

## Biology 313- Cell Biology class SYLLABUS, Fall 2017

**COURSE OBJECTIVES:** BIOL 313 Cell Biology (3). A study of the structural and functional correlates in cell biology. Topics include membrane specialization, cytoskeleton structure and function of cellular organelles, adhesion, motility, mitotic mechanisms, transport mechanisms, immunology, and energetics. Lectures three hours per week

*Prerequisite(S):* [BIOL 111/BIOL 111L](#), [BIOL 112/BIOL 112L](#), [BIOL 211/BIOL 211D](#); + Chemistry (1 year)

*Co-Requisite(S) Or Prerequisite(S):* [BIOL 305](#). [CHEM 232](#) can be substituted for [BIOL 211](#) and [BIOL 305](#), [MATH 250](#) or equivalent course in statistics or permission of instructor. *Courses:* Fall and Spring.

### Course Objectives and Learning Outcomes:

This course focuses on the structure and function of cells. Specific topics include cell metabolism, membrane organization, organelles, compartmentation, membrane trafficking, the cytoskeleton, cell division, and cell signaling.

### How to do well in this course:

Cell biology is a complicated subject.

Most of you are seniors and I will expect you to work hard, come to class prepared and study effectively for exams.

Attendance at lectures is required.

I will expand on topics beyond what is covered in the text and you will be responsible for this material.

Reading the text is required.

This is a detail-oriented course and you will not do well if you never read the book.

Lectures will make more sense if you read the text beforehand.

If you must miss lecture, get the notes from a friend or from the website.

Don't make the mistake of skipping lecture because you can get the notes to read just before the exam – it DOES NOT WORKS, **learning continually over time is the best strategy.**

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

### **YOU CAN EXPECT FROM ME:**

- To start and end class on time (10:30 – 11:20 am, M, W and F in HWWE 211) unless an emergency.
- 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 to 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 short cuts.
- 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 with me or even a series of meetings, either alone or with a friend or 2 or 3 students or e-mail questions, earlier rather than later, i.e. not later than the first exam. I have many requests for urgent help from students within the last two to three weeks before the end of the course begging for extra credit and the truth is that there is very little I can do to help these as it is simply way too late, as I have to give this extra credit to everyone in the course and even

~20 points have no effect, so please seek help ASAP.

### **I CAN EXPECT OF YOU:**

- To come to class on time (OK within 5 minutes late due to CARTA or rare times).
- To be attentive, engaged in class and ask many questions.
- To be ready for quizzes +/- every class.
- To respect others in the classroom, and adhere to the rules of the honor code.... i.e. NO CHEATING.
- To refrain from using cell phones during the class time for messages etc. but these cell phones, plus laptops or I-Pads will be used with Socrative classroom quizzes.
- To spend an **adequate amount of time** on the homework each week (for **every 1 hour** in class is equivalent to **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, it takes time .....
- To seek help when needed.
- To enjoy Biology and its fascinating interactions, not only in the classroom but for the rest of your life, if you really love Biology, you are already hooked.

**COURSE TIMES:** MONDAY, WEDNESDAY, FRIDAY; 10:30 – 11:20 AM in Harbor Walk in HWWE 211.

**LECTURES:** 8-23-2017 to 12-04-2017, first and last days, respectively.

**HOLIDAY DAYS:** **FALL BREAK:** Sun Oct. 15, 2017 – Tue Oct. 17, 2017,  
Classes resume: Wed. Oct. 18, 2016.

**THANKSGIVING:** Wed Nov. 22, 2017 – Sun Nov 26, 2017,  
Classes resume: Nov. 27, 2017.

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

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

**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](mailto:southgater@cofc.edu). I teach twelve hours in total, six hours in classes (BIOL-111 (SSMB) and BIOL-313 (HWWE)) and six hours at MUSC in two BIOL-313L laboratories and these 12 hours does not include extra time for lab. prep. lab. clean-up, buying life materials, grading (quizzes, exams, final, reports etc.), lecture prep. & quiz/exam preparations) and student questions / meetings etc., this means I am pretty busy.

**OFFICE HOURS:** Due to the time constrictions as listed above, and scattered parking arrangements (between HWWE and MUSC) my official office hours are Monday 11:20 am to 12:20 pm, Friday 11:20 – 12:20 pm in HWWE 308 but they can be changed to longer times, depending on my wife's schedule at CofC. / SSMB and other issues and if this happens, I will post this new information on OAKS. Other times can be before the BIOL-313L, by e-mail, or if these times are not good for your schedule, set up an appointment (via by e-mail; [southgater@cofc.edu](mailto:southgater@cofc.edu)) or even short questions after class/lab. sessions. This semester will be a bit crazier than normal because I teach in Harbor Walk and QF403 in the College of Pharmacy in MUSC and my wife teaches exclusively in SSMB and we have only one car .....

