INSTRUCTOR INFORMATION
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ACADEMIC DEPARTMENT:
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COURSE DESCRIPTION: BSC 1005 BIOLOGICAL SCIENCE 3 credits

This is a survey course for students who choose a major other than science. Topics included are the scientific method, basic chemistry of life, plant and animal kingdoms, the cell, selected human systems including human reproduction and embryological development, genetics, evolution, and selected contemporary issues in biology. (This course may not be taken for credit subsequent to receiving a grade of "C" or better in BSC 2010 or BSC 2011). 47 contact hours.

COURSE GOALS: (Major Learning Outcomes)

1. The student will be familiar with the basic chemistry of life.
2. The student will be able to describe the structure of the cell and understand current theories pertaining to its functioning, including cell division.
3. The student will understand how plants and animals obtain, transfer and use energy on the community, organismic and molecular levels.
4. The student will be familiar with several body systems: structure, function, current applications and homeostatic integration.
5. The student will understand the concepts of genetics and use them to explain basic inheritance patterns.
6. The student will be familiar with an overview of major life groupings; be able to recognize relationships in terms of evolutionary theory and understand the basic principles that link all life.
7. The student will be able to apply the scientific method in defining, analyzing and solving problems throughout the course and in life situations.

COURSE OBJECTIVES Stated in Performance Terms:

1. The student will understand the process of science by:
   a. explaining the terms and premises involved in solving problems scientifically, scientific research, and peer review.
   b. defining and presenting solutions regarding contemporary issues and problems using scientific methodology. The student should demonstrate at least one essential skill in science in solving
these problems including, but not limited to: critical thinking, efficient written and/or oral communication, identification of reliable scientific information, etc.

2. The student will recognize the diversity of life by:
   a. classifying major biological taxonomic categories, distinguishing similarities and differences among them.
   b. identifying characteristics such as energy processing, cellular structure and organization, and methods of reproduction in each major life grouping:

3. The student will understand the organization of nature, including the basic structure, function and homeostatic integration in select biological organisms by:
   a. recognizing levels of complexity in nature.
   b. identifying major cellular structures and their functions.
   c. describing the processes of cell division and its role in the life cycle of organisms.
   d. describing how organisms obtain and process energy, with special emphasis on photosynthesis and aerobic cellular respiration.
   e. describing how organ systems function in order to provide homeostasis.

4. The student will understand the conceptual basis of evolutionary theory by:
   a. applying the principles of evolutionary theory to the understanding of changes in abundance and kinds of life with time.
   b. describing different mechanisms of evolution such as natural selection, genetic drift, and gene flow.
   c. describing the importance of mutation in producing variation.
   d. explaining the evidence of evolutionary change.

5. The student will understand the basic concepts and application of genetics by:
   a. differentiating among chromosomes, genes, alleles, genotype, and phenotype.
   b. solving genetics problems involving complete dominance, incomplete dominance, sex-linked traits, multiple alleles, multiple genes and simple pedigrees.
   c. describing the role of meiosis in heredity
   d. describing technology that arises from our understanding of genetics, and explaining its uses and implications.

6. The student will demonstrate their understanding of basic ecological principles by:
   a. explaining the flow of energy through ecosystems and the laws of thermodynamics governing that flow through successive trophic levels.
   b. understanding biotic and abiotic contributions to ecosystems.
   c. explaining community ecology and interactions among populations.
   d. describing population ecology, including how human population growth relates to sustainability.

Criteria Performance Standard:
Upon successful completion of the course the student will, with a minimum of 70% accuracy, demonstrate mastery of each of the above stated objectives through classroom measures developed by individual course instructors.

PREREQUISITES: (ENC 0025, REA 0017 and MAT 0028) or EAP 1695 and MAT 0028.

REQUIRED TEXTBOOK
Note: This is a less expensive looseleaf, but cannot be sold back.
Website: http://smartwork.wwnorton.com Enrollment Key: DBIO5F6619 case sensitive
To sign in:
  1. You must have a valid email address
  2. Use the enrollment key above
3. Use your registration code included with the book bundle
You have a **two-week** free trial period to use the program if you did not buy the book bundle before you decide if you want to buy the program.

