1-4-2021: Done! Please let me know if you see any errors or have any questions!

Syllabus – Spring 2021

BIOLOGY 112 sec. 03: Evolution, Form & Function of Organisms (CRN 20108)

MWF 11:00 a.m. - 11:50 a.m., RITA 101 (class meets in person on Mon. & Wed. - please email Prof. Janech to request your day - those lectures can also be accessed live and via recording on Zoom - and Fri. lectures will be on Voice Thread)

INSTRUCTOR:
Mrs. Kathleen E. Janech, M.S.
janechk@cofc.edu
(email is the best way to reach me – please make sure to use your CofC email only!) I do my best to reply the same day if the email is received before 5 p.m., but I do not check my emails after 5 p.m. or over the weekend. Also, please include your course number and section number, and don’t email my husband by mistake!

OFFICE LOCATION (but working mostly from home this semester): 65 Coming St., Rm. 214 (I am on the second floor of this little beige house, just across Coming St. from the loading dock area of RITA).

STUDENT HOURS (drop-in on Zoom): Wednesdays 2 p.m. - 3 p.m. EST.
(access from the links in the calendar on the OAKS course page) or email me to set up another time that works for you. These are optional, and feel free to drop-in at any time during the hour, and stay for only as long as you need to. These will NOT be recorded. Please attend, introduce yourself and ask questions! I am here to help!

Course Description
This course is intended to be a foundation course for science majors, providing an introduction to evolution, plant form, function, and basic physiology, and animal form, function and basic physiology.

Supplemental Instruction (SI):
Supplemental Instruction, or SI, is a collaborative, peer-assisted group study session, led by a student who has previously successfully completed the course. The SI leader helps students, in weekly sessions outside of class, to develop strategies in order to successfully master the material. More info. can be found at http://csl.cofc.edu/?referrer=webcluster& The SI instructor for this class is Hayley D’Alessandro (dalessandrohm@g.cofc.edu). Session times and locations will be announced during class. Attending at least one session each week is highly recommended.
**Prerequisites**

BIOL 111 and BIOL 111L are prerequisites to BIOL 112. You **MUST** have passed both to be in this class.

**Co-requisites**

BIOL 112 Laboratory – you **MUST** enroll in a lab section in addition to this lecture.

**Required Course Materials**

1. **Textbook:** *Biological Science* by Freeman, et al., 7th Edition (Pearson Publishers), with the 2 newts on the cover is the main textbook that I will be using. You can buy it (hardcover, loose-leaf version or digital), rent it, borrow it, or share it with a classmate - this semester you will also have access to all of the figures through the recorded Zoom lectures. I will TRY to also look at the Open Stax textbook that some of you used in Fall 2020 - I am slowly trying to incorporate it. Please let me know if you have any questions about this. Use the text and figures to preview and to reinforce what you are learning in class. There are self-quizzes that can be great study guides, as well as a variety of web links to help you understand the material. There is a lot of material to cover in this course, so keep up with the reading! **Course ID for the digital version is janech40642**

2. **Computer and online access:** All students must have access to a computer equipped with a web camera, microphone, and Internet access. **You will be required to download, install and use Respondus Lockdown Browser and Monitor for ALL quizzes and exams.** Prof. Janech will be providing further instructions about this. Resources are available to provide students with these essential tools if they need assistance - please let me know if you need help accessing those resources. Due to social distancing requirements, this class will include a variety of online and technology enhanced components to reinforce continuity of learning for all enrolled students, including recorded Zoom lectures.

Online access through MyCharleston to OAKS ([http://blogs.cofc.edu/oaks/students/getting-started/](http://blogs.cofc.edu/oaks/students/getting-started/)) and Voice Thread (through the OAKS course home page) will be essential. You also must regularly check your CofC email, since that is how I will send updates. A helpful website for all things technology at CofC is **Student Instructional Technology Services:** [http://blogs.cofc.edu/sits/](http://blogs.cofc.edu/sits/) The Remind app will also be used as a backup communication resource.

**Suggested Course Material**

The **Study Guide** for *Biological Science* by Freeman, 7th Edition, (Pearson Publishers). This is not required, but it is a paperback workbook that is usually available in the book store or to purchase online and is very helpful for many students - please let me know if you have any questions about this. The Mastering Biology website that goes with the text also offers additional resources.