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

**POSSIBLE ALTERNATIVE TEXTS:**

[http://www.ncbi.nlm.nih.gov/books/NBK21475/?term=cell%20biology;](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:** will be found on My Charleston, OAKS, CONTENTS:

all are PDFs (due to space issues), + some Voice Thread videos, communications notes, notices, YouTube videos etc. and Socrative for class quizzes and OAKS quizzes etc. (see below). Socrative will be explained below. **You are, therefore, responsible for ALL the information on OAKS/hand-outs/videos questions etc. in the Fall 2017 cell biology class, which will be the basis for its quizzes, exams and final questions for your final grade.**

- **QUIZZES:** There will be one planned quiz per week, either using socrative app. or a paper quiz in the class room on random weekdays or an OAKS home weekend assignments for 10 point per quiz = 5 questions, i.e. 10 points per week x 10 weeks → total grade: 100 points. There will be also be non-graded quiz question in most classes. I also retain my right to modify the one quiz per week to 2 or even three quizzes per week if the class attendance drops to low. Changes from 1 to 2 quizzes per week will only happen if the class is only 80% of the class list over a week and 70% for three quizzes per week in class .... I obviously do not want to do this and I assume you don't want this either but attendance is important for you your success (described more below in Attendance Policy below). **Do not look this as a punishment either since those in the classroom will earn more points compared to the non-present students ... and do not worry if you cannot come to class due proven illness or other situation (shown below in attendance policy) so the extra quizzes are simply due to students you decide to not participate in the class and in these situations, I always side on the students who are in class.**

- **EXAMS:** There will be 3, 125 point exams in the semester (F, Sep. 22; M, Oct 23 and F, Dec 1, 2017).

- **CUMULATIVE FINAL:** 175 points, 3 hours max. Friday Dec 8, 2017 in HWWE 211 starting at either 8:15 or 8:30 am (to be decided by student democratic vote). <http://registrar.cofc.edu/calendars/#FES>

- **CLASS POWER POINTS:** As we have ~26 students in this class, there will be 10 short, ~10-minute review power points, one per week on Mondays for 10 weeks on various Cell Biology themes that are either rarely not shown in details in the class's schedule, or a short summary of a presented Cell Biology topic with new images as teams of two or three students. This means each student in the class will talk for a few minutes before the class. Each presentation will be worth 25 points, mainly on the presentation itself and the 2 to 3 presenting students will create a two-page summary of the talk and the biological theme in question (Ariel, font 12, double-spaced, worth 25 points).

**SUMMARY:** QUIZ: 10 @ 10 questions, total: 10 X 10 = 100 points (plus potentially more....).

• EXAM: 3 X 125 points = 375 points, FINAL: 150 points, Power Point Presentation: 50 points.

**TOTAL: 100 + 375 + 175 + 50 = 700 POINTS.**

Your **FINAL GRADE** is determined as a **percentage (%)** of your totally collected correct points of a maximum of 600 points. So a minimal A grade would be 92.9 % out of 100% etc. So 92.8% = an A-.

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 semester, there are several students who NEVER pick up ANY of their exams, and they have no clue what their overall grade is. You can discuss with me about your exam in the office hours, after lab. or by appointment via e- mail.

Quizzes will be 100 / 700 points i.e. ~14.3 % of the total grade.

3 Exams will be 300 / 700 points i.e. ~42.9 % or 14.3 % for each exam of the total grade.

Cumulative final will be 150 / 700 points i.e. ~25 % of the total grade.

The power point presentations will be 50 / 700 points i.e. ~7.1 % of the total grade.

