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# BIOL 1083: Principles of Biology - Part 1

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## EFFECTIVE DATE

January 2018

## DEPARTMENT

UT Sciences

## DESCRIPTION

This course introduces the student to the study of the cell. Students examine cell structure, metabolism and genetics. The course explores diets and family hereditary patterns, linking both to the blueprint of life itself, DNA. Topics addressed include basic chemistry, biochemistry, nutrition, immunology, cancer, the human genome, genetic engineering, and metabolic pathways. Both Biology 1083 and Biology 1093 are required for covering the biology topics contained in high school courses up to and including the Grade 12 level. Biology 1083 and Biology 1093 can be taken at the same time or in any order.

## CREDITS

3.0

## YEAR OF STUDY

1st Year Post-secondary

## PREREQUISITES

• Biology 11 or equivalent • Chemistry 11 or equivalent is recommended • English 10 or equivalent (English 11 is strongly recommended) • Math 10 (VCC MATH 0750/0751, Foundations of Math & Precalculus 10, or equivalent)

## COREQUISITES

None

## COURSE LEARNING OUTCOMES

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

- Develop understanding of selectively permeable biological membranes in the Cell Membrane Lab
- Explore the effect of pH, temperature, and heavy metal concentration on enzyme function in the Enzyme kinetics lab
- Develop compound light microscope skills in the Microscope Lab and Histology Lab activity
- Demonstrate the ability to work independently and as part of a team
- Use the scientific method - write a formal lab report, cite references appropriately

- Demonstrate familiarity with common lab equipment. Conduct lab procedures safely and ethically
- Collect, record and analyze data effectively - Communicate results and conclusions
- Demonstrate an awareness of ethical issues relevant to life sciences

## PRIOR LEARNING ASSESSMENT & RECOGNITION (PLAR)

None

## HOURS

Lecture: 60

## INSTRUCTIONAL STRATEGIES

Class-based - lecture and small group workshops.

## GRADING SYSTEM

Letter Grade (A-F)

## PASSING GRADE

D

## EVALUATION PLAN

Type	Percentage	Assessment activity
Quizzes/Tests	40	2 tests at 20% each
Lab Work	30	approximately 30% for various lab related activities including at least one formal lab write-up
Assignments	10	approximately 10% for various assignments, which may include genetics and/or nutrition
Final Exam	20	

## COURSE TOPICS

- Basic Chemistry
- Biochemistry - Carbohydrates, Proteins, Lipids, Nucleic Acids
- Microscopy
- Cell Biology
- Histology
- Nutrition

Enzymes  
Bioenergetics - Cellular Respiration/Photosynthesis  
Cell Division - Meiosis/Mitosis  
Genetics  
DNA/RNA Protein Synthesis  
Biotechnology  
Immunity and Disease

## LEARNING RESOURCES

None

Notes:

- Course contents and descriptions, offerings and schedules are subject to change without notice.
- Students are required to follow all College policies including ones that govern their educational experience at VCC. Policies are available on the VCC website at:  
<https://www.vcc.ca/about/governance--policies/policies/>.
- To find out how this course transfers, visit the BC Transfer Guide at <https://www.bctransferguide.ca>.

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### Broadway campus

1155 East Broadway  
Vancouver, B.C. Canada  
V5T 4V5

### Downtown campus

250 West Pender Street  
Vancouver, B.C. Canada  
V6B 1S9

### Annacis Island campus

1608 Cliveden Avenue  
Delta, B.C. Canada  
V3M 6P1

604.871.7000

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