**Center for Student Learning** – I encourage you to utilize the Center for Student Learning (CSL) and their academic support services for assistance with study strategies and course content. They offer tutoring, Supplemental Instruction, Study Skills appointments, and workshops that help students of all abilities become more successful throughout their academic career. Services are available to you at no additional cost. For more
Recording of Classes (via Zoom)

Class sessions on Mondays and Wednesdays will be recorded via both voice and video recording in order to facilitate class attendance with social distancing measures in place. Although I do not intend to video record anyone but myself, by attending and remaining in this class, you the student consent to potentially being recorded. Recorded class sessions are for instructional use only and may not be shared with anyone who is not enrolled in the class. Please let me know if you have any questions. Class sessions on Fridays will NOT be recorded, as they will consist of a Voice Thread lecture that you access on your own time.

Institutional Syllabus Statement Regarding the Spring 2021 Semester

The College of Charleston is committed to promoting the health and safety of our campus community. To that end, all faculty and students must abide by public health guidelines that include practicing social distancing in the classroom and elsewhere on campus, following signage indicating the entrance, exit, and traffic flow in and around campus buildings, wearing a mask or cloth face covering while in the presence of others, washing or sanitizing hands frequently, sanitizing individual and shared learning and work spaces, and staying home when sick. **These practices are mandatory.** Students will not be allowed to attend class without an appropriate face covering or when showing symptoms of illness.

Due to social distancing requirements, the number of students allowed in the classroom at one time is significantly reduced. As a result, most in-person courses will include a variety of online and technology enhanced components to ensure continuity of learning for each student throughout the semester. These strategies will vary by course section and students are advised to read each syllabus carefully. Faculty have planned each course to enable all students, whether they are in the classroom or working remotely, to be fully engaged in the learning experience. Before the drop/add deadline, students should decide whether the course plan on the syllabus matches their own circumstance. All faculty will use OAKS to facilitate student access to the course syllabus, course materials, and the gradebook. The College of Charleston’s standard grading system is in effect. **The expectation is that you will still attend class remotely via Zoom on the day that you are not physically present in class, AND that you will access all course material posted on Voice Thread in a timely manner as well.**

There is a possibility that the semester will be disrupted by weather or the pandemic. Every course syllabus will include a plan for a change in modality to ensure the continuity of learning in the event in-person classes must be suspended. Final exams will be administered online. Therefore, all students must have access to a computer equipped with a web camera, microphone, and Internet access. Resources are available to provide students with these essential tools.

The College anticipates that some members of the community will fall ill or test positive for the coronavirus, and then be required to quarantine thereby missing class, assignments, and assessments. Faculty are expected to provide reasonable accommodations as determined by the content, level, and expectations of their courses for students who become ill or indicate a need to isolate themselves. **Communication with the instructor will be essential so that alternate plans can be arranged, and it is imperative that, even if ill or in difficult circumstances, the student finds a way to communicate in a timely manner.** To the extent possible, arrangements will be made for students with COVID-19 related absences to continue in the class. Faculty are encouraged to make explicit in their syllabus what sorts of accommodations students can expect with respect to missed course meetings, assignments, and assessments. However, students should be aware that extended
absences for any reason cannot be accommodated in every course. Missed assignments and assessments may result in poor or failing grades. If a student is absent from class for an extended period, a withdrawal (W) before the deadline should be strongly considered. In all cases, assigning course grades is the responsibility of the instructor consistent with the grading policy published on the syllabus.

**Inclement Weather, College Closure, and the Class Schedule**

If the College of Charleston closes and members of the community are evacuated due to inclement weather or for any other reason, students are responsible for taking course materials with them in order to continue with course assignments consistent with instructions provided by faculty. In cases of extended periods of institution-wide closure where students have relocated, instructors may articulate a plan that allows for supplemental academic engagement despite these circumstances.

**Teaching Philosophy**

I encourage participation and interaction in my lectures and will do my best to create a fantastic learning environment. However, it is not all up to me. I depend on you, the student, to also take an active role in your education (after all, you pay to be here!) by challenging me with questions and participating. I will also help you discover learning resources available to you that will help you throughout your education.

**How to Take This Course**

*(with credit & thanks to, and in memory of, Dr. Conseula Francis)*

Any course, in any given semester, is a journey, often to a place you haven’t been before. You may be super excited about the trip, eager to get going and explore the sites. Or maybe you are here because you were told to take this course. Or maybe you are somewhere in-between. Imagine, if you will, that we’re all standing at the base of a mountain. We all have to decide how we’re going to climb it, and you alone can decide the manner of your exploration.