**Note:** If you bought a used or older edition of the textbook, you can purchase access to the Discover Biology website *Study Guide* and/or *SmartWork* online resources. Information below:

*Discover Biology* website assignments are not mandatory; however have helpful resources for studying for quizzes and exams.

Library: [http://www.spcollege.edu/libraries/#tab=8](http://www.spcollege.edu/libraries/#tab=8)

**REQUIRED MATERIALS:**
Angel lecture notes in notebook and a single subject 70-sheet spiral notebook for a journal or pocket folder for printed journal entries.

**CLASS MEETING INFORMATION:**
Course Location: Tarpon Springs Campus in Room LY 120
Class Day: Tuesdays and Thursdays
Class Time: 9:30-10:45am

**IMPORTANT DATES:**
- August 18: First Day of Classes
- August 22: Last Day to Drop and Receive Refund
- September 1: Labor Day
- October 22: College Day
- October 23: Withdrawal Date
- November 11: Veteran’s Day
- November 26-30: Thanksgiving Holiday
- December 8-11: Week of Final Exams

**FINANCIAL AID:** [http://www.spcollege.edu/getfunds/](http://www.spcollege.edu/getfunds/)

**ACADEMIC INTEGRITY:** The college has an official policy on academic honesty and proper classroom behavior. It is the student’s responsibility to review the online [Academic Honesty Policy](http://www.spcollege.edu/getfunds/) or "Academic Honesty and Student Behavior: Expectations of Students at SPC" brochure. It is important to remember that everyone’s goal should be to learn. Behavior that impedes the learning process of others will not be tolerated. Disruptive behavior includes talking at inappropriate times, text-messaging, talking on the phone during class or repeatedly coming to class late or leaving early. Students are expected to be actively engaged in the learning process, and should ask the instructor questions as needed.

SPC takes this subject very seriously and will not tolerate academic dishonesty or inappropriate/disruptive behavior in the classroom. College policy states that a first offense (cheating, plagiarism, etc) is given a “zero” for the assignment with no possibility of replacing the score. In addition, on the first offense, a form is filed in the Assistant Provost’s office. This does not go onto the student’s transcript, but should a second offense occur the student is then subject to expulsion from school. You need to be very clear about this procedure and about what constitutes cheating and/or plagiarism.
ATTENDANCE:
The college-wide attendance policy is included in the Syllabus Addendum (http://www.spcollege.edu/webcentral/policies.htm). The policy notes that each instructor is to exercise professional judgment and define “active participation” in class (and therefore “attendance”), and publish that definition in each syllabus. For this class, attendance is defined as having no more than three unexcused absences. The last day for YOU to voluntarily withdraw with a grade of W is October 23, 2014. I will not be able to withdraw you from the course during any point throughout the semester. Students will be automatically withdrawn at the beginning of the term for non-payment of course fees. Faculty verifies that students are in attendance at least once each week during the first two weeks of class. Students classified as “No Show” for both of the first two weeks will be administratively withdrawn. Immediately following the 60% point of the term (October 23, 2014), each instructor will verify which students are actively participating in class as defined above. Students classified as not meeting the criteria for active class participation will be administratively withdrawn with a “WF.” Students will be able to withdraw themselves at any time during the term. However, requests submitted after the 60% deadline will result in a “WF.” Students and instructors will automatically receive an email notification to their SPC email whenever a withdrawal occurs. Please come see me if you have any questions.

GRADING:

EXAMS: There will be five unit exams. The exams will be primarily multiple choice. The exam answer form we will be using for all exams is Scantron Form 882. Dates and material covered on each exam are listed on your course schedule.

MAKE-UP EXAMS: There are no makeup exams unless you have verifiable documentation as to your absence.

EXTRA CREDIT: There is optional extra credit available that your instructor will notify you of throughout the term. When successfully completed, it would allow you to add earned points to any one of the first three exams.

