**Division of Arts and Sciences**  
**Department Biology**  
**Course Syllabus**

<table>
<thead>
<tr>
<th><strong>COURSE TITLE</strong></th>
<th>Principles of Biology I</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COURSE NUMBER</strong></td>
<td>BSC 1010</td>
</tr>
<tr>
<td><strong>PREREQUISITES</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>CRN</strong></td>
<td>10719</td>
</tr>
<tr>
<td><strong>CREDIT HOURS</strong></td>
<td>3.0</td>
</tr>
<tr>
<td><strong>CONTACT HOURS</strong></td>
<td>45</td>
</tr>
</tbody>
</table>

**CLASS MEETING TIMES**  
Tuesdays and Thursdays from 14:00-15:15 from Aug. 21 - Dec. 10, 2014 in TWFAC 2407 Technology-Enhanced. This course is designed to meet face-to-face and online (many class exercises, assignments and assessments are done online). Students should access the online portion of the course at: [http://online.fkcc.edu](http://online.fkcc.edu).

**INSTRUCTOR**  
Dr. Bill Irwin  
[william.irwin@fkcc.edu](mailto:william.irwin@fkcc.edu)  
Office: Key West Campus C-209  
Office phone: 305-809-3129

**OFFICE HOURS**  
As posted on door of room C-209

**COURSE DESCRIPTION**  
An overview of the structural, ultrastructural, chemical, genetic, developmental and physiological realms of living organisms.

**COURSE OBJECTIVES**  
By the end of this course, students should be able to:  
- Describe the chemical basis of life (the behavior of molecules in water, pH, etc.)  
- Describe the four classes of biomolecules and their importance to cells  
- Describe organelles in animal and plant cells  
- Outline the chemical reactions of photosynthesis and cell respiration  
- Describe how organisms obtain nutrients and eliminate wastes  
- Explain the stages of the cell cycle and understand how cancer occurs  
- Explain how gene expression is regulated and proteins are synthesized  
- Describe the human genome project and understand its personal relevance  
- Describe the structure of chromosomes  
- Explain the stages of meiosis  
- Explain various reproductive strategies of organisms  
- Explain Mendelian and non-Mendelian inheritance  
- Understand the basic development of organisms

**REQUIRED MATERIALS:**  
Biological Science Plus MasteringBiology with eText -- Access Card Package, 5/E  
**PUBLISHER**  
Benjamin Cummings  
**AUTHORS**  
Scott Freeman, Kim Quillin and Lizabeth Allison  
**ISBN**  
9780321743619

**REQUIRED ONLINE ACCESS**  
When students receive their Mastering Biology (MB) registration code, they should register online and enter course code: CRN10719A to join this course. If students purchase a used textbook, they will need purchase an access code for Mastering Biology directly at: [http://www.masteringbiology.com](http://www.masteringbiology.com)
**Proposed Course Schedule**

Please note: The course schedule is subject to change to meet the needs of the course and its students. It is the responsibility of each student to stay current with the material via the D2L website.

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Topic</th>
<th>Chapters</th>
<th>Pre-class MB Assignments (due prior to class meeting)</th>
<th>Post-class MB Assignments (due after class)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thur</td>
<td>21-Aug</td>
<td>Course Introduction &amp; The Scientific Method</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tue</td>
<td>26-Aug</td>
<td>Intro to Biology - What is Life?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thur</td>
<td>28-Aug</td>
<td>Chemical Bonds and Properties of Water</td>
<td>2</td>
<td>1, 2</td>
<td>1, 2</td>
</tr>
<tr>
<td>Tue</td>
<td>2-Sep</td>
<td>Proteins</td>
<td>3, 48.1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Thur</td>
<td>4-Sep</td>
<td>Nucleic Acids</td>
<td>4, 20.2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Tue</td>
<td>9-Sep</td>
<td>Carbohydrates</td>
<td>5, 44.4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Thur</td>
<td>11-Sep</td>
<td>Lipids and Cell Membranes</td>
<td>6, 49.4</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Tue</td>
<td>16-Sep</td>
<td><strong>Exam #1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thur</td>
<td>18-Sep</td>
<td>Cells</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Tue</td>
<td>23-Sep</td>
<td>Energy Transfer and Enzymes</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Thur</td>
<td>25-Sep</td>
<td>Cellular Respiration</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Tue</td>
<td>30-Sep</td>
<td>Photosynthesis</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Thur</td>
<td>2-Oct</td>
<td>Cell Communication</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Tue</td>
<td>7-Oct</td>
<td>The Cell Cycle and Mitosis</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Thur</td>
<td>9-Oct</td>
<td><strong>Exam #2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tue</td>
<td>14-Oct</td>
<td>Meiosis and Reproductive Strategies</td>
<td>13, 50.1, 41.1</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Thur</td>
<td>16-Oct</td>
<td>Mendelian Genetics</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Tue</td>
<td>21-Oct</td>
<td>DNA Synthesis</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Thur</td>
<td>23-Oct</td>
<td>Genes</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Tue</td>
<td>28-Oct</td>
<td>DNA Transcription</td>
<td>17</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Thur</td>
<td>30-Oct</td>
<td>RNA Translation</td>
<td>17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tue</td>
<td>4-Nov</td>
<td>Gene Expression</td>
<td>18, 19</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Thur</td>
<td>6-Nov</td>
<td><strong>Exam #3</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tue</td>
<td>11-Nov</td>
<td>No class - Veterans Day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thur</td>
<td>13-Nov</td>
<td>Development</td>
<td>22, 23, 24</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Tue</td>
<td>18-Nov</td>
<td>Multicellular Life;</td>
<td>42.2, 42.3,</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Thur</td>
<td>20-Nov</td>
<td>Osmotic Balance, Obtaining Nutrients</td>
<td>43.1, 43.2, 39.3, 39.4, 44.1, 44.3</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Tue</td>
<td>25-Nov</td>
<td>Circulation and Gas Exchange</td>
<td>38.1, 38.2, 45.1, 45.3</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Thur</td>
<td>27-Nov</td>
<td>No Class - Thanksgiving Break</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tue</td>
<td>2-Dec</td>
<td>Life in Extreme Environments</td>
<td>52.2, 56.1, 56.2</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>Thur</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tue</td>
<td>9-Dec</td>
<td><strong>Exam #4</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Student Evaluation and Course Policies**