<table>
<thead>
<tr>
<th><strong>Day Hiker</strong></th>
<th><strong>Backpacker</strong></th>
<th><strong>Trailblazer</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>You’re sticking to the trail because you’re certain of where it goes. You want the basics - lists, order of processes, details to memorize. There is nothing wrong with this approach, especially if the material is new to you. A successful day hiker will take notes during class, read all related pages in the book after class, and review their notes at least twice a week. A day hiker may do well on quizzes, but they will have to dig a little deeper for exams to really understand the connections between all aspects of the material. They will use the resources at the Center for Student Learning (CSL), and be familiar with activities that can help them to incorporate Bloom’s</td>
<td>You’re ready to spend a few days on this mountain and you have supplies (already existing knowledge, interest, inclination) to help you. You have a grasp of the basics, and are ready to explore beyond them. Backpackers will hone their note-taking skills in class, read all related pages in the book both before and after class, and really spend time digesting all of the information that is contained in the figures in the textbook. They ask questions of the professor, either during student drop-in hours via Zoom or by email. Backpackers know that to succeed, they must approach with effort and learn and grow from their mistakes.</td>
<td>You are blazing your own way, finding new routes up the mountain and new connections between all aspects of the material, things others may not see. You are passionate about, and interested in, not only what and why, but also how does this connect to other things in the bigger picture? Trailblazers often use different colors when taking notes, and read more in the book than is required, because they really want to understand the whole picture. They study the figures and try to draw them on their own for recall practice and mastery. They ask questions and spend a lot of time with the material. For trailblazers, this course is part of the expedition to discover all that science has to offer.</td>
</tr>
</tbody>
</table>
No matter which path you choose, remember that all explorers need to do their best to limit outside distractions. Yes, life happens, and the current situation with coronavirus is challenging, but really try to give your brain the gifts of time and focus - try to find a good work space & a routine that works for you.

**Course Policies and Requirements**

**Accommodations**

Any student in this class who has a documented disability should speak to me as soon as possible, as well as contact the Center for Disability Services (CDS/SNAP program), located on the first floor of the Lightsey Center, Suite 104, (843) 953-1431, SNAP@cofc.edu

**Class Delivery Format**

Due to the coronavirus pandemic and personal scheduling issues, the format of this course will consist of in-person, synchronous, live lectures (simultaneously recorded on Zoom and posted later for additional access) on Mondays and Wednesdays, and posted Voice Thread lectures on Fridays that students can access on their own asynchronously. This course will require you to develop and practice skills such as self-motivation, self-discipline, and organization. Some students are under the impression that classes taught this way are easier than traditional face-to-face classes. This is not true. In fact, this course might be more challenging for you, since you have to keep up with live lectures, as well as Voice Thread lectures, on your own. You should be prepared to spend a minimum of 2 hours each Monday, Wednesday and Friday reviewing course material. It is critical that you complete work for this class each day and each week and do not let it pile up.

You must have regular access to a computer with a reliable high-speed internet connection and computer with a microphone and/or web-cam throughout the duration of this course. Computer failure/unavailability does not constitute an excuse for not completing work by the due dates. Please do NOT wait until the last minute to complete work / look at Zoom recordings or Voice Threads / take online quizzes and exams.

This class will be administered through OAKS, the College of Charleston’s learning management system. To access OAKS go to [http://my.cofc.edu](http://my.cofc.edu) and login to My Charleston. The OAKS icon is the acorn located in the upper righthand corner of the screen.
I expect you to regularly login to OAKS to complete lecture videos and Voice Threads, look for course updates (in the News section on the course homepage), complete quizzes, etc. Please also check your email regularly as I will send e-mail updates to the class through OAKS to update you on class events and assignments.

If you are someone who feels uncomfortable with technology, the College offers a number of resources to help you develop your technological competency, in general, but specifically within the context of this online class. Visit http://blogs.cofc.edu/studentreadinessforonlinelearning/ to access those resources. And, if you experience technological problems during the class, please contact me immediately at janechk@cofc.edu.

**Class Attendance**

You are expected to attend all of your assigned meetings of the class, either in-person, remotely via Zoom, or by Voice Thread. Students are responsible for **getting their own notes from a classmate and/or from the recorded Zoom lectures, which will be posted on OAKS**, for any class missed. Exams will be based almost entirely on lectures with the text used for background information and reinforcement. **You will not do well in this course if you miss lectures, including those posted on Voice Thread. This material is challenging and requires work on your part for success!**

**Assignment**

One homework assignment will be assigned during the last half of the semester. This assignment is intended to reinforce material covered in class and to encourage critical thinking. It will require you to seek information from sources outside of class and in addition to your textbook. Due date is given on the course calendar below. **Because of the assignment and other REAL opportunities to EARN credit in this course, I do not offer any extra credit projects.** All students are expected to turn in their INDEPENDENTLY COMPLETED assignment by 11:30 p.m. on the date scheduled. An assignment will lose one full letter grade for every day of delay. You should hold onto all graded assignments until the final grade has been turned in.

