

BIOL 6520: Molecular Biophysics (Fall 2012, CRN: 82121)

1. Course Information

- Course number and section: BIOL 6520 A
- Course name: Molecular Biophysics
- Hours of credit: 3
- Pre-requisites or co-requisites as listed in university catalogue: Prerequisite: Admission into the graduate program or permission of the instructor.
- Classroom location and room number: BC 2022, MWF 12:00 pm - 12:50 pm
- Department, College, University: Department of Biology, College of Arts and Sciences, Valdosta State University

2. Instructor Information

- Instructor name: Dr. Jonghoon Kang
- Instructor contact: BC 2217, 229-333-7140, jkang@valdosta.edu
- Instructor office hours: Tue and Wed 2:00 pm - 3:00 pm

3. Course Description

- Course description as printed in university catalogue: Introduction to thermodynamics, kinetics, and their applications to biological systems. Students are expected to enhance their understanding of current biological literature that contains biophysical concepts covered in this course.
- Required texts, resources, and materials: *Physical Chemistry for the Biosciences*, 1st Edition by Raymond Chang from University Science Books (ISBN-13: 978-1891389337).
- Required out-of-class activities: In addition to attending the lectures you need to
 - ✓ Read your notebook (very important).
 - ✓ Read the textbook.
 - ✓ Work on problems in the textbook and any other materials assigned in class.

4. Standards, Goals, Objectives, or Outcomes

- outcomes:

The departmental educational outcomes (listed in the university catalogue).

1. To demonstrate competency in factual content and interpretation of the major biological concept areas of cell and molecular biology, genetics, organismal biology, and evolution and ecology.
2. To demonstrate the ability to identify significant biological research questions, develop research protocols, and properly analyze research questions through the use of the scientific method.
3. To produce a systematic and thoroughly researched thesis suitable for publication and appropriate to the thesis sub-discipline.

7. Schedule of Activities or Assignments, including university -scheduled final exam time (all schedule is tentative and may be subject to change)

Drop-Add (Banner) by 1:30 PM, Aug 17

Midterm: Oct 4

Date	Chapter	Class	Date	Chapter	Class
8/13	1	Introduction, Review of mathematics	10/10	6	
8/15	2	Properties of Gases	10/12	-	Test 3 (100 pt)
8/17	2		10/15	-	Fall break
8/20	3	The First Law of Thermodynamics	10/17	7	Electrochemistry
8/22	3		10/19	7	
8/24	3		10/22	7	
8/27	3		10/24	7	
8/29	-	Test 1 (100 pt)	10/26	8	Acids and Bases
8/31	4	The Second Law of Thermodynamics	10/29	8	
9/3	-	Labor day	10/31	-	Test 4 (100 pt)
9/5	4		11/2	9	Chemical Kinetics
9/7	4		11/5	9	
9/10	4		11/7	9	
9/12	4		11/9	9	
9/14	5	Solutions	11/12	10	Enzyme Kinetics
9/17	5		11/14	10	
9/19	5		11/16	10	
9/21	5		11/19	-	Test 5 (100 pt)
9/24	5		11/21	-	Thanksgiving
9/26	-	Test 2 (100 pt)	11/23	-	Thanksgiving
9/28	6	Chemical Equilibrium	11/26	13	Intermolecular Forces, Term Paper Due
10/1	6		11/28	15	Photochemistry and Photobiology
10/3	6		11/30	16	Macromolecules
10/5	6		12/3	-	Review
10/8	6		12/6	-	Final (200 pt) 12:30pm-2:30pm

8. Classroom Policies

- Attendance and tardiness: Any absence policy should conform to the university policy.
University Attendance Policy from the VSU catalogue:
“The University expects that all students shall regularly attend all scheduled class meetings held for instruction or examination. When students are to be absent from class, they should immediately contact the instructor. A student who misses more than 20% of the scheduled classes of a course will be subject to receive a failing grade in the course.”
- Accommodations Statement:
From VSU’s Access Office <http://www.valdosta.edu/access/facresources.shtml>:
“Students requesting classroom accommodations or modifications due to a documented disability must contact the Access Office for Students with Disabilities located in the Farber Hall. The phone numbers are 245-2498 (V/VP) and 219-1348 (TTY).”
- Academic Integrity: You know that cheating is a bad thing to do. Students caught cheating will receive a grade of F for the test in question and will be reported to the Dean of Students. You are expected to follow VSU’s Academic Integrity Code.
From VSU’s Academic Integrity Code (the full code is available at <http://www.valdosta.edu/academic/AcademicHonestyPoliciesandProcedures.shtml> :
“Academic integrity is the responsibility of all VSU faculty and students. Faculty members should promote academic integrity by including clear instruction on the components of academic integrity and clearly defining the penalties for cheating and plagiarism in their course syllabi. Students are responsible for knowing and abiding by the Academic Integrity Policy as set forth in the Student Code of Conduct and the faculty members’ syllabi. All students are expected to do their own work and to uphold a high standard of academic ethics. “
- Classroom demeanor or conduct: Every student should make the lecture a comfortable and enjoyable learning experience. Late entry to the class room or leaving early is bad behavior. Common sense should be practiced and expected.
- Communication: All VSU-related correspondence should be conducted via VSU email addresses for both student and instructor.

9. Additional Information (at instructor’s discretion)

- Expectations for competencies such as writing, technology skills, or performance: Students should be able to describe biological phenomena at the molecular and cellular level in terms of physics and chemistry.
- Instructional philosophy: I believe reading one book ten times is better than reading ten books one time each. This is the case for this course. Students are encouraged to practice all the exercise and examples in the textbook ten times.
- Strategies used to support learning: Students should take advantage of my office hours. Studying as a group (study group) should be a good idea.