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

**SOCRATIVE INSTRUCTIONS:** My Socrative #room number is **360792** 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/>;

**OAKS** information will be in "Content" that contains pdf copies of class lectures, class notes as well as occasional voice thread and many 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/tlftutorials/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 the CofC's 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 2017 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 schedules, just as if you were 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 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 but to be sure, attendance checks will be frequent by Socratic. **Any athletics in the Cell Biology class have to show me their official schedule if you are away on that class and if not they will be labeled as non-excused.**

I will take random attendance throughout the semester and the weekly class 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(s)**, 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://facultysenate.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/>

**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.

The College of Charleston's Calendar for Fall 2017. <http://registrar.cofc.edu/pdf/ac-2017fall.pdf>

<b>Fall 2017 Academic Calendar</b>	
<b>Dates in this calendar are subject to change without notice.</b>	
<b>August 2017</b>	
August 18-19	Residence halls open. Move in date and time is based on the residence hall.
Monday, August 21	New Student Convocation.
<b>Tuesday, August 22</b>	<b>Fall full semester and Express I classes begin.</b>
Thursday, August 24	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.
Friday, August 25	Departmental Chairs' SZAAREG Deadline for Express I.
<b>Monday, August 28</b>	<b>Last day of Drop/Add for full semester classes.</b> Last day for students to submit a request to Audit or apply for a Pass/Fail grade option full semester classes.
August 29-30	Senior Citizen Registration
Thursday, August 31	Departmental Chairs' SZAAREG Deadline for full semester.
<b>September 2017</b>	
<b>Tuesday, September 5</b>	<b>Attendance Verification for faculty opens in MyCharleston via Final Grades.</b>
Wednesday, September 6	Last day for faculty to submit Undergraduate Individual Enrollment & Bachelor's Essay applications to the Registrar's Office for all full semester, Express I & Express II classes.
<b>Tuesday, September 12</b>	<b>Attendance Verification for faculty closes at noon.</b>
Wednesday, September 20	Last day for students to withdraw with a grade of "W" from Express I classes.
Thursday, September 21	WA (Withdrawal for Excessive Absences) form may now be submitted by faculty for Express I classes.
<b>October 2017</b>	
Sunday, October 1	Last day to submit an Undergraduate Application to Graduate in Fall 2017.
Friday, October 6	Last day of Express I classes.
<b>Saturday, October 7</b>	<b>Storm Day Makeup (SD*)</b>
Monday, October 9	Express I final exams for M/W classes. Last day for students to submit incomplete undergraduate coursework to faculty for any Summer 2017 session (Summer 60 Day Deadline). Change of grade form to be submitted by faculty.
<b>Tuesday, October 10</b>	Express I final exams for T/R classes. <b>Full semester Mid Term and Express I final grading open to faculty.</b>
Wednesday, October 11	Express II classes begin. DA (Deletion from the Grade Roll) form may now be submitted by faculty for Express II classes.
Friday, October 13	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.
<b>Monday, October 16</b>	Undergraduate missing and incomplete grades for all Summer 2017 sessions convert to a grade of "F".

	<b>Fall Break (SD*)</b>
<b>Tuesday, October 17</b>	<b>Fall Break (SD*)</b>
<b>Wednesday, October 18</b>	<b>Classes resume.</b>
	Departmental Chairs' SZAAREG Deadline for Express II.
<b>Friday, October 20</b>	<b>Mid Term and Express I grades due at noon.</b>
<b>Saturday, October 21</b>	<b>Full semester Mid Term and Express I final grades available to students on MyCharleston by this date.</b>
<b>Thursday, October 26</b>	<b>Last day for students to withdraw with a grade of "W" from full semester classes.</b>
<b>Friday, October 27</b>	<b>WA (Withdrawal for Excessive Absences) form may now be submitted by faculty for full semester classes.</b>
	Spring 2018 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.
<b>November 2017</b>	
Tuesday, November 14	Last day for students to withdraw with a grade of "W" from Express II classes.
Wednesday, November 15	WA (Withdrawal for Excessive Absences) form may now be submitted by faculty for Express II classes.
<b>Wednesday, November 22</b>	<b>Thanksgiving Holiday. No Classes.</b>
<b>Thursday, November 23</b>	<b>Thanksgiving Holiday. No Classes. College Closed.</b>
<b>Friday, November 24</b>	<b>Thanksgiving Holiday. No Classes. College Closed.</b>
<b>Saturday, November 25</b>	<b>Thanksgiving Holiday. No Classes. College Closed.</b>
<b>Sunday, November 26</b>	<b>Thanksgiving Holiday. No Classes. College Closed.</b>
<b>December 2017</b>	
<b>Monday, December 4</b>	<b>Last day of full semester and Express II classes.</b>
<b>Tuesday, December 5</b>	<b>Reading Day (SD*)</b>
<b>Wednesday, December 6</b>	<b>Full semester and Express II final exams begin.</b>
	<b>Full semester and Express II grading open for faculty.</b>
<b>Wednesday, December 13</b>	<b>Full semester and Express II final exams end.</b>
Friday, December 15	Graduate missing and incomplete grades for Spring 2017 and Summer 2017 sessions convert to a grade of "F".
	<b>Full semester and Express II final grades due at noon. Faculty must submit a Change of Grade form after that time.</b>
	Final grades for full semester and Express II classes available to students on MyCharleston by 5pm.
<b>Saturday, December 16</b>	<b>Fall 2017 Commencement.</b>
<b>Thursday, December 21</b>	<b>Degrees will be posted.</b>
<b>February 2018</b>	
<b>Wednesday, February 13</b>	<b>Last day for students to submit incomplete undergraduate coursework to faculty for any Fall 2017 class (Fall 60 Day Deadline). Change of grade form to be submitted by</b>
<b>Wednesday, February 20</b>	<b>Undergraduate missing and incomplete grades for Fall 2017 sessions convert to a grade of "F".</b>