**Honor Code**

Students are required to adhere to the guidelines of the Honor System, consisting of the Honor Code and Code of Conduct. These are outlined on the following website: https://deanofstudents.cofc.edu/honor-system/faculty-guide.php

Further information on the expectations of Academic Integrity with regards to the Honor Code can be found in the student handbook, beginning with section 5 on p. 42: https://deanofstudents.cofc.edu/honor-system/studenthandbook/student-handbook-2020-2021-8.27.20.pdf

**Lying, cheating, attempted cheating, stealing and attempted stealing will not be tolerated in this course.** All work that you turn in for this course (whether for assignments, quizzes, or exams) must be your own independent scholarship. **Students should be aware that unauthorized collaboration—working together without permission—is a form of cheating; this includes collaborating with classmates or other individuals on online quizzes or exams.** Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others’ exams, fabricating data, and giving unauthorized assistance. Any form of plagiarism (intentional and unintentional), cheating, or presenting someone else's work as one's own will be treated as a serious academic transgression and will be communicated accordingly by the instructor as an honor code violation to Student Affairs. Be especially cautious of plagiarism when using Internet sources. **Cheating, attempted cheating, or plagiarism will result in a grade of zero on that assignment, quiz or exam and may result in a final overall grade of F or XXF (failure due to academic dishonesty) for the course.**
Quizzes
Several short quizzes will be given throughout the semester on OAKS. They are intended to assist students in keeping up with the large amount of information in this course by encouraging them to prepare and study/read/review EVERY day. It is your responsibility to keep up with due dates and times! Lockdown Browser and Monitor will be required to be used for each quiz. Quizzes will open at least one or two days before the day that they are due, and close at 5 p.m. on the day that they are due! A missed quiz will result in a 0 for that quiz, unless you talk to me to explain the situation (serious illness, including but not limited to COVID-19, family responsibilities, other extreme circumstances). The College will not be using Absence Memos this semester, so it is imperative that you communicate with me and tell me the truth, so that I can work with you. Your lowest quiz score will be dropped in the final grade calculation. All cell phones, smart watches, headphones, ear buds, pagers, iPods, iPads, tablets, laptops, etc. are to be turned off and put away during each quiz, and you are expected to take them by yourself WITHOUT other people, notes, books or websites. The use of any wireless communication device during a quiz, test, or final exam is a violation of the Honor Code.

Exams
In this course, there are 4 regular exams scheduled during the semester (see calendar below for dates) and 1 cumulative final exam scheduled during the final examination period. All exams (both regular and final) will be given online through OAKS. Lockdown Browser and Monitor will be required to be used for each exam. Exams will open the night before the day that they are due, and close at 5 p.m. on the day that they are due! Anyone who misses an exam will receive a 0, unless you talk to me to explain the situation (serious illness, including but not limited to COVID-19, family responsibilities, other extreme circumstances). The College will not be using Absence Memos this semester, so it is imperative that you communicate with me and tell me the truth, so that I can work with you. If you have any conflicts with the scheduled exams, you must email me to discuss ahead of time, well before the exam date. All cell phones, smart watches, headphones, ear buds, pagers, iPods, iPads, tablets, laptops, etc. are to be turned off and put away completely during each exam and you are expected to take them by yourself WITHOUT other people, notes, books or websites. The use of any wireless communication device during a quiz, test, or final exam is a violation of the Honor Code.

Grading
The quizzes will count for a total of 20% of your final grade. The assignment will count for 10% of your final grade. The 4 regular exams will count for a total of 55% of your final grade. The cumulative final exam will count for 15% of your final grade. Grade calculation formula (try for yourself in an Excel spreadsheet):

\[\text{Final grade} = (\text{Quiz avg.} \times 0.20) + (\text{Assign.} \times 0.10) + (\text{Exam avg.} \times 0.55) + (\text{Final exam score} \times 0.15)\]

The following quote is just a reminder that whether you come into this course with lots of prior knowledge or not, work on your part will be the key to your success!

“Hard work beats talent when talent doesn’t work hard” - Tim Notke

Letter grades will be determined by the following breakdown:

\[\geq 93\% = A \quad 90-92 = A- \quad 87-89 = B+ \quad 83-86 = B \quad 80-82 = B- \quad 77-79 = C+ \quad 73-76 = C\]

\[70-72 = C- \quad 67-69 = D+ \quad 63-66 = D \quad 60-62 = D- \quad \leq 59 = F \quad 0 \text{ due to acad. dishonesty} = XXF\]
Please teach yourself how to check on your grade in this course on OAKS, and follow along during the semester. Any errors can be brought to my attention, and are much easier to fix the sooner they are detected!

