my office to make sure you receive all the help by law. You also need to give me a copy of your official letter from the SNAP office.

STUDENT CONDUCT IN THIS COURSE IS GOVERNED BY THE CofC HONOR CODE:

Plagiarism misuse in exam essays etc. is NOT allowed PERIOD. It's a breach of respect, cheating and dishonesty to the instructor and every other student in this class and if caught, it can severely damage or even ruin your career... In summary, the negatives far outweigh the assumed positives, and think about your guilty conscious, yes you do have a conscious and these remorseful ideas can last a life time...., don't be tempted by the devil, it's just not worth it.

<http://www.lib.usm.edu/legacy/plag/plagiarismtutorial.php>

<http://studentaffairs.cofc.edu/honor-system/faqs.php>

<http://jinr.people.cofc.edu/honorcode.pdf>

<http://studentaffairs.cofc.edu/honor-system/index.php>

Cell Biology Fall 2016 ATTENDANCE POLICY:

Students are expected to attend all classes.

Non-urgent/non-emergent situations (i.e. wedding, medical and/or counseling appointments, etc.) should be addressed by the student during times that do not interfere with the student's course schedule, just as one would if s/he was seeking time off from an employer.

In the event that a student misses a class with a legitimate, documentable reason, that student may bring documentation to the Absence Memo Office located at 67 George Street (between Stern Center and Glebe Street) where the student may fill out a form with a schedule of missed class(es), dates missed, etc. A representative from the Absence Memo Office will notify the appropriate faculty by E-mail.

Any missed assignments, class work, papers, tests, etc., are to be arranged between the professor and the student. It is important to note that the only individual who can authorize an excused absence is the professor of the missed class. <http://studentaffairs.cofc.edu/about/services/absence.php>

If a student is ill or has a tragedy or any health issues etc. and cannot come to a regular classroom, these students with proof (doctor's note etc.), I will make arrangements (if possible) to make up any quizzes/exams and I will help that student as much as I can to catch up but remember, any student with 4 unexcused classes in this class is a candidate for WA.... I really hope we never get to this point.

Any athletics have to show me their official schedule if you are away on that class.

I will take random attendance throughout the semester and the weekly quizzes automatically creates an attendance list. If I see you have not been in the classroom and without an excuse, I will e-mail you after 3 times to have a meeting with you, and after I have documented non-attendance after 4 classes with **no excuse**, I have the right to give you a **WA**, something I clearly do not like this chore at all but it's your choice.

<http://faculty senate.cofc.edu/archives/2010-2011/oct-5-10/senate-minutes-oct-2010>

<http://blogs.cofc.edu/parents/2011/02/04/missing-classes-excused-absences-policy/>

Details in <http://catalogs.cofc.edu/undergraduate/class-attendance.htm>

The college also has a Statement on Religious Accommodation for Students

<http://president.cofc.edu/community-relations/rlc/accommodation.php>, if one of these religious days / events are in conflict with a class or lab. activity, please let me know.

COFC'S FALL 2016 CALENDAR IMPORTANT DATES:

COLLEGE of CHARLESTON		Fall 2016 Academic Calendar
Dates in this calendar are subject to change without notice.		
August 2016		
August 20-21	Residence halls open. Move in date and time is based on the residence hall.	
Monday, August 22	Cross-registration for visiting students. New Student Convocation.	
Tuesday, August 23	Fall full semester and Express I classes begin.	
Thursday, August 25	Last day of Drop/Add for Express I classes. Last day for students to submit a request to Audit or apply for a Pass/Fail grade option for Express I classes.	
Monday, August 29	Last day of Drop/Add for full semester classes. Departmental Chairs' SZAAREG Deadline for Express I. Last day for students to submit a request to Audit or apply for a Pass/Fail grade option full semester classes.	
September 2016		
Thursday, September 1	Departmental Chairs' SZAAREG Deadline for full semester.	
Wednesday, September 7	Last day for faculty to submit Undergraduate Individual Enrollment and Bachelor's Essay applications to the Registrar's Office for all full semester, Express I and Express II classes.	
Tuesday, September 13	Attendance Verification for faculty opens in MyCharleston via Final Grades.	
Tuesday, September 20	Attendance Verification for faculty closes at noon.	
Thursday, September 22	Last day for students to withdraw with a grade of "W" from Express I classes.	
Friday, September 23	WA (Withdrawal for Excessive Absences) form may now be submitted by faculty for Express I classes.	
Wednesday, September 28	Fall 2016 Express I course-instructor evaluations open.	
October 2016		
Saturday, October 1	Last day to submit an Undergraduate Application to Graduate in Fall 2016.	
Friday, October 7	Last day of Express I classes.	
Saturday, October 8	Storm Day Makeup (SD*)	
Monday, October 10	Express I final exams for M/W classes. Last day for students to submit incomplete undergraduate coursework to faculty for any Summer 2016 session (Summer 60 Day Deadline). Change of grade form to be submitted by faculty.	
Tuesday, October 11	Express I final exams for T/R classes. Full semester Mid Term and Express I final grading open to faculty. Fall 2016 Express I course-instructor evaluations close at midnight.	
Wednesday, October 12	Express II classes begin. DA (Deletion from the Grade Roll) form may now be submitted by faculty for Express II classes.	

