

**Columbia College**  
**Human Biology Prep for Nurses (BIO103)**  
**Lecture 1**  
**Course Outline**

Semester Dates: November 18, 2019 – December 21, 2019

Please note that when a holiday falls during the week, your class will be rescheduled for the Friday of that week. Students are required to make arrangements to be present at the rescheduled class.

Facilitator: Muhammad Murad Ehsan

Email: muhammade@columbia.ab.ca

Class Time: 5:30 PM - 9:30 PM (Tue./Thu.)

Room: Building 4 Room 213

Credit: Non-Credit Course

Prerequisite: None

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Note: It is the student's responsibility to be familiar with the information contained in the Course Outline and to clarify any areas of concern with the facilitator.

**Course Description:**

The Pre-Nursing Professional student will focus on the basic Biology knowledge and skills required by persons employed in a variety of Health Care contexts. These include a study of human systems such as digestion, respiration, the circulatory system, the immune system, the excretory system, the nervous system, the senses, the endocrine and reproductive systems. Additional topics may be covered on an as needed basis.

(5 weeks, 40 hrs.)

**Learning Outcomes:**

As a result of active participation in these sessions, a student can expect to:

- Identify carbohydrates, lipids, proteins.
- List and explain the basic functions and types of enzymes.
- Describe the importance of the oxygen delivery system; explain the functioning of the gas exchange and transport system.
- Describe the key features of the circulatory system, including the components of blood, the functioning of the heart and regulation of blood flow; explain the effects of exercise on blood pressure and pulse.
- Explain the functioning of the key features of the immune system.
- Identify the central components of the excretory system; discuss filtration and internal equilibrium.
- Describe kidney dysfunction.
- Describe the general functions of the nervous system.
- Identify the parts and functioning of the senses; ear, eye and nose.
- Describe the endocrine glands and the functions of their hormones.
- Describe the male and female reproductive system – anatomy and functioning.

**Course Overview:**

This course uses a variety of teaching/learning methods including discussion, personal reflection, experiential exercises, student presentations, role-plays, group activities and especially case studies. The classroom provides you with a place where you can learn with and from others in a cooperative and collaborative manner.

You are expected to take a very active part in class. Be a positive and co-operative team member.

**Required Textbooks and Equipment:**

Ritter, B., Burley, K. & Frazer, D. (2007). *Nelson Biology 20 – 30*: Nelson Education

**Homework Assignment Due for the First Class:**

- Read Chapter 8 pages 242 – 270, The Digestive System.
- Create 3 questions based on the reading. Bring these to class and hand in to the facilitator. This is a facilitation model; therefore, you will need to participate in the class. You will not be reading the text in class. You will have a quiz on your reading.

**Evaluation - Assessment of Student Performance:**

The final grade in the course will be based on the following elements. Wherever possible facilitators will use rubrics to assess your performance and offer feedback.

| <b>Title of Assignment/Examination</b> | <b>Due Date</b> | <b>Weight</b> |
|--|-----------------|---------------|
| Daily Tests                            | Every Class     | 35%           |
| In-class Learning Activities           | Every Class     | 15%           |
| Final Exam                             | Class 10        | 50%           |

Please note that all homework and assignments are due at the beginning of each class.

## Grading:

Grades for each component will be added together at the end of the semester. The final total will be translated to the Columbia College's 4.0 grading scale as follows:

### *Marking and Grading Conversion:*

| Description  | Letter Grade | Grade Points | Percentage Scale |    |
|--------------|--------------|--------------|------------------|----|
| Excellent    | A+           | 4.0          | 100              | 95 |
|              | A            | 4.0          | 94               | 90 |
|              | A-           | 3.7          | 89               | 85 |
| Good         | B+           | 3.3          | 84               | 80 |
|              | B            | 3.0          | 79               | 75 |
|              | B-           | 2.7          | 74               | 70 |
| Satisfactory | C+           | 2.3          | 69               | 65 |
|              | C            | 2.0          | 64               | 60 |
|              | C-           | 1.7          | 59               | 55 |
| Poor         | D            | 1.0          | 54               | 50 |
| Failure      | F            | 0.0          | 49               | 0  |

**For Practical Nurse and Dental Assistance students who are provisionally accepted into their respective programs at Columbia College, the passing grade for this course is a C+.**

### **Submission and Completion of Assignments:**

You are expected to submit assignments by the due date. Any late assignments will be assessed a marking penalty of 5% per each class late.

### **Requesting an Examination Deferral:**

If you are not able to do an exam on the scheduled date, you may request that the exam be deferred to another date. The fee for a Deferred Exam is \$50 plus facilitation costs for a minimum cost of \$100.00.

### **Attendance Requirements:**

Please come to each class on time and stay to the end of the class.

### **Academic Integrity:**

Academic dishonesty is a serious offence and can result in suspension or expulsion from Columbia College.