My Expectations of Students in my class:

1. **Proper Deportment:** In this class, you are expected to be respectful of your teacher and other students. This includes the COVID-19 addendum from the Student Code of Conduct: In a classroom setting, all faculty members have the authority to deny entry to any student who does not have and/or refuses to put on a face covering (the covering needs to remain over your mouth AND nose for the duration of the class). Talking, texting and non-course related computer use are prohibited. If you need to do these things, please leave the room until you are finished. Help me create a learning-focused environment for you and everyone around you – please be courteous and pay attention! If you have a question, please ask me – I love questions from students!

2. **Electronic device policy - I really do prefer that students handwrite their notes!** Studies have shown retention of the information is better this way! However, I understand that for many students, especially given the current circumstances of the pandemic, it makes sense to use an electronic device. **Laptops will be allowed, but if possible, a flat tablet with a writing stylus is preferred.** Research has shown that learning is negatively affected when students and those around them use phones or other devices during class. Therefore, because we all deserve a learning-focused environment, the use of wireless communication devices (phones and smart watches) during class is prohibited, other than to respond to a Cougar Alert announcement - therefore please **SILENCE** all cell phones, pagers, iPods, iPads, tablets, laptops and anything with alarms before coming into my class AND PUT THEM AWAY. If you forget to do so you RISK BEING PERSONALLY REMINDED DURING CLASS and you may be asked to leave and not to return that class period. **Class time will be packed with information, and I do not want you or any students around you to be distracted.** I WILL allow you to use your phone to make **audio recordings of my lectures - no video please** (there are several free apps available to use for this). In that case, you may have your phone face down on the desk only. Please **DO NOT** take photos of my slides (except for long announcements) - you need to write your notes, and write down the page numbers of the figures to find them in the textbook. And, they will be accessible in the Zoom recording posted later as well.

3. This is a large class, and it will take me some time to learn your names. However, I have an excellent memory and I can see everyone, even in such a large classroom, so please stay awake, participate and be attentive. It is important that you start presenting yourself as a serious, professional student when dealing with faculty and other students in the class. **One day you will be asking for letters of recommendation – start thinking now about what you want those letters to say about you, and act accordingly.**

4. **Lockdown Browser and Monitor reminders:** Lockdown Browser and Monitor (LDB) is required to be used to take each quiz and exam in OAKS. This is done to assist you, and ALL students in the class, with abiding by the Honor Code in an online testing environment. The LDB software will record video and audio of you while you are taking the quiz or exam, and it uses artificial intelligence to flag suspicious behavior. **NO ONE will be “watching” you while you are testing.** The system alerts me when behavior is flagged, and I can go in to see and hear what happened. If you know that something out of your control happened during the recording, you are welcome to email me and let me know once you are done testing. If I do not find evidence of ACTUAL suspicious behavior (for example, the system said it could not detect your face when all that happened was your mouth and nose were covered by a mask), then I will note that and you will not hear anything from me. **However, if I do see or hear suspicious behavior, there will be the following consequences:** 1. For the first incidence, you will receive a warning email from me, and an expectation that the behavior will not happen again. 2. If you are flagged a second time for suspicious behavior, after already receiving a warning, then 10 points will be deducted...
from your grade for that quiz or exam. 3. If you are flagged a third time, you will receive a grade of 0 for that quiz or exam. More details will be forthcoming and posted on OAKS.

**COURSE CALENDAR**

*Exam dates are firm – but topics covered on certain days are subject to change and I will let you know*

