

ORIGINATOR'S SECTION:														
1. College: <input checked="" type="checkbox"/> CoAS <input type="checkbox"/> CoBA <input type="checkbox"/> CoE	Desired Term and Year of Implementation (e.g., Fall 2008): Fall 2009													
2. Course is to be considered for G.E.? (If yes, also fill out appropriate GE form*) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No														
3. Course will be a variable-topics (generic) course? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ("generic" is a placeholder for topics)														
4. Course abbreviation and Number:* CHEM 341														
5. Title: (Titles using jargon, slang, copyrighted names, trade names, or any non-essential punctuation may not be used.) Introduction to Biochemistry														
6. Abbreviated Title for Banner: (no more than 25 characters, including spaces) Intro to Biochemistry														
7. Number of Units: 3														
8. Catalog Description: (Not to exceed 80 words; language should conform to catalog copy. Please consult the catalog for models of style and format; include all necessary information regarding consent for enrollment, pre- and/or corequisites, repeated enrollment, crosslisting, as detailed below. Such information does <u>not</u> count toward the 80-word limit.)  Intended for science majors, the goal of this one semester course is to familiarize students with the introductory concepts and language of biochemistry. The course will describe the biochemistry of proteins, lipids, carbohydrates and nucleic acids and will also introduce students to an overview of cellular metabolism. Not intended for chemistry, biochemistry and certain biological sciences majors (consult department). May not be substituted for CHEM 351 and/or CHEM 352. Prerequisite: CHEM 201 with a minimum grade of C(2.0).														
9. Why is this course being proposed?  The biological sciences department has informed the department of chemistry that they intend to drop the second semester of organic chemistry (CHEM 202) as a requirement for their major. This would preclude biological science majors from enrolling in our biochemistry course (CHEM 351) since CHEM 202 is a prerequisite for CHEM 351. However, the biological sciences department advises their majors to take a biochemistry course as preparation for the major. This proposed new course is a one semester introductory biochemistry course which does not require CHEM 202 as a prerequisite and thus will be accessible to all biological sciences majors.														
10. Mode of Instruction* (See pages 17-23 at <a href="http://www.calstate.edu/cim/data-element/APDB-Transaction-DED-SectionV.pdf">http://www.calstate.edu/cim/data-element/APDB-Transaction-DED-SectionV.pdf</a> for definitions of the Course Classification Numbers)		<table border="1"> <thead> <tr> <th>Type of Instruction</th> <th>Number of Credit Units</th> <th>Instructional Mode (Course Classification Number)</th> </tr> </thead> <tbody> <tr> <td>Lecture</td> <td>3</td> <td>C-02</td> </tr> <tr> <td>Activity</td> <td></td> <td></td> </tr> <tr> <td>Lab</td> <td></td> <td></td> </tr> </tbody> </table>	Type of Instruction	Number of Credit Units	Instructional Mode (Course Classification Number)	Lecture	3	C-02	Activity			Lab		
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Lecture	3	C-02												
Activity														
Lab														
11. Grading Method:* <input checked="" type="checkbox"/> Normal (N) (Allows Letter Grade +/-, and Credit/No Credit) <input type="checkbox"/> Normal Plus Report-in-Progress (NP) (Allows Letter Grade +/-, Credit/No Credit, and Report-in-Progress) <input type="checkbox"/> Credit/No Credit Only (C) <input type="checkbox"/> Credit/No Credit or Report-in-Progress Only (CP)														
12. If the (NP) or (CP) grading system was selected, please explain the need for this grade option.														
13. Course Requires Consent for Enrollment? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <input type="checkbox"/> Faculty <input type="checkbox"/> Credential Analyst <input type="checkbox"/> Dean <input type="checkbox"/> Program/Department - Director/Chair														
14. Course Can be Taken for Credit More than Once? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, how many times? (including first offering)														
15. Is Course Crosslisted: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  If yes, indicate which course and check "yes" in item #22 below.														
16. Prerequisite(s): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No CHEM 201														

see revised description att.

