<table>
<thead>
<tr>
<th>Lecture</th>
<th>Date</th>
<th>Title</th>
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| 1       | Jan 12<sup>th</sup>-Tues | Tools of Cell Biology  
Overview, Methods, and Experimental strategies. |
| 2       | Jan 14<sup>th</sup>, Thurs | Intracellular protein trafficking  
Membrane structure & Pulse chase experiments |
| 3       | Jan 19, Tues | Signal hypothesis: Protein Translocation into ER  
Protein targeting II & peroxisomes |
| 4       | Jan 21, Thurs | QUIZ #1—10 pts  
Core glycosylation |
| 5       | Jan 26<sup>th</sup>, Tues | ER quality control & the unfolded protein response  
Endocytosis and high cholesterol I  
Cholesterol regulation II |
| 6       | Feb 2<sup>nd</sup>-Tues | ER to golgi & retrieval mechanisms with KDEL  
The cellular powerhouse: Mitochondrial cell biology and disease. |
| 7       | Feb 4<sup>th</sup>, Thurs | Holding it all together: Cell Junctions  
Intermediate Filaments: Structure & dynamics  
Intermediate filaments & Disease. |
| 8       | Feb 9<sup>th</sup>, Tues | Polymer assembly and disassembly: a comparison of three polymer systems  
Actin and motility –  
(Muscle contraction and myosin motors – assigned reading)  
Myosin and motility  
Myosin regulation, melanocytes, & cargo attachment |
| 9       | Feb 11<sup>th</sup>, Thurs | QUIZ #2--- 20 pts  
Spring Break!!  
Enjoy the sunshine!!  
Microtubules I  
Structure, assembly, dynamics, and length regulation  
Microtubule-dependent motor proteins:  
Dynein & Kinesins  
Axonal Transport & motor proteins  
Mitosis I- Mitotic Spindle Structure & centrosomes |
| 10      | Feb 16<sup>th</sup>, Tues | EXAM#1----open book open note.  
Writing Assignments due for Graduate Students— |
| 11      | Feb 18<sup>th</sup>, Thurs | QUIZ #3--- 30 pts  
Spring Break!!  
Enjoy the sunshine!!  
Microtubules I  
Structure, assembly, dynamics, and length regulation  
Microtubule-dependent motor proteins:  
Dynein & Kinesins  
Axonal Transport & motor proteins  
Mitosis I- Mitotic Spindle Structure & centrosomes  
Writing Assignments due for Graduate Students— |
| 12      | Feb 23<sup>rd</sup>-Tues | QUIZ #4—40 pts  
Writing Assignments due for Graduate Students— |
<p>| 13      | March 1&lt;sup&gt;st&lt;/sup&gt;-Tues | EXAM #2-- open book open note— |</p>
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>April 25th</td>
<td>The Spindle Assembly checkpoint and the proteasome</td>
</tr>
<tr>
<td>April 26th</td>
<td>Spindle assembly checkpoint --the experiments</td>
</tr>
<tr>
<td>April 27th</td>
<td>Cell cycle: CDK regulation &amp; cyclin degradation</td>
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<tr>
<td>April 28th</td>
<td>Apoptosis I: A struggle between life and death</td>
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<td>April 29th</td>
<td>Apoptosis II: a long slow death--the experiments</td>
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<tr>
<td>April 30th</td>
<td>Cell cycle and Cancer: Cell cycle &amp; p53, the tumor suppressor</td>
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<tr>
<td>May 2nd-6th</td>
<td>Final EXAMs—Exam #3</td>
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</tbody>
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**INSTRUCTOR AND COURSE DIRECTOR:**

Rita K. Miller, Ph.D.
Phone: 405-744-7732
Email: rita.miller@okstate.edu
Class meets 12:30pm-1:45pm in room 348 of Noble Research Center
Office hours: 10:15am to 11:15 am, CST in OK. Monday & Wednesday. I am available via Skype during office hours by appointment. Email me to set up a Skype Appointment. Otherwise, please phone.
Office: 248 Noble Research Center

**Inquiries:**

**Email:** I will reply to email inquiries within 48 hours from Monday through Friday at 5pm -- Central Standard Time (ČST), Oklahoma time. On Saturday and Sunday, I will reply as soon as I am able. You are free to email me on the weekend, but I may not be able to reply until Monday morning, depending on my weekend commitments. If you are able to attend the scheduled office hours, No worries! Please email me for an appointment at another time. It may work best if you suggest three possible times, if none of these work for me, then I will suggest several alternative times for you to choose from. **Please put BIOC4523-O in the subject line of your email.**

Skype is an effective method of long distance communication. I encourage you to set up a Skype account now so that you may visit me by Skype meetings/office hours. My Skype user name is ProfessorRMiller. This requires that your computer have a built in webcam or that you have an external webcam. These are worth the investment. I am happy to have Skype conversations to answers questions.