<table>
<thead>
<tr>
<th>Student Grade Determination</th>
<th>FKCC Grading Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>60% 4 Exams @ 150 points each = 600</td>
<td>90% or above A</td>
</tr>
<tr>
<td>20% 23 MB pre-class Assignments @ 10 points each (3 lowest dropped) = 200</td>
<td>80%-89% B</td>
</tr>
<tr>
<td>20% 23 MB post-class Assignments @ 10 points (3 lowest dropped) = 200</td>
<td>70%-79% C</td>
</tr>
<tr>
<td>100% Total Grade (1,000 total points)</td>
<td>60%-69% D</td>
</tr>
<tr>
<td></td>
<td>Below 60% F</td>
</tr>
</tbody>
</table>

**Communications Policy**

- Students are expected to log into the course D2L site regularly (daily is recommended but at least every 48 hours is expected) to read announcements and check the forums.
- A detailed course schedule can be found on the course D2L site along with links to homework and quizzes.
- Students should utilize the online discussion forums for assistance with questions about course material. Forums may be created by the instructor for discussion of specific course information (e.g. ecology) or for topics such as study group coordination. For general questions, please use the Cyber Café forum.
- Occasionally, time-sensitive announcements such as changes in due dates, exam information, etc. will be posted in the Announcements section. The student should log on to frequently (once per day is best but at least every other day is expected) to check for time-sensitive messages. The student is responsible for all information published here. In general, all participants should look through the Discussion Board and Announcements before posting a question because that same question may have already been asked and answered.
- Students should only use their official FKCC email address for class communication. Students are expected to check their FKCC email account regularly. The instructor will only respond to email messages to a student’s official FKCC email address.
- In order to better serve our faculty and students, all D2L users should click the “Logout” link when completing online course work. By logging off instead of just closing the internet browser window, D2L server space is freed and system performance is optimized. Logging off will also more accurately record each student’s time logged into the course.

**Reading Assignments and Homework**

- To succeed in this course, you should do all assigned textbook readings, preview quizzes, post-class quizzes and online assignments. It is also recommended that you review class notes frequently. The most successful students are usually those who form study groups that meet regularly (weekly or more) throughout the course to review material and learn by questioning and teaching each other.
- Pre-class homework and quizzes are designed to assure that you have thoroughly read the textbook and studied relevant material prior to class. Online homework and in-class quizzes are worth a substantial portion of your grade. It is advised that you preview each chapter using the chapter summary, study each chapter and do the questions at the end of the chapter before attempting the online quiz.
- The post-class online assignment will normally be due within a few days after class to give you time to further review the material. You should be able to complete the online review assignment with the same confidence you would have taking a class exam.
- Late homework assignments and online quizzes may not be accepted. Do not wait until "the last minute" to do your online assignments as you may have technical problems that may keep you from completing them on time.
- Online assignments can be found on the course website at: http://www.masteringbiology.com. It is the responsibility of each student to be aware of the due dates and times of all assignments as posted on the Mastering Biology website.

**Participation**

- Students are expected to attend and participate in every class. Classes provide the best opportunities to ask questions and get clarification of material. Many students are unsuccessful in courses because they think if they just "show up" that they'll pass. This is rarely true. The lectures and class discussions cover only a sub-set of the material that needs to be mastered in this course that will be tested on the exams! Arriving late, leaving early,
cell phone use, non-class-related computer usage or any other disruption of class may result in dismissal from the class.

- If you are not able to attend class you are still responsible for understanding any and all material that is discussed in class and for obtaining any announcements that were made in class pertaining to the course. It is your responsibility to contact the instructor as soon as possible after your absence to find out what you missed.
- Please note that the instructor may withdraw a student from a course for excessive absences. For the purposes of this class, “excessive absences” is defined as any combination of 3 or more unexcused absences, late arrivals or times leaving early.

**Exam Policy:**

- Each exam and exam review will take up one entire class meeting. The use of electronic devices is strictly prohibited during exams.
- Makeup exams are generally not offered but *may* be offered to students with emergencies if they can provide acceptable documentation of the emergency (e.g., hospital admit slip, etc.). The instructor reserves the right to change the format and content of any makeup exams.
- Any missed exam will receive a grade of 0 points in grade calculation.
- The final exam may not be made up for any reason.

**Copyright Notice**

- The materials and content provided in this course is intended only for registered Florida Keys Community College students who have paid their tuition and fees to attend this course. Materials that are affected include, but are not limited to, text, still images, audio recordings, video recordings, simulations, animations, diagrams, charts, and graphs. Every effort has been made to insure these materials are not disseminated to anyone beyond those who have legally registered for this course. Download, revision, or distribution of course material with anyone other than registered classmates and the instructor is strictly prohibited.

Students are expected to understand and follow all FKCC Policies found in the current Student Handbook.