QUIZZES: Each week, a quiz will be given on the chapter(s) material. Quizzes are found in the unit folders of the "BSC 1005 Course Content" folder under the "Lessons" tab. Each quiz is ten questions and in a multiple choice or true/ false format. The first quiz is open for unlimited attempts; however, every quiz after the first may be taken once. You are allowed 20 minutes for the quiz. Make-ups for quizzes are not permitted unless you have verifiable documentation, so make sure to take quizzes by the due dates. After the quiz is due and graded, the quiz will reopen for unlimited views for review/study purposes only. There are 16 quizzes @ 20 points each= 320 points total. You can drop your lowest quiz = 300 points total.

CURRENT EVENT SUMMARIES: Find four current articles (written within the last year) related to Biology and write a 200+ word summary (approximately two paragraphs) about the article. Articles can be found in newspapers, magazines, journals or from reputable internet sources (check with me if you are unsure). Articles should be properly cited at the end of your summary using MLA or another appropriate format. Current event summaries must be submitted into the drop box (refer to “Start Here” folder under the "Lessons" tab for instructions on how to use the drop box). Current events must also be posted to the discussion forum, and you are expected to post a comment to at least one other student's summary for each of the four current events. Current events will not be accepted after due dates, but they may be submitted early (you do not have to wait until after the due date of one to move on to the next). See the "Current Events Rubric" located in the folder titled "Drop Boxes and Discussion Forums for Current Events" under the "Lessons" tab for a breakdown of how your summaries will be graded. The schedule below includes the dates that current event summaries are due. There are 4 current event summaries 4 @ 30 points each = 120 points.
Possible points:

- **Quizzes**: 300 (lowest dropped)
- **Current Events**: 120
- **Exams**: 500

**Total possible points = 920**

**Final Grade**

- 90-100% = A
- 80-89.9% = B
- 70-79.9% = C
- 60-69.9% = D
- 0-59.9% = F

**There will NOT be any available extra credit at the end of the semester.** Do NOT “request” extra points or additional assignments at the end of the course. No response will be given to these requests. **The instructor reserves the right to make changes where necessary to the schedule and assignments.** Changes will be announced in class and/or Angel. (Students need to check Angel regularly for course information and are responsible to note any changes.)

**Attention Students:** The Syllabi Addendum is an important part of your syllabus and can be easily accessed by using the link below. **Do take the time to read this very important information** — [http://www.spcollege.edu/addendum/](http://www.spcollege.edu/addendum/)

**Study Help**

**READ** the text before attending class sessions. Again, **READ** the text before attending class sessions. The textbook is your primary source of information. It will give you the entire story as opposed to the truncated information you will receive in class.

**ATTEND** each class session. As your instructor, it is my role to reinforce the information that you have begun to learn on your own by providing an explanation of the material that you are responsible for and to clear up any loose ends of information that you may have. The textbook will and should always be your primary source of information.

**PAY ATTENTION/PARTICIPATE** in class sessions. Students who actively engage in class and ask questions will intuitively gain more from their efforts.

**APPLY** your understanding by forming study groups amongst yourselves, researching resources from reputable sources, and using your Studyguide/Smartwork text resources. Study groups are beneficial in that, when you are able to teach someone else a concept, you have a stronger internalization of the information. It is imperative that you apply what you know in order to strengthen your understanding of the information and to be able to apply it come test day.

**TEST YOURSELF.** Quizzes are a mandatory portion of your grade and allow you to quiz yourself on the material covered in class. Quizzes not only give you confidence in the information that you know, but it also accents the information that you may not be comfortable with. This allows time and guidance for additional study before tests.

**Learning Support Commons**

The Science & A&P Lab located at the Library Room FA 154
The LSC hosts tutors and space for individual and group study.
[http://www.spcollege.edu/tsc/learningsupport.html](http://www.spcollege.edu/tsc/learningsupport.html)
## BSC 1005 Biological Sciences Tentative Course Schedule
### Fall 2014