<table>
<thead>
<tr>
<th>Date</th>
<th>LECTURE TOPIC</th>
<th>Chapter in Freeman’s 7th Edition of <em>Biological Science</em></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>January</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mon. Jan. 11</td>
<td>Welcome, Introduction, Plants and Plant Development</td>
<td>parts of 1 &amp; 28</td>
</tr>
<tr>
<td>Wed. Jan. 13</td>
<td>Plants and Plant Phylogenetics</td>
<td>parts of 1 &amp; 28</td>
</tr>
<tr>
<td>Fri. Jan. 15</td>
<td><strong>Voice Thread</strong>: Finish Plant Phylogenetics, start some Plant Form, Function &amp; Growth</td>
<td>parts of 28 &amp; 34</td>
</tr>
<tr>
<td>Mon., Jan. 18</td>
<td>OFF - Martin Luther King, Jr. Holiday / Last day to Drop/Add is tomorrow!</td>
<td></td>
</tr>
<tr>
<td>Wed. Jan. 20</td>
<td>Plant Form, Function &amp; Growth</td>
<td>34</td>
</tr>
<tr>
<td>Fri., Jan. 22</td>
<td><strong>Voice Thread</strong>: Water and Sugar Transport in Vascular Plants</td>
<td>35</td>
</tr>
<tr>
<td>Mon. Jan. 25</td>
<td>Plant Nutrition</td>
<td>36</td>
</tr>
<tr>
<td>Wed. Jan. 27</td>
<td>Plant Responses</td>
<td>37</td>
</tr>
<tr>
<td>Fri. Jan. 29</td>
<td><strong>EXAM 1</strong>** - will be online, through OAKS (no Voice Thread today) - due by, and will close at, 5 p.m. EST!</td>
<td>See study guide posted on OAKS</td>
</tr>
<tr>
<td><strong>February</strong></td>
<td>Please note that days and dates in Feb. and March this year are VERY similar, so I have tried to use colors to make sure you do not get confused!</td>
<td></td>
</tr>
<tr>
<td>Mon. Feb. 1</td>
<td>Angiosperm Reproduction</td>
<td>38</td>
</tr>
<tr>
<td>Wed. Feb. 3</td>
<td>Angiosperm Reproduction</td>
<td>38</td>
</tr>
<tr>
<td>Fri. Feb. 5</td>
<td>Voice Thread: start Evolution by Natural Selection</td>
<td>Parts of 1, 22</td>
</tr>
<tr>
<td>Mon. Feb. 8</td>
<td>Evidence for Evolution &amp; Hardy-Weinberg / Darwin Week</td>
<td>22, 23.1</td>
</tr>
<tr>
<td>Wed. Feb. 10</td>
<td>Natural Selection Patterns &amp; Speciation / Darwin Week</td>
<td>23.3</td>
</tr>
<tr>
<td>Mon. Feb. 15</td>
<td>Animal Development, Animal Form &amp; Function</td>
<td>47.4, 39</td>
</tr>
<tr>
<td>Wed. Feb. 17</td>
<td>Water and Electrolyte Balance in Animals</td>
<td>40</td>
</tr>
<tr>
<td>Fri. Feb. 19</td>
<td><strong>EXAM 2</strong> - will be online, through OAKS (no Voice Thread today) - due by, and will close at, 5 p.m. EST!</td>
<td>See study guide posted on OAKS</td>
</tr>
<tr>
<td>Mon. Feb. 22</td>
<td>Finish Water and Electrolyte Balance</td>
<td>40</td>
</tr>
<tr>
<td>Wed. Feb. 24</td>
<td>Nutritional homeostasis - diabetes</td>
<td>41.4</td>
</tr>
<tr>
<td>Fri. Feb. 26</td>
<td>Voice Thread: More on Nutritional homeostasis - diabetes</td>
<td>41.4</td>
</tr>
</tbody>
</table>

**March**

Please note that days and dates in Feb. and March this year are VERY similar, so I have tried to use colors to make sure you do not get confused!

**Mon. Mar. 1**

OFF *(my class ONLY) – there is no official college break this spring, but I know that we will all need a break by this point so I am giving myself and my class a break today!