\*SD – Storm Day Makeup (no classes unless college deems necessary); Last Revised: 05-23-2017



The Fall 2017 exam schedule <http://registrar.cofc.edu/pdf/exam-schedule-fall2017.pdf>

### Fall 2017 Exam Schedule

Exam Times	Wednesday Dec 6	Thursday Dec 7	Friday Dec 8	Saturday Dec 9	Sunday Dec 10	Monday Dec 11	Tuesday Dec 12	Wednesday Dec 13
8:00am-11:00am	MWF 7:30am	TR 9:25am 9:55am	MWF 10:00am 10:30am	TR 8:00am 8:30am	<b>Reading Day</b>	Math All 101,111, Exams	TR 10:50a m 11:20am	MWF 9:00am 9:30am
12:00pm-3:00pm	MWF 8:00am 8:30am	TR 7:05am	MWF/MW 2:00pm 2:30pm	MWF 1:00pm 1:30pm		MWF 11:00am 11:30am	TR 12:15p m 12:45pm	MWF 12:00pm 12:30pm
4:00pm-7:00pm	E	TR 1:40p m 2:10p m	MWF/MW 4:00pm	H	Online Exams	F	TR 3:05p m 3:35p m	MWF 3:00pm 3:30pm MW 3:25pm
7:30pm-10:30pm	G	J	C	B		D	I	A

**DAY CLASSES:** Exams are in regular classrooms. Departmental exams are announced through the faculty and academic departments. All students are to check with their professors for exam dates and times. Time of class determines exam time, according to block above where class time is positioned.

**Example:** Classes that meet MWF at 10:00am have exams on Friday, Dec. 8 from 8:00am-11:00am.

**NOTE:** Examinations must be taken at the time scheduled. For exceptions to this rule, please refer to the Final Examinations section of the academic catalog. Forms for permission to reschedule one exam are located on the Student Academic Forms channel on the Academic Services tab in MyCharleston.