Friday, October 14	Last day of Drop/Add for Express II classes. Last day for students to submit a request to Audit or apply for a Pass/Fail grade option for an Express II class.
Monday, October 17	Undergraduate missing and incomplete grades for all Summer 2016 sessions convert to a grade of "F".
Tuesday, October 18	Departmental Chairs' SZAAREG Deadline for Express II.
Friday, October 21	Mid Term and Express I grades due at noon. Full semester Mid Term grades and Express I final grades available to students on MyCharleston by this date at noon.
Thursday, October 27	Last day for students to withdraw with a grade of "W" from full semester classes.
Friday, October 28	WA (Withdrawal for Excessive Absences) form may now be submitted by faculty for full semester classes. Spring 2017 early registration begins based on earned hours. NOTE: Holds will prohibit students from being able to register. Students should settle holds with the office that placed the hold before their opportunity to register.
November 2016	
Monday, November 7	Fall Break. No classes.
Tuesday, November 8	Fall Break; Election Day. No classes. College Closed.
Wednesday, November 9	Classes resume.
Wednesday, November 16	Fall 2016 full semester and Express II course-instructor evaluations open. Last day for students to withdraw with a grade of "W" from Express II classes.
Thursday, November 17	WA (Withdrawal for Excessive Absences) form may now be submitted by faculty for Express II classes.
Wednesday, November 23	Thanksgiving Holiday. No Classes.
Thursday, November 24	Thanksgiving Holiday. No Classes. College Closed.
Friday, November 25	Thanksgiving Holiday. No Classes. College Closed.
Saturday, November 26	Thanksgiving Holiday. No Classes. College Closed.
Sunday, November 27	Thanksgiving Holiday. No Classes. College Closed.
December 2016	
Monday, December 5	Last day of full semester and Express II classes.
Tuesday, December 6	Reading Day (SD*)
Wednesday, December 7	Full semester and Express II final exams begin. Full semester and Express II grading open for faculty.
Wednesday, December 14	Full semester and Express II final exams end. Fall 2016 full semester and Express II course-instructor evaluations close.
Friday, December 16	Graduate missing and incomplete grades for Spring 2016 and Summer 2016 sessions convert to a grade of "F". Full semester and Express II final grades due at noon. Faculty must submit a Change of Grade form after that time. Final grades for full semester and Express II classes available to students on MyCharleston by 5pm.
Saturday, December 17	Fall 2016 Commencement.

Wednesday, December 21	Degrees will be posted.
February 2017	
Tuesday, February 14	Last day for students to submit incomplete undergraduate coursework to faculty for any Fall 2016 class (Fall 60 Day Deadline). Change of grade form to be submitted by faculty.
Tuesday, February 21	Undergraduate missing and incomplete grades for Fall 2016 sessions convert to a grade of "F".

*SD – Storm Day Makeup (no classes unless college deems necessary)
Last Revised: 05-23-2016

<http://registrar.cofc.edu/pdf/ac-2016fall.pdf>

THIS IS A VERY TENTATIVE SYLLABUS for CELL BIOLOGY, Biol-313-01 in Final 2016.

All notes PDFs of the lectures and the notes will be posted on OAKS, as well as any Voice Thread notes	
W Aug 24	First class. Brief Syllabus and Course information, plus Intro: a reminded of Biol-111 + major CB concepts READ CHAPTER 1, Intro notes
F Aug 26 Q1	Intro 2
M Aug 29	Intro 3 Biological related Chemistry 2.1
Last day for students to Drop/Add Fall 2016,	
W Aug 31	Biological related Chemistry cont. 2.1, 2.2, 2.3 BC note
F Sept 2 Q2	Protein structure 3.1, Protein note
M Sep 5	Protein domains + motifs 3.2
W Sep 7	Membrane Organization (Ch. 7) 7.1, Ch. 7 note
F Sep 9 Q3	Membrane Organization 2 7.1, 7.2