**A guide for navigating this course:**

The basic layout of this course is found on the D2L website at Oklahoma State University. The URL is: https://oc.okstate.edu. **After you login using your OKEY password and email address,** this BIOC4523 course should be listed under the MY COURSES banner. Click on BIOC4523-spring Semester. Then Click on the Course Home pull down menu.

**Lectures—videos of the lectures** are posted under the Content menu for this BIOC4523 course. There are 30 lectures for this course. (Two of the lectures will be taken up by “in class” exams.) The lecture slides are posted as a PDF file on the D2L website. The course is designed for you to download the lecture notes before you come and participate at the lectures. It is highly recommended that you highlight and take notes on the Handouts while listening to the lectures.

**Assigned reading--** Assigned research papers and reviews are posted as PDFs under the corresponding lecture, which is found under the “content” pull-down menu. Assigned textbook reading and other assigned reading are listed on the second slide of the Lecture Handouts.
Grades --will be posted on the Grades pull down menu.

Quizzes —Homework and Quizzes will be posted under the Quizzes pull-down menu.

Dropbox—will be where you upload your assignments, and term papers will be delivered to the Professor.

Discussion- The Discussion menu will be used to answer questions / review sessions prior to exams.

BIOC 4523, Schedule  Spring, 2016

RECOMMENDED AND ASSIGNED READINGS
Both primary scientific literature and review articles will be assigned as reading. References will be provided for each lecture topic. Additional references for each lecture topic will be provided on the powerpoint slides/handouts. Each list will contain articles discussed in detail in class, as well as those useful for background or further reading. Because research articles are sometimes more detailed than the points we wish to convey in lecture, papers should previewed before the lecture and reviewed again carefully after they are discussed in lecture.

Criteria for student participation and grading:

COURSE GRADE:
Exams: All exams are open note, open book. But no phones, tablets, computers, or electronic devices are allowed in exams.
Weekly Online Lecture “Quick Quizzes” – are open book, open note. You have 30 minutes to complete these online quizzes. The online quizzes must be completed by 5pm of the Saturday after the weeks’s two lectures. Alternatively Quick Quizzes may be given at the end of class periods, as “pop quizzes” at the instructors discretion. This weekly quiz schedule is designed to provide you with an incentive for “keeping up” and attending scheduled classes.

“In class” Quizzes are CLOSED note, CLOSED book.
Homework is open lecture note.

There will be occasional homework assigned, which will consist of designing an experiment to answer a particular cell biological question. Homework is for your benefit, and will not be a large part of the final grade.

Each week there will be two online weekly quizzes with questions about that lecture (5 points each x 30 lectures = ~150 pts). There will be four closed note in-class quizzes (100 points total) AND three examinations (100 points each x 3 = 300 total points). Two of these are the hourlie examinations and the third is the comprehensive final. The combined average of these scores will be used to compute the final grade. The examinations will cover the lecture material and the readings discussed in detail in class. If for any reason you miss an hourly exam, the final will count double. If you feel a mistake has been made in grading your exam, then notify the instructor with a written note no later than one week after the exam has been reviewed. Exam grades will not be changed after this period. No ‘make-up’ exams will be given.

Undergraduates: Exams and quizzes and homework will constitute the entire grade.
Graduate students: Together the exams and quizzes and homework will constitute 550 points of the final grade. The writing assignment is 200 points of the final grade.

Academic Honesty:
Writing assignments will be the original work of the student and exclusively prepared for this class, unless express written and prior permission is granted by the instructor. Accurate citations and referencing will count towards one’s final grade. One is expected to write using one’s original words. “Cutting and Pasting” sections of your writing assignment from published work will result in disciplinary action.
Oklahoma State University is committed to the maintenance of the highest standards of integrity and ethical conduct of its members. This level of ethical behavior and integrity will be maintained in this course. Participating in a behavior that violates academic integrity (e.g., unauthorized collaboration, plagiarism, multiple submissions, cheating on examinations, fabricating information, helping another person cheat, unauthorized advance access to examinations, altering or destroying the work of others, and fraudulently altering academic records) will result in your being sanctioned. Violations may subject you to disciplinary action including the following: receiving a failing grade on an assignment, examination or course, receiving a notation of a violation of academic integrity on your transcript (F!), and being suspended from the University. You have the right to appeal the charge. Contact the Office of Academic Affairs, 101 Whitehurst, 405-744-5627, academicintegrity.okstate.edu.

OSU’s Syllabus attachment for Spring 2015 also has important information. It is found in lecture #1 uploads on D2L.