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Chapter</th>
<th>Quiz Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-Aug</td>
<td>Introduction</td>
<td></td>
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<tr>
<td>21-Aug</td>
<td>The Nature of Science</td>
<td>1</td>
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<tr>
<td>26-Aug</td>
<td>Biological Diversity, Bacteria and Archaea</td>
<td>2</td>
<td>Q 1 and 2, Ch. 1</td>
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<tr>
<td>28-Aug</td>
<td>Protista, Plantae, and Fungi</td>
<td>3</td>
<td>Q 3, Ch. 2</td>
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<tr>
<td>1-Sep</td>
<td><strong>Labor Day</strong></td>
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<tr>
<td>2-Sep</td>
<td>Animalia</td>
<td>4</td>
<td>Q 4, Ch. 3</td>
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<tr>
<td>4-Sep</td>
<td>REVIEW for Exam #1</td>
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<tr>
<td>9-Sep</td>
<td><strong>Exam #1 Ch. 1-4, Current Event #1 Due</strong></td>
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<tr>
<td>11-Sep</td>
<td>The Chemistry of Life</td>
<td>5</td>
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<tr>
<td>16-Sep</td>
<td>Cell Structure</td>
<td>6</td>
<td>Q 5, Ch. 5</td>
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<tr>
<td>18-Sep</td>
<td>Energy, Metabolism, and Enzymes</td>
<td>8</td>
<td>Q 6, Ch. 6</td>
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<tr>
<td>23-Sep</td>
<td>Photosynthesis and Cell Respiration</td>
<td>9</td>
<td>Q 7, Ch. 8</td>
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<tr>
<td>25-Sep</td>
<td><strong>Exam #2 Ch. 5, 6, 8, 9. Current Event #2 Due</strong></td>
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<tr>
<td>30-Sep</td>
<td>Cell Division</td>
<td>10</td>
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<tr>
<td>2-Oct</td>
<td>Patterns of Inheritance</td>
<td>12</td>
<td>Q 8, Ch. 10</td>
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<td>7-Oct</td>
<td>Chromosomes and Human Genetics</td>
<td>13</td>
<td>Q 9, Ch. 12</td>
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<td>9-Oct</td>
<td>DNA and Genes</td>
<td>14</td>
<td>Q 10, Ch. 13</td>
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<td>14-Oct</td>
<td>From Gene to Protein</td>
<td>15-16</td>
<td>Q 11, Ch. 14</td>
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<tr>
<td>16-Oct</td>
<td><strong>Exam #3 Ch. 10, 12-16 Current Event #3 Due</strong></td>
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<tr>
<td>21-Oct</td>
<td>How Evolution Works</td>
<td>17</td>
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<tr>
<td>22-Oct</td>
<td><strong>College Day - College closed</strong></td>
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<tr>
<td>23-Oct</td>
<td>Evolution of Populations</td>
<td>18</td>
<td>Q 12, Ch. 17</td>
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<tr>
<td>28-Oct</td>
<td>Speciation</td>
<td>19</td>
<td>Q 13, Ch. 18</td>
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<tr>
<td>30-Oct</td>
<td>Evolutionary History of Life</td>
<td>20</td>
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<td>4-Nov</td>
<td><strong>Exam #4 Ch. 17-20, Current Events #4 Due</strong></td>
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<tr>
<td>6-Nov</td>
<td>The Biosphere</td>
<td>21</td>
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<tr>
<td>11-Nov</td>
<td><strong>Veteran's Day - College Closed</strong></td>
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<tr>
<td>13-Nov</td>
<td>Growth of Populations</td>
<td>22</td>
<td>Q 14, Ch. 21</td>
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<tr>
<td>18-Nov</td>
<td>Ecological Communities</td>
<td>23</td>
<td>Q 15, Ch. 22</td>
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<tr>
<td>20-Nov</td>
<td>Ecosystems</td>
<td>24</td>
<td>Q 16, Ch. 23</td>
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<tr>
<td>25-Nov</td>
<td>Global Change</td>
<td>25</td>
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<tr>
<td>26-Nov</td>
<td><strong>Thanksgiving Holiday</strong></td>
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<tr>
<td>2-Dec</td>
<td>Internal Organization and Homeostasis</td>
<td>26</td>
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<tr>
<td>4-Dec</td>
<td>Review for Exam #5</td>
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<tr>
<td>8-11 Dec</td>
<td><strong>Exam #5 Ch. 21-26 TBA</strong></td>
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### STUDENT SURVEY OF INSTRUCTION
The student survey of instruction is administered in courses each semester. It is designed to improve the quality of instruction at St. Petersburg College. All student responses are confidential and anonymous and will be used solely for the purpose of performance improvement.