**Wed. Mar. 3**

OFF *(my class ONLY) – there is no official college break this spring, but I know that we will all need a break by this point so I am giving myself and my class a break today!
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fri. Mar. 5</td>
<td>Voice Thread: Gas Exchange and Circulation</td>
<td>42</td>
</tr>
<tr>
<td><strong>Mon. Mar. 8</strong></td>
<td>Gas Exchange and Circulation / Midterm grades available to students tomorrow</td>
<td>42</td>
</tr>
<tr>
<td>Wed. Mar. 10</td>
<td>Gas Exchange and Circulation</td>
<td>42</td>
</tr>
<tr>
<td>Fri. Mar. 12</td>
<td>Voice Thread: Animal Nervous systems / Daylight Savings Time begins on Saturday - clocks spring ahead! Please note that all times listed going forward are Eastern Daylight Savings Time!</td>
<td>43</td>
</tr>
<tr>
<td>Mon. Mar. 15</td>
<td>Animal Nervous systems</td>
<td>43</td>
</tr>
<tr>
<td><strong>Wed. Mar. 17</strong></td>
<td><strong>EXAM 3</strong> - will be online, through OAKS (no in-person class today) - due by, and will close at, 5 p.m. EDT!</td>
<td>See study guide posted on OAKS</td>
</tr>
<tr>
<td>Fri. Mar. 19</td>
<td>Voice Thread: Animal Nervous systems</td>
<td>43</td>
</tr>
<tr>
<td><strong>Mon. Mar. 22</strong></td>
<td>Last day for students to withdraw with a grade of “W” is TODAY!</td>
<td></td>
</tr>
<tr>
<td>Wed. Mar. 24</td>
<td>Immune Systems in Animals</td>
<td>48</td>
</tr>
<tr>
<td>Mon. Mar. 29</td>
<td>Immune Systems in Animals</td>
<td>48</td>
</tr>
<tr>
<td>Wed. Mar. 31</td>
<td>Immune Systems in Animals</td>
<td>48</td>
</tr>
<tr>
<td>April</td>
<td></td>
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<tr>
<td>Fri. Apr. 2</td>
<td>Voice Thread: Viruses</td>
<td></td>
</tr>
<tr>
<td>Mon. Apr. 5</td>
<td>OFF - my class only! NOT an official college holiday - please still attend your other classes/labs on this day</td>
<td></td>
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<tr>
<td>Date</td>
<td>Topic</td>
<td>Page</td>
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<tr>
<td>Wed. Apr. 7</td>
<td>Chemical Responses in Animals</td>
<td>46</td>
</tr>
<tr>
<td>Fri. Apr. 9</td>
<td><strong>EXAM 4</strong> - will be online, through OAKS (no Voice Thread today) - due by, and will close at, 5 p.m. EDT!</td>
<td>See study guide posted on OAKS</td>
</tr>
<tr>
<td>Mon. Apr. 12</td>
<td>Finish Chemical Responses in Animals</td>
<td>46</td>
</tr>
<tr>
<td>Wed. Apr. 14</td>
<td>Human Reproduction</td>
<td>47</td>
</tr>
<tr>
<td>Fri. Apr. 16</td>
<td><strong>Voice Thread:</strong> Human repro. &amp; STDs</td>
<td>47</td>
</tr>
<tr>
<td>Mon. Apr. 19</td>
<td>Last day of this class! Human Repro. &amp; STDs, Assignment 2 Due</td>
<td>47</td>
</tr>
<tr>
<td>Wed. Apr. 21</td>
<td>Last official day of classes for spring semester, but today is supposed to be a “Thursday” class day only!!!</td>
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<tr>
<td></td>
<td>Study and take your final exam on OAKS before it closes next Wednesday!!!! I will let you know once I open it</td>
<td></td>
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<tr>
<td>Wed., April 28th</td>
<td><strong>FINAL CUMULATIVE EXAM on OAKS will be due by 10 a.m. EDT TODAY! (This was the assigned time on the Final Exam schedule). It will close and not reopen.</strong></td>
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</tbody>
</table>

** Please note: as stated in the Undergraduate Catalog:**
http://catalog.cofc.edu/content.php?catoid=14&navoid=671#final-examinations

“Examinations must be taken at the time scheduled (https://registrar.cofc.edu/pdf/exam-schedule-spring2021.pdf), except when:
1. Two or more exams are scheduled simultaneously.
2. Legitimate AND documentable extenuating circumstances prevent the student from completing the examination at the scheduled time (e.g., burial services for an immediate family member).”

**Learning Goals and Objectives**

**Learning Goals & Objectives** for Biology 111 and 111L Introduction to Cell and Molecular Biology/ BIOL 112 & 112L Evolution, Form, and Function of Organisms
**Department: Biology**

This general education science sequence provides a background for understanding and evaluating contemporary topics in biology. Students develop a foundational understanding of core concepts to use and on which to expand in
upper level courses. They also develop the critical competencies that form the bases for the practice of science and use of scientific knowledge.

Core Concepts

This 2-semester course sequence in general biology addresses fundamental principles in biology to prepare students for sophomore and upper level courses in biology:

- **EVOLUTION**: The diversity of life evolved over time by processes of mutation, selection, and genetic change. The theory of evolution by natural selection allows scientists to understand patterns, processes, and relationships that characterize the diversity of life.

- **STRUCTURE AND FUNCTION**: Basic units of structure define the function of all living things. Structural complexity, together with the information it provides, is built upon combinations of subunits that drive increasingly diverse and dynamic physiological responses in living organisms. Fundamental structural units and molecular and cellular processes are conserved through evolution and yield the extraordinary diversity of biological systems seen today.

- **INFORMATION FLOW, EXCHANGE, AND STORAGE**: The growth and behavior of organisms are activated through the expression of genetic information at different levels of biological organization and depend on specific interactions and information transfer.

- **PATHWAYS AND TRANS FORMATIONS OF ENERGY AND MATTER**: Biological systems grow and change by processes based upon chemical transformation pathways and are governed by the laws of thermodynamic and will be explored to understand how living systems operate, how they maintain orderly structure and function, and how physical and chemical processes underlie processes at the cellular level (i.e. metabolic pathways, membrane dynamics), organismal level (i.e. homeostasis) and ecosystem level (i.e. nutrient cycling).

- **SYSTEMS**: Living systems are interconnected and interacting and biological phenomena are the result of emergent properties at all levels of organization, from molecules to ecosystems to social systems. The course will explore the dynamic interactions of components at one level of biological organization to the functional properties that emerge at higher organizational levels.