**Student Conduct:**

Generally, each student is expected to:

- be respectful and courteous toward others;
- demonstrate appropriate and supportive communication skills, and coach, assist, advise and otherwise support other students in their studies;
- manage any personal stress and conflict in a positive and resourceful manner, and assist others to do the same;
- be dressed in a manner appropriate for their workplace or learning environment, as established by the program;
- conduct themselves in a professional manner with regard to their communication with others and their behavior in class;
- conduct themselves with academic integrity in all of their learning activities, tests, exams, and assignments
- keep up with day-to-day classroom and course expectations.

**Appeals:**

Please refer to the *Student Appeal Policy (ADM-P177)*.

**Students with Temporary or Permanent Disabilities:**

Students with temporary or permanent disabilities may apply for accommodations. To be considered for an accommodation, a student must register with Columbia College's Accessibility Services by making an appointment with a Accessibility Services Advisor – Main Office – Bldg. 802 or emailing [disabililyservices@columbia.ab.ca](mailto:disabililyservices@columbia.ab.ca). The Department Chair or facilitator is not able to provide you with any accommodations without you taking this step. Please refer to Columbia College's website to review *the Accommodation Policy and Handbook (ADM-P188)*. Please note that there are fee-based services related to accessibility needs.

**Student Support:**

Tutoring is available as a fee-based service.

**Class Schedule/Overview:**

Please note that this schedule is subject to change.

| Class Session | Topics   | Pre-Class Readings/Homework   |
|---------------|--|---|
| 1             | <b>Digestive System</b><br>8.1 Essential Nutrients<br>8.2 Enzymes<br>8.3 Ingestion<br>8.4 Digestion  | <ul style="list-style-type: none"> <li>• Read Chapter 8</li> <li>• Create 3 questions based on your reading to hand in to the facilitator. Bring these to class and hand in to the facilitator. This is a facilitation model; therefore, you will need to participate in the class. You will not be reading the text in class. You will have a quiz on your reading.</li> </ul> |
| 2             | <b>Respiration System</b><br>9.1 The Importance of an Oxygen Delivery System<br>9.2 Gas Exchange and Transport<br>9.3 Regulation of Breathing Movements  | <ul style="list-style-type: none"> <li>• Read Chapter 9</li> </ul> Create 3 questions based on your reading to hand in to the facilitator   |
| 3             | <b>The Circulatory System</b><br>10.1 Blood Vessels<br>10.2 The Heart<br>10.3 Regulation of Blood Flow<br>10.4 Capillary Fluid Exchange  | <ul style="list-style-type: none"> <li>• Read Chapter 10</li> <li>• Create 3 questions based on your reading to hand in to the facilitator.</li> </ul>  |
| 4             | <b>The Immune System</b><br>11.1 Components of Blood<br>11.2 The Body's Lines of Defence<br>11.3 Malfunctions of the Immune System   | <ul style="list-style-type: none"> <li>• Read Chapter 11</li> </ul> Create 3 questions based on your reading to hand in to your facilitator.  |
| 5             | <b>The Excretory System</b><br>12.1 Waste Excretion and Internal Equilibrium<br>12.2 Kidney Dysfunction  | <ul style="list-style-type: none"> <li>• Read Chapter 12.</li> </ul> Create 3 questions based on your reading to hand in to your facilitator.   |
| 6             | <b>The Nervous System</b> <ul style="list-style-type: none"> <li>• 13.1 The Importance of the Nervous System</li> <li>• 13.2 Electrochemical Impulse</li> <li>• 13.2 Central Nervous System</li> <li>• 13.4 Peripheral Nervous system</li> </ul>   | <ul style="list-style-type: none"> <li>• Read Chapter 13.</li> <li>• Create 3 questions based on the reading.</li> </ul>  |
| 7             | <b>The Senses</b> <ul style="list-style-type: none"> <li>• 14.1 Sensory Information</li> <li>• 14.2 Structure of the Eye</li> <li>• 14.3 Hearing and Equilibrium</li> </ul>  | <ul style="list-style-type: none"> <li>• Read Chapter 14</li> <li>• Create 3 questions based on your reading to hand in to the facilitator.</li> </ul>  |
| 8             | <b>Endocrine System</b> <ul style="list-style-type: none"> <li>• 15.1 Homeostasis, Hormones, and the Endocrine System</li> <li>• 15.2 Hormones that Affect Blood Sugar</li> <li>• 15.3 Hormones that Affect Metabolism</li> <li>• 15.4 Hormones Affecting Water and Ion Balance</li> <li>• 15.5 Adjustments to Stress</li> </ul> | <ul style="list-style-type: none"> <li>• Read Chapter 15</li> <li>• Create 3 questions based on your reading to hand in to the facilitator.</li> </ul>  |
| 9             | <b>Reproduction and Development</b> <ul style="list-style-type: none"> <li>• 16.1 The Male Reproductive System</li> <li>• 16.2 The Female Reproductive System</li> <li>• 16.3 Fertilization, Pregnancy, and Birth</li> </ul>   | <ul style="list-style-type: none"> <li>• Read Chapter 16</li> <li>• Create 3 questions based on your reading to hand in to the facilitator</li> </ul>   |
| 10            | <ul style="list-style-type: none"> <li>• <b>Final Exam – 3hr, Location to be announced</b></li> </ul>  |   |