**THIS IS A VERY TENTATIVE SYLLABUS for CELL BIOLOGY, Biol-313-01 in Final 2017.**

All notes PDFs of the lectures and the notes will be posted on OAKS, as well as any Voice Thread notes			
W	Aug	23	First class. Brief Syllabus and Course information, plus Intro: a reminded of Biol-111 + major CB concepts
F	Aug	25	Intro 2, READ CHAPTER 1, Intro notes, Friday quiz on basic 111 CB, <span style="float: right;">Quiz 1A</span>
M	Aug	28	Biological related Chemistry <span style="float: right;">2.1</span> <b>Last day for students to Drop/Add Fall 2017,</b>
W	Aug	30	Biological related Chemistry cont. <span style="float: right;">Quiz 2A</span> Basic macromolecules <span style="float: right;">2.1,2.2,2.3, BC note</span>
F	Sept	1	Protein structure, first <span style="float: right;">3.1, Protein note</span>
M	Sept	4	Protein domains + motifs <span style="float: right;">3.2</span>
W	Sept	6	Membrane Organization, <span style="float: right;">7.1, Ch. 7 note</span>
F	Sept	8	Membrane Organization 2, <span style="float: right;">7.1, 7.2</span> Proteins within membranes, <span style="float: right;">7.2, 7.3</span>
M	Sept	11	Proteins within membranes 2 <span style="float: right;">7.2, 7.3</span> Transport across membranes, Ch.11 <span style="float: right;">11.1, 11.2, Ch. 11 note</span>
W	Sept	13	Transport across membranes 2 <span style="float: right;">11.3, 11.4, 11.6</span>
F	Sept	15	Bioenergetics, enzymes, <span style="float: right;">3.3, ATP notes</span>
M	Sep	18	Bioenergetics, ATP, Enzymes <span style="float: right;">Fig.3.3, Fig. 3.35</span>
W	Sep	20	Metabolism Chap 12, Glycolysis <span style="float: right;">2.1, Ch. 12 note</span>
F	Sept	22	<b>EXAM 1 (Intro, Biological chemistry, Macromolecules, Proteins, and Membranes (Ch. 7 and 11)).</b> <span style="float: right;">No quiz</span>
M	Sept	25	Metabolism and Mitochondria <span style="float: right;">12.1, 12.2</span>
W	Sept	27	Metabolism, Citric acid cycle / Krebs cycle <span style="float: right;">12.3</span>
F	Sept	29	Mitochondrial Electron transport chain <span style="float: right;">12.4</span>
M	Oct	2	Mitochondria ATP synthase <span style="float: right;">12.5</span>
W	Oct	4	Chloroplasts and photosynthesis <span style="float: right;">12.6, 12.7, PS note</span>
F	Oct	6	Chloroplasts and photosynthesis 2 <span style="float: right;">12,7, 12.8</span>
M	Oct	9	Simple cell signaling/transduction <span style="float: right;">Chap 15*, note</span>
W	Oct	11	Simple cell signaling/transduction 2 <span style="float: right;">Chap 16*, note</span>
F	Oct	13	More specific data will be given at that time. DNA and Transcription <span style="float: right;">5.1, 5.2, DNA + TRANSCRIPTION note</span>
M	Oct	16	<b>No class due to short Spring break.</b>
W	Oct	18	Transcription 2 <span style="float: right;">5.3</span>
F	Oct	20	Transcription 3 and Translation <span style="float: right;">5.4, TRANSLATION note</span> <span style="float: right;">Quiz 8A</span>
M	Oct	23	<b>EXAM 2 (Bioenergetics, metabolism, ATP, Enzymes, Glycolysis, Citric acid cycle, Electron transport chain, Photosynthesis and signaling).</b>
W	Oct	25	Translation 2 <span style="float: right;">5.4</span>
F	Oct	27	Moving Proteins into membranes and organelles Endoplasmic reticulum, Signal hypothesis <span style="float: right;">13.1, Ch 13 note</span> <span style="float: right;">No quiz</span>
M	Oct	30	Endoplasmic reticulum 2 <span style="float: right;">13.2, 13.3</span> Moving Proteins → into membranes/organelles: Mitochondria, Chloroplasts, <span style="float: right;">13.4,</span>
W	Nov	1	Chloroplast 2 and peroxisomes <span style="float: right;">13.5</span>
F	Nov	3	Nucleus traffic <span style="float: right;">13.6</span>
M	Nov	6	Nucleus traffic 2 and the Golgi apparatus <span style="float: right;">13.6, 14,1</span>
W	Nov	8	Golgi apparatus 2 <span style="float: right;">14.2, 14.3, Golgi note</span>
F	Nov	10	Vesicle transport and secretion (Clathrin and lysosomes) <span style="float: right;">14.4, 14.5, 14.6</span> <span style="float: right;">Quiz 10A</span>

M	Nov 13	Cytoskeleton-microfilaments	17.1, 17.2, Actin note	
W	Nov 15	Cytoskeleton-actin/microfilament dynamics	17.3, 17.4	Quiz 11A
F	Nov 17	Cytoskeleton muscles	17.5, 17.7, 17.8	
M	Nov 20	Intermediate filaments Microtubules 1	18.7, IF note 18.1, 18.2, 18.3, MT note	
<b>THANKSGIVING HOLIDAY W NOV 22 – SUN NOV 26.</b>				
M	Nov 27	Kinesis, Dynein, Cilia, Flagella	18.3, 18.4, 18.5	
W	Nov 29	Cilia and Flagella		
F	Dec 1	<b>EXAM 3 (Transcription, translation, ER, Golgi, Actin and Microtubules).</b>		
M	Dec 4	LAST CLASS, extracellular matrix	----- THE END -----	
T	Dec 5	READING DAY 2 in HWWE 211, times to be determined by class vote and getting permission to use the classroom.		
F	Dec 8	Final exam, 3 hours, covering everything we looked at in the last 3 months in HWWE 211, starting at either 8:15 or 8:30 am, depending on a class vote.		

**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 2017 CELL BIOLOGY COURSE POSTED ON OAKS FOR MATERIALS FOR QUIZ, EXAM & FINAL TESTABLE MATERIALS**
  - 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.
  - **If you see a mistake in this syllabus, please let me know, thanks.**
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