The specific topics covered in each course include:

**Biology 111 & Biology 111L**

- Chemical and physical properties of life
- Cell form & function
- Energetics, metabolism, and photosynthesis
- The cell cycle
  - Mitosis and cell reproduction
  - Meiosis and sexual reproduction
- Mendelian genetics / Patterns of inheritance
Human Inheritance
- The molecular basis of inheritance
- DNA and protein production
- Regulation of gene expression
- Some aspects of biotechnology

Biology 112 & Biol 112 L
- The development of evolutionary thinking
- Basic evolutionary processes
- Comparative plant form & function
- Comparative animal form & function

Core Competencies

- **Nature of Scientific Knowledge**
  - Understand the intellectual standards used by scientists to establish the validity of knowledge, evidence, and decisions about hypothesis & theory acceptance. These standards include: 1) science relies on external and naturalistic observations, and not internal convictions; 2) scientific knowledge is based on the testing of hypotheses and theories, which are under constant scrutiny and subject to revision based on new observations; 3) the validity of scientifically generated knowledge is established by the community of scientists through peer review and open publication of work.
  - Understand that new ideas in science are limited by the context in which they are conceived; are often rejected by the scientific establishment; sometimes spring from unexpected findings; and usually grow slowly, through contributions from many investigators.
  - Understand that science operates in a world defined by the laws of chemistry and physics.
  - Understand the differences and relationships among scientific theories, hypotheses, facts, laws, & opinions.
  - Understand the differences between science and technology, but also their interrelations.
  - Understand the dynamic (tentative) nature of science.

- **Scientific Methods of Discovery**
  - Understand the methods scientists use to learn about the natural world (observing; questioning; formulating testable deductive hypotheses; controlled experimentation when possible; observing a wide range of natural occurrences and discerning (inducing) patterns).
  - Apply physical/natural principles to analyze and solve problems.

- **Develop a Scientific Attitude**
  - Develop habits of mind that foster interdisciplinary and integrative thinking (within biology; between biology and other sciences; between science and other disciplines).
  - Develop an appreciation for the scientific attitude - a basic curiosity about nature and how it works.
• Develop scientific analysis and communication skills
  ○ Develop quantitative reasoning skills (quantitatively expressing the results of scientific investigations, or patterns in nature and using knowledge of biological concepts to explain quantitatively-expressed data or patterns).
  ○ Understand the probabilistic nature of science and the use/application of inferential statistics to test hypotheses.
  ○ Develop scientific information literacy (library, internet, databases etc...); find and evaluate the validity of science-related information.
  ○ Communicate scientific knowledge, arguments, and ideas in a variety of different contexts (scientific, social, cultural), utilizing a variety of different media (scientific articles, policy statements, editorials, oral presentations etc.).
  ○ Develop cooperative problem-solving skills (working effectively in teams), but also habits of mind and skills that foster autonomous learning.

• Develop an appreciation for the impact of science on society.
  ○ Develop an appreciation of humans as a part of the biosphere and the impact of biological science on contemporary societal/environmental concerns.
  ○ Knowledge of the history of the biological sciences and the influences of politics, culture, religion, race, and gender on the scientific endeavor.

Signature assignments for measuring learning outcomes

Learning Outcome 1: Students apply physical/natural principles to analyze and solve problems.

This learning outcome is assessed using the poster (or scientific article) generated in Biology 112 lab as part of the multi-week student-directed independent research project. In this project students use data they collect (or has been collected in actual research investigations) to test an hypothesis of their choosing. These projects may be themed, with all student groups addressing different aspects of a larger question, emphasizing the interdependence of various research groups needed to address complicated problems. This multi-week project begins the class identifying what questions need to be addresses in the larger problem. Individual student groups then become experts in these areas of the larger problem. The smaller research teams develop a hypothesis, and write a research proposal to test their hypothesis. Students collect (or use already collected data), summarize and statistically analyze the data, and draw conclusions.

Learning Outcome #2 - Students demonstrate an understanding of the impact that science has on society.

Biology 112 lab Students produce a written document based on one of the case-based labs (examples - policy statement, article, stake-holder professional letter or poster) that requires them to research and apply biological knowledge or evidence to defend or critique a proposed solution to a biology-related societal issue. Although the choice of the specific issue or proposed solution is course-section specific, some examples of potential issues include

- exploring environmental/health impacts of genetically modified organisms
- the use of performance enhancing drugs in sports
- the development of antibiotic resistance in disease organisms

[1] This learning goal will be measured as part of the general education assessment. The specific learning outcome to be measured is: Students can apply physical/natural principles to analyze and solve problems.
This learning goal will be measured as part of the general education assessment. The specific learning outcome to be measured is: *Students can demonstrate an understanding of the impact that science has on society.*