		Proteins within membranes	7.2, 7.3
M Sep	12	Proteins within membranes 2	7.2, 7.3
W Sep	14	Transport across membranes (Ch. 11)	11.1, 11.2, Ch. 11 note
F Sep	16 Q4	Transport across membranes 2	11.3, parts of: 11.4, 11.6
M Sep	19	Bioenergetics	3.3, Biogenergetics, enzymes, ATP notes
W Sep	21	Bioenergetics, ATP, Enzymes	Fig.3.34, Fig. 3.35
F Sep	23	Metabolism Chap 12, Glycolysis	12.1, Ch. 12 note
M Sep	26	EXAM 1 (Intro, Biological chemistry, Macromolecules, Proteins, Membranes (Ch. 7 and 11)).	
W Sep	28	Metabolism and Mitochondria	12.2
F Sep	30 Q5	Metabolism, Citric acid cycle / Krebs cycle	12.3
M Oct	3	Mitochondrial Electron transport chain	12.4
W Oct	5	Mitochondria ATP synthase	12.5
F Oct	7 Q6	Chloroplasts and photosynthesis	12.6, 12.7, PS note
M Oct	10	Chloroplasts and photosynthesis 2	12,7, 12.8
W Oct	12	Simple cell signaling/transduction	Chap 15*, note
F Oct	14 Q7	Simple cell signaling/transduction 2	Chap 16*, note
		More specific data will be given at that time.	
		DNA and Transcription	5.1, 5.2, DNA + TRANSCRIPTION note
		PORTFOLIO: DUE DATE IN CLASS.	
M Oct	17	Transcription 2	5.3
W Oct	19	Transcription 3 and Translation	5.4, TRANSLATION note
F Oct	21	EXAM 2 (Bioenergetics, metabolism, ATP, Enzymes Glycolysis, Citric acid cycle, Electron transport chain, Photosynthesis and signaling).	
M Oct	24	Translation 2	5.4
W Oct	26	Chapter 13, Moving Proteins into membranes and organelles	
F Oct	28 Q8	Endoplasmic reticulum, Signal hypothesis	13.1, Ch 13 note
M Oct	31	Endoplasmic reticulum 2	13.2, 13.3
W Nov	2	Chapter 13, Moving Proteins into membranes and organelles	
F Nov	4 Q9	Mitochondria, Chloroplasts	13.4
M Nov	7	Chloroplast 2 and peroxisomes	13.5
T Nov	8	Nucleus traffic	
W Nov	9	FALL BREAK	
F Nov	11 Q10	FALL BREAK AND ELECTION DAY	
M Nov	14	Nucleus traffic 2 and the Golgi apparatus	13.6, 14,1
W Nov	16	Golgi apparatus 2	14.2, 14.3, Golgi note
F Nov	18 Q11	Vesicle transport and secretion (Clathrin and lysosomes)	14.4, 14.5, 14.6
M Nov	21	Cytoskeleton-microfilaments	17.1, 17.2, Actin note
W Nov	28	Cytoskeleton-actin/microfilament dynamics	17.3, 17.4
M Nov	21	Cytoskeleton muscles	17.5, 17.7, 17.8
		Intermediate fil.	18.7, IF note
		Microtubules 1	18.1, 18.2, 18.3, MT note
		THANKSGIVING HOLIDAY W NOV 23 - SUN NOV 27.	
M Nov	28	Cytoskeleton-Microtubule dynamics, Kinesis and Dynein	18.3, 18.4, 18.5

W Nov 30	Mitosis-control of the cell cycle 18.6, MITOSIS note
F Dec 2	PORTFOLIO: DUE DATE IN CLASS. EXAM 3 (Transcription, translation, ER, Golgi, Actin and Microtubules)
N Dec 5 Q12?	(last class) Cell cycle 2 and extracellular matrix
S Dec 11	READING DAY 2 in HWWE 211, times to be determined by class vote.
M Dec 12	Final exam, 3 hours, covering everything we looked at in the last 3 months in HWWE 211

Exam Times	Wednesday Dec 7	Thursday Dec 8	Friday Dec 9	Saturday Dec 10	Sunday Dec 11	Monday Dec 12	Tuesday Dec 13	Wednesday Dec 14	
8:00am-11:00am	MWF 10:00am 10:30am	TR 9:25am 9:55am	MWF 7:30am	TR 8:00am 8:30am	Reading Day	MWF 8:00am 8:30am	TR 10:50am 11:20am	MWF 9:00am 9:30am	
12:00pm-3:00pm	MWF 12:00pm 12:30pm	TR 1:40pm 2:10pm	MWF 1:00pm 1:30pm	Math All 101,111, 120 Exams		MWF 11:00am 11:30am	TR 12:15pm 12:45pm	MWF/MW 2:00pm 2:30pm	
4:00pm-7:00pm	E	TR 7:05am	MWF/MW 4:00pm	H		Online Exams	F	TR 3:05pm 3:35pm 4:00pm	MWF 3:00pm 3:30pm MW 3:25pm
7:30pm-10:30pm	G	J	C	B			D	I	A