17. Corequisite(s):  Yes  No ~~\_\_\_\_\_~~

18. Documentation attached:  Syllabus  Detailed Course Outline

19. If this course has been offered as a topic, please enter topic abbreviation, number, and suffix:\*

20. How often will this course be offered once established? \* Every Fall

**PROGRAM DIRECTOR/CHAIR - COLLEGE CURRICULUM COMMITTEE SECTION:**  
*(Mandatory information – all items in this section must be completed.)*

21. Does this course fulfill a requirement for any major (i.e., core course or elective for a major, majors in other departments, minors in other departments)?  Yes  No

If yes, please specify:

22. Does this course impact other discipline(s)? (If there is any uncertainty as to whether a particular discipline is affected, check "yes" and obtain signature.)  Yes  No

If yes, obtain signature(s). Any objections should be stated in writing and attached to this form.

Biological Sciences Discipline	_____	_____	_____ Support	_____ Oppose
	Signature	Date		
Discipline	_____	_____	_____ Support	_____ Oppose
	Signature	Date		

**SIGNATURES : (COLLEGE LEVEL) :**

1. Originator (please print or type name) Sajith Jayasinghe Date 4/28/08

2. Program Director/Chair [Signature] Date 4/30/08

3. College Curriculum Committee [Signature] Date 05-01-08

4. College Dean (or Designee) [Signature] Date 5/12/08

**(UNIVERSITY LEVEL)**

5. UCC Committee Chair \_\_\_\_\_ Date \_\_\_\_\_

6. Vice President for Academic Affairs (or Designee) \_\_\_\_\_ Date \_\_\_\_\_

7. President (or Designee) \_\_\_\_\_ Date \_\_\_\_\_

\* If Originator is uncertain of this entry, please consult with Program/Department Director/Chair.

## CHEMISTRY 341: INTRODUCTION TO BIOCHEMISTRY

**Term:** Fall, 2009  
**Prerequisites:** CHEM 201 with a minimum grade of C (grade point 2.0).  
**Class time:** TBD  
**Class location:** TBD  
**Instructor:** TBD  
**Inst. Office:** TBD  
**Inst. Office hours:** TBD  
**Inst. Phone:** TBD  
**Inst. E-mail:** TBD

**Course Objective:** Intended for science majors, the goal of this course is to familiarize students with the introductory concepts and language of biochemistry. The course will describe the biochemistry of proteins, lipids, carbohydrates and nucleic acids and will also introduce students to an overview of cellular metabolism.

### Student Learning Outcomes:

Upon completion of this course students should be able to demonstrate their knowledge regarding:

- (1). the basic language of biochemistry
- (2). the structure of the important biological macromolecules: proteins, carbohydrates, lipids nucleic acids.
- (3). the relationship between structure and function in the biological macromolecules.
- (3). the basic chemical reactions involved in the synthesis and degradation of the biological macromolecules.
- (4). the biochemistry involved in the regulation of cellular metabolism.

These are general learning outcomes. Students are responsible for everything we discuss in class and available to you through your textbook.

**Textbook (Required):** TBD (for example Biochemistry by Campbell and Farrell from Thompson, Brooks/Cole publishing)

**WebCT:** The course website can be accessed via the campus WebCT system. The following will be available or done through the WebCT site:

- (i). Posting of all assignments.
- (ii). Submission of all assignments and the return of graded assignments (*also see below*).
- (iii). E-mail communication with the instructor and receiving notices from the instructor.
- (iv). A calendar tool indicating important course/assignment dates.
- (v). The syllabus
- (vi). Lecture notes (*also see below*).
- (vii). Links to worthwhile biochemistry related web sites.

***If you are not already familiar with the use of WebCT (version 6) please consult the IITS help desk or the instructor as soon as possible.***

**Lecture Notes:** PDF files of lecture slides are available online via webCT. It is highly suggested that you print a copy of these files and bring it to class with you. These lecture notes should NOT be considered

as a substitute for attending class. *You will notice that the notes contain more questions than answers.*

**Topic List:**

Unless otherwise noted all chapters refer to the course textbook. Below is the topic list for CHEM 349 for the fall semester of 2009. Although every attempt will be made to adhere to this list I reserve the right to adjust this list of topics and/or the time spent on each topic as the semester progresses. **Read the relevant chapters in the textbook before the lecture.**

