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CURRICULUM GUIDE: OFFICIAL COURSE OUTLINE

Course Code	BIOL 120	Course Title	Anatomy and Physiology II			
Credit Value	4	Department	Mathematics and Science			
No. of weeks	14	Hrs. per week	*Lecture*	*Tutorial*	*Laboratory*	*Total*
			3	0	3	6
Course Description	Gross human anatomy is the science of the structure of the human body and its parts that can be observed with the unaided eye. Human physiology is the science of the functions of the living human body. This course, which is the second half of a comprehensive study of human anatomy and physiology, will concentrate on the structure and function of the endocrine, digestive, urinary, integumentary, reproductive, and developmental systems of the body.					
Prerequisite(s)	ENGL 098					

Initial Articulation Targets	*UBC*	*SFU*	*UVic*	*UNBC*	*TRU*
	ALEX BIOL 110 (4) & ALEX BIOL 120 (4) = UBCV BIOL_V 153 (7); ALEX BIOL 110 (4) & ALEX BIOL 120 (4) = UBCV KIN_V 190 (3) & UBCV KIN_V 191 (3)	BPK 1XX (3)	EPHE 141 (1.5)	ALEX BIOL 110 (4) & ALEX BIOL 120 (4) = UNBC HHSC 111 (4) & UNBC HHSC 112 (4)	TRU BIOL 1692 (3) & TRU BIOL 1694 (0)
	For updated information on the transferability of this course, please consult the BC Transfer Guide, www.bctransferguide.ca				

Learning Outcomes

Upon successful completion of this course, the student will be able to:

- Describe the basic structure (anatomy) and function (physiology) of the endocrine system, digestive system, urinary system, integumentary system, and reproductive system.
- Relate the basics of nutrition and food metabolism to their impact on the structures and functions of the body.
- Explain fluid, electrolyte, and acid-base homeostasis.
- Highlight important features in the mechanisms of development and inheritance.

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Content	**Core** topics – all of the following will be covered:
	• The Endocrine System
	  ○ Basic functions of the endocrine system
	  ○ Hormones
	  ○ Regulation of hormone secretion
	• The Digestive System
	  ○ Organs involved in digestion
	  ○ The alimentary canal and accessory organs
	  ○ Mechanical and chemical digestion
	  ○ Regulation of function of digestive system by nervous system and endocrine system
	• Nutrition and Metabolism
	  ○ Metabolism and energy balance (basal metabolic rate)
	  ○ Metabolic Reactions
	  ○ Vitamins, minerals
	• The Urinary System
	  ○ Anatomy of the kidneys (general and microscopic)
	  ○ Urine formation and elimination
	  ○ Disorders of the urinary systems
	• Fluid, Electrolyte, and Acid-Base Homeostasis
	  ○ Fluid Compartments and Fluid Balance
	  ○ Sources of Body Water Gain and Loss
	  ○ Regulation of Body Water Gain
	  ○ Regulation of Water and Solute Loss
	  ○ Concentrations of Electrolytes in Body Fluids
	  ○ The Actions of Buffer Systems
	  ○ Exhalation of Carbon Dioxide
	  ○ Kidney Excretion of H +
	• The Reproductive Systems
	  ○ Organs of the male reproductive system
	  ○ Organs of the female reproductive system
	  ○ Hormonal Regulation of the Female Reproductive Cycle
	  ○ Phases of the Female Reproductive Cycle
	• Development and Inheritance
	  ○ Embryonic Period
	  ○ Fetal Period
	  ○ Respiratory Adjustments
	  ○ Cardiovascular Adjustments
	  ○ The Physiology of Lactation
	  ○ Genotype and Phenotype
	  ○ Variations on Dominant-Recessive Inheritance
	  ○ Autosomes, Sex Chromosomes, and Sex Determination
	  ○ Sex-Linked Inheritance
	• The Integumentary System
	  ○ Structure of the Skin

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Accessory Structures of the Skin
Types of Skin
Functions of the Skin
Development of the Integumentary System

Additional topics may also be covered, at the discretion of the instructor.
Labs:

Language of Anatomy
Biomolecules
Homeostasis
Endocrine System
Hormone Regulation
Digestion
Nutrition
Urinary system
Reproductive system

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<tr><td>Methods of Instruction</td><td>Lectures, demonstrations, small group discussions, case study analysis, concept mapping, and internet research.</td></tr>
<tr><td>Required Textbook(s)</td><td>The following textbook(s) is/are required, or approved equivalent(s).

Marieb, Elaine and Lori Smith. Laboratory Manual for Anatomy & Physiology. 7th Edition Pearson Publishing, 2019.

Tortora, Gerard and Bryan Derrickson. Principles of Anatomy and Physiology. 16th Edition. New Jersey: Wiley & Sons Publishing, 2020.</td></tr>
<tr><td>Required Equipment and Technology</td><td>Students are required to have a computer with internet access.
The following resources are provided by the College:
Office 365
Student email</td></tr>
<tr><td>Homework Hours</td><td>At minimum, students can expect one hour of homework for every hour of instructional time.</td></tr>
<tr><td>Evaluation</td><td>
<table>
<tr><td>Component</td><td>% Value</td></tr>
<tr><td>Quizzes and assignments</td><td>10-15%</td></tr>
<tr><td>Laboratory experiments and activities
• Weight divided over 9 labs</td><td>15-20%</td></tr>
<tr><td>Comprehensive laboratory exam</td><td>15-20%</td></tr>
<tr><td>Midterm exam</td><td>15-20%</td></tr>
<tr><td>Comprehensive final exam</td><td>30-35%</td></tr>
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<tr><td>Completion Requirements</td><td>The minimum grade to pass this course is D (50%). Unless otherwise stated, a minimum grade of C- (55%) is required for this course to fulfil a prerequisite.</td></tr>
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Course Designer(s)	Dr. Mitra Panahi, Biology Instructor, Alexander College	Consultant(s), *if applicable*	Sharon Gillies, Ph.D., (Head) Department of Biology, University of the Fraser Valley
Dean's Approval	Barbara Moon, Ph.D. Dean of Arts and Sciences, Alexander College	Dean's Approval Date	October 25, 2016
Curriculum Committee Approval Date	October 25, 2016	First Term Offered	Spring 2017
Last Review Date	September 1, 2024	Next Review Date	September 1, 2029
Revision History	March 3, 2017. Prerequisite BIOL 100 or BIOL 110 removed. March 1, 2023-Minor updates (e.g., assessment ranges, textbooks) by Lindsey Spielman and Carol Pollock September 1, 2024 – Laboratory assessments revised by Kelly Cheung.		