<http://registrar.cofc.edu/pdf/exam-schedule-fall2016.pdf>

We need to determine the best time for a reading 2 (?) review on Sun Dec 11th and the timing of the beginning of the final on Monday Dec 12th (suggested time: 8:30 am – 11:30 am so as to give you time to come to Harbor Walk)

EXTRA INFORMATION:

- I will post the class power point presentation as a PDF before each new topic/week. Chapter summary (notes) will be on OAKS in the Syllabus. Extra slides, not shown in the classroom, but can help in interpretation will be denoted by a ●. On occasions, I can add Voice Thread comments on demand.

YOU ARE RESPONSIBLE FOR ALL THE INFORMATION DISCUSSED IN THE FALL 2016 CELL BIOLOGY COURSE and POSTED ON OAKS FOR MATERIALS FOR QUIZ, EXAM AND FINAL TESTABLE MATERIAL.

- Use the textbook as a **reference** to confirm or explain what you have heard in the class and briefly looking at the NOTES comments and the class PDFs on OAKS before the class as it can certainly help in understanding the new day's information.

TIPS GIVEN FOR CELL BIOLOGY BIOL-313.01 TESTING:

1. To interpret scientific literature and learned knowledge, students are tested on their ability to understand and explain data and the associated methodologies, identifying the strengths and weaknesses in their studies, and then integrating these results to produce scholars.

2. Written exams will test the student's ability to apply the core principles of biology and cell biology learned in the lectures and discussions, here and in the past. Exam questions are designed to assess the extent of the student's knowledge of Cell Biology over time in the class with the idea that the learning process get easier over time to the final goal. The quizzes / exams will include: multiple choice, short answers, and fill-in-the-blank, label a diagram, and short essay questions.

- **To get higher grades, students need to be very proactive if they are struggling in this class. Talk with me in my office hours (F 9:30 – 12:30 pm) or setting an appointment by e-mail. I do not and cannot give specific extra credit to a particular student at the end of the class ... If I give an extra assignment to the class that is different but individual help at the end of the class is way too late.** If you are struggling, see me earlier than later. Alternatives: work with or talk with other students, ask questions, and always no panic.

- **How to do well in this course: Cell biology is a very complicated subject.** As most of you are seniors, it is expected you will work hard, come to class ON TIME, be both prepared and study effectively for exams and quizzes, ask questions etc. The amount of effort you put in this course depends on the balance of your other courses, your free time after your electronic toys (including cell phones) and how important Cell Biology will be in your future career. Medical research is +/- all cell and molecular knowledge and techniques, anything below an A-/B+ for a physician job is doubtful.... . My job is to give you the information and skills you need in an understandable format, and helping if something is not so clear, as some topics are clearly more complicated than normal so ask & see me (office hours) or by appointment (e-mail) for longer times.

- Use all the material and many of the animations and videos in the Lodish *et al* book (website, <http://bcs.whfreeman.com/lodish8e>) as well as everything detailed on OAKS. In addition, you can find free information on Cell Biology at <http://www.ncbi.nlm.nih.gov/books/> (currently this site has access to >480 free and previously published cell biology books, not the latest versions but still a lot of good information). As we have only 24 hours per day, you need to be very careful using the Internet as it consumes huge amounts of time, so obviously use when needed but think it more as a "reference" rather than a "textbook" i.e. look for specific topics.

- Also: it is very tempting to visit Wikipedia http://en.wikipedia.org/wiki/Main_Page, currently over 4,000,000 articles, and even though it is getting much better compared to its beginnings, use it as an initial summary, as it has even now some (serious) mistakes and it can also give you very erroneous facts, so be very careful. The trick to determine the real quality of a Wikipedia article is to see at the list of its references/ sources at the bottom of the page, if they look like peer-reviewed books, articles etc., you can trust them, but if not, look something else. For those you do not know a peer-reviewed article/journal it is defined as "the evaluation of creative/research work or performance BY OTHER PEOPLE IN THE SAME FIELD in order to maintain or enhance the quality of the work or performance in that field" http://www.linfo.org/peer_review.html.

BOTTOM LINE: do not simply trust internet information, in biology or elsewhere without doing some research first. ...

If you see a mistake in this syllabus, please let me know, thanks.