Tentative Schedule of Topics:

- (1). Introduction, importance of water in biological systems
- (2). Properties of amino acids
- (3). Protein and peptides: the primary, secondary, tertiary and quaternary structure
- (4). Protein structure and function
- (5). Enzymes: kinetics, inhibition, and regulation
- (6). Carbohydrates
- (7). Lipids
- (8). Nucleic acids
- (8). Biological membranes
- (9). Overview of cellular metabolism
- (10). Metabolism of carbohydrates
- (11). Metabolism of lipids
- (12). Metabolism of proteins

**Exams:**

There will be three (3) mid-semester exams and a final examination. The midsemester exams will be one hour in length. The final exam is two hours in length. The three mid-semester exams are scheduled as follows:

- 1<sup>st</sup> mid-semester exam – TBD
- 2<sup>nd</sup> mid-semester exam – TBD
- 3<sup>rd</sup> mid-semester exam – TBD

The final examination is comprehensive, and is scheduled for, **TBD**.

Make up examinations will only be given if the student has a valid excuse (severe illness, death in the family, etc.) and notifies the instructor prior to test time (if possible). No make-up examination will be given unless the instructor is notified of the emergency within two (2) days of the test.

Exams will contain multiple choice, short answer, and essay type questions. Please bring a scantron.

**Use of Electronic Devices:**

The use of cell phones, PDAs, or any other electronic device during exams is not allowed. Scientific calculators are permitted.

**Use of Cellular Phones:**

All cellular phones must be set to the silent mode. Please refrain from using your cellular phone during class. If you must answer your phone, due to an emergency, please leave the classroom.

**Assignments:**

A set of assignments (one to two page written reports) will be provided throughout the semester. These assignments will be available via WebCT. Due dates will be posted on WebCT. Although you may work in groups to complete these assignments, all submitted work must be your own. All assignments must be **submitted as PDF** files through the course web site on WebCT.

**Late submission will be assessed a 2% (of the assignment grade) penalty per day of lateness.**

**Assignment Submission:**

Assignments **must be submitted as PDF files via WebCT**. Please DO NOT submit hard copies of your work. Submission of Microsoft word files is discouraged as it can lead to changes in document formatting.

Assignments should be properly paginated and should contain 1 inch margins.

**Grading (points):**

3 mid-semester examinations	150	50%
Assignments	50	16.7 %
Final examination	100	33.3 %
Total	<u>300</u>	<u>100%</u>

**Letter grades:**

Letter grades will be assigned based on the following cutoff values:

Percentage	Grade
90% and above	A
88 – 89.9%	B+
82.1 – 87.9%	B
80 – 82%	B-
78 – 79.9%	C+
72.1 – 77.9%	C
70 – 72%	C-
68 – 69.9%	D+
62.1 – 67.9%	D
60 – 62%	D-
59.9% and below	F

**Writing Requirement:** The University Writing Requirement will be satisfied upon completion of course assignments and the term paper.

**Students with Disabilities:**

Students with disabilities who require accommodation must be approved by the Office of Disabled Student Services (DSS). Please contact this office as soon as possible and should meet with the instructor during office hours (or at some other mutually agreeable time). The DSS office is located in Craven hall 5205. Their telephone number is (760) 750-4905 or TTY (760) 750-4909.

**Academic Honesty:** All students are expected to maintain academic honesty. This is especially true with regards to the completion of assignments and the term paper. **All submitted work must be your own and must be written in your own words.**

All students should be familiar with the university policies and procedures concerning academic honesty as detailed in the university catalog. An online version of these policies and procedures can also be found at: [http://lynx.csusm.edu/policies/procedure\\_online.asp?ID=187](http://lynx.csusm.edu/policies/procedure_online.asp?ID=187)

Cheating, plagiarism, and other forms of academic dishonesty will not be tolerated. If you are caught cheating on an exam you will receive a grade of zero. All cases of academic dishonesty will be reported to the dean of students for appropriate action.

**Use of Plagiarism Detection Software:**

Where appropriate the instructor will use software (TURNITIN) for the detection of plagiarism.

