

# Biochemistry 3100 : Proteins and Nucleic Acids (Fall2013)

## Calendar Information

Credit hours: 3.0                      Contact hours: 3-0-3                      Classroom: L1050  
Prerequisites: Biochemistry 2000, Chemistry 2600  
Corequisite: Chemistry 2410  
Lecture Time: 1050-1205 TR

Chemistry of the proteins and nucleic acids with an emphasis on the relations of structure to function as observed in catalysis, ligand binding, and nucleic acid.

## Contact Information

Instructor:	Steven Mosimann, PhD	E-mail:	<a href="mailto:steven.mosimann@uleth.ca">steven.mosimann@uleth.ca</a>
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Lab:	EP1287, EP1303 CCBN	Lab Phone:	329 2746
Office Hours:	MW 1330-1500, F 1000-1130 or by appointment		

## Course Material

Textbook: Biochemistry, Voet & Voet, 4<sup>th</sup> Edition

### Planned Topics

#### Proteins

- Lecture 1 – Chemical sequencing of proteins
- Lecture 2 – Chemical synthesis of proteins
- Lecture 3 – Experimental Methods – Electrophoresis/Chromatography
- Lecture 4 – Protein Structure
- Lecture 5 – Protein Folding
- Lecture 6 – Chaperones
- Lecture 7 – Ligand binding & cooperativity
- Lecture 8 – Enzyme kinetics
- Lecture 9 – Enzyme inhibitors
- Lecture 10 – Fibrous proteins

#### Nucleic Acids

- Lecture 11 – DNA Structure
- Lecture 12 – DNA Structure II
- Lecture 13 – RNA structure
- Lecture 14 – RNA structure II
- Lecture 15 – Regulatory RNA

## Laboratory – start week of Sept 9-13

The Biochemistry 3100 Laboratory Outline (Fall 2013) will be made available by Laboratory Coordinator (Quintin Steynen, MSc) during the first week of classes. The laboratory component of this course involves demonstration the ability to perform and interpret common biochemistry laboratory techniques and is evaluated as a simple Pass or Fail. Students must pass the laboratory component of the course in order to pass the course.

## Evaluation and Grading

<u>Exam</u>	<u>Weight</u>	<u>Tentative Date</u>
Quiz I (30 min)	5 %	October 3 <sup>rd</sup>
Midterm I (75 min)	20 %	October 17 <sup>th</sup>
Quiz II (30 min)	10 %	November 7 <sup>th</sup>
Midterm II (75 min)	25 %	November 21 <sup>th</sup>
Final (180 min)	40 %	Set by Registrars Office
	100 %	

All quizzes and exams are cumulative.

### Approximate Grading\*

80 – 100 %	A	Expected Class Average is 65%
65 – 79 %	B	Expected Grade Point Average is 2.7-2.8
50 – 64 %	C	
40 – 49 %	D	*The exact cut off for each letter grade will be determined
< 40 %	F	by the instructor following the final exam.

**Please Note :** Failure to attend a Quiz or Midterm exam will normally result in a score of zero, unless you have a good reason for being absent (Instructors discretion). In the case of illness, a medical certificate must be presented. In either case, the final exam will be pro-rated to reflect the missed Midterm exam. A missed final exam will normally result in a score of zero. Only the Dean (or Associate Dean) of Arts & Science can authorize a "make-up" final exam.

## Class Web Site

<http://www.uleth.ca/~steven.mosimann/bchm3100a.html>

or via the class website link on the UL webpage.

Solutions to quizzes and exams will be posted on the web site. Time permitting, Problem Sets and worked through solutions will be posted. Course notes will also be posted on the class web (usually at the start of the week). Finally, please note that additional materials may be used in class. Consequently, the course notes are not a complete substitute for attending lectures.