Plagiarized work will not be graded (see above).

**Classroom Behavior and Student Code of Conduct:**

Students are expected to respect and follow standards of student conduct while in class and on the campus. As your instructor, I have the following expectations concerning your behavior in this class:

1. Promote a courteous learning atmosphere by exhibiting mutual respect and consideration of the feelings, ideas, and contributions of others.
2. Practice consideration for others by maintaining a clean and orderly classroom.
3. Recognize everyone's opportunity to contribute information in a relevant and meaningful manner by not monopolizing discussions, interrupting, interjecting irrelevant, illogical or inappropriate questions or comments.
4. Do not dominate class discussion--give others a chance to contribute!
5. If you must eat in class do so discreetly.

**HOW TO STUDY CHEMISTRY IN ORDER TO EARN A GRADE OF A, B, OR C.**

1. **Take good lecture notes.** You are responsible for everything that I write or project on the board (except videos). Make use of the PDF files of my slides (see above) to reduce the amount of writing you have to do in class.
2. Make flash cards of definitions, concepts, reactions, structures, and nomenclature that are covered in lecture notes.
3. Use your lecture notes/flash cards as a guide to your **reading in the textbook**. Read the relevant chapter (or chapter section) before coming to the lecture and after attending the lecture (yes, twice).
4. **Solve the homework problems.** Some of the answers are in the back of the textbook. One of the best ways of learning is to find a study partner or to form a study group and work on the problems together. Doing the homework problems is how you develop the analytical/critical thinking skills to do well on exams.
5. **Attend class.**
6. **If you have questions, ask.** Make use of the instructor's office hours.

## Virginia Mann

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**From:** Sajith Jayasinghe  
**Sent:** Wednesday, January 14, 2009 2:52 PM  
**To:** Virginia Mann; Jacqueline Trischman; Jose Mendoza  
**Cc:** David Barsky; Olaf Hansen  
**Subject:** RE: UCC and review of CHEM courses  
**Attachments:** CHEM course descriptions.doc

Virginia,

Sorry about that. I took a look at the revised descriptions and they look fine. In the revised description for CHEM 341 there was an error I corrected. It read "May not be substituted for CHEM 315..." it should read "May not be substituted for CHEM 351...". I also added the 'biological sciences' where it says "(consult department)".

I am attaching the corrected version. I did not see any other problems with the descriptions.

Jay

-----Original Message-----

**From:** Virginia Mann  
**Sent:** Wed 1/14/2009 12:01 PM  
**To:** Jacqueline Trischman; Sajith Jayasinghe; Jose Mendoza  
**Cc:** David Barsky; Olaf Hansen  
**Subject:** FW: UCC and review of CHEM courses

Hello Jackie,

The UCC has still not reviewed the four CHEM courses we received at the beginning of Fall 08, as we are awaiting the revised descriptions from you. David had sent you some suggested new wording, which is attached. Please see my Oct. email below, and David's from August. Sorry to be such a nudge - just trying to wrap up loose ends.

Virginia

## CHEM 341

### Introduction to Biochemistry

#### Proposed description:

Intended for science majors, the goal of this one semester course is to familiarize students with the introductory concepts and language of biochemistry. The course will describe the biochemistry of proteins, lipids, carbohydrates and nucleic acids and will also introduce students to an overview of cellular metabolism. Not intended for chemistry, biochemistry and certain biological sciences majors (consult department). May not be substituted for CHEM 351 and/or CHEM 352. Prerequisite: CHEM 201 with a minimum grade of C (2.0).

#### Revised description:

A one-semester introduction to the concepts and language of biochemistry. Includes a description of the biochemistry of proteins, lipids, carbohydrates and nucleic acids, and an overview of cellular metabolism. *Intended for science majors, but not for chemistry, biochemistry and certain biological sciences majors (consult biological science department). May not be substituted for CHEM 351 and/or CHEM 352. Prerequisite: CHEM 201 with a minimum grade of C (2.0).*

*Enroll. Require!*

Question. Which department should BIOL majors consult: Chem. & Biochem. or Biol. Sci.? I think that you mean Biol. Sci., but I'm not certain that this will be clear to students.