LAS POSITAS COLLEGE

Directions for the Request for a Course Substitution of an Associate Degree (AA/AS) or Certificate Requirement Form

Purpose of the Form

This form is for requesting a course substitution of a course listed as a program requirement in the college catalog for an Associate Degree (AS/AS), Certificate of Achievement, or Certificate of Accomplishment.

1. If you are requesting a course substitution for an Associate Degree for Transfer, please use the Request for a Course Substitution for an Associate Degree for Transfer(AA-T/AS-T) form.
2. This form **cannot be used for** requesting a course to satisfy a **General Education requirement**. Determination of General Education applicability is conducted through the incoming transcript request process or during evaluation of a graduation request.
3. The course used for the substitution must be:
    a. **From a regionally accredited institution.**
    b. **Lower division.**
    c. **Completed and transcripted.**
4. If approved, a student may be required to substitute elective course(s) to obtain the total units required for the program.

Filling Out the Form

1. Fill out one form per course substitution.
2. Fill out the **Student Information** section with your most up to date contact information.
3. Fill out the title of the **Program/Major** and select the type of program.
4. Fill out the **I wish to substitute the following course** section with information for the Las Positas College course you wish to be substituted with another course. The semester/year is for the academic year of the catalog with the programatic course sequence you are following (e.g. the catalog for the year you started or restarted).
5. Fill out the **I wish to use the following course** section with the information of the course you **already completed** and wish to use for a substitution.
6. For the **Rationale**, select the reason for the substitution and feel free to add comments as needed.

Required Supporting Materials

Please provide:

1. An **official transcript**.
    a. **Foreign transcripts** need an **official evaluation** by an **accredited agency**.
2. A **course syllabus** and/or **course outline of record** including a **detailed course description** of the course used for the substitution.
3. Academic records that demonstrate all program requirements are completed or close to completion if the substitution is being requested because the course has not been offered recently or is no longer offered.

Submitting the Form

Submit the completed **Form** and the **Required Supporting Materials** electronically to lpc-articulation@laspositascollege.edu **or** in person to the Front Desk in Building 1600 addressed to the Articulation Officer and email a notification of your submission to lpc-articulation@laspositascollege.edu.

Review and Notification Process

The **Program Faculty Coordinator** and their **Division Dean** will review the materials and make their determinations. **If** the Program Faculty Coordinator and their Division Dean **disagree** regarding approval/denial of the request, the Las Positas College Academic Senate shall make the **final determination**. The student will be notified of the final decision by A&R.

LAS POSITAS COLLEGE

Request for a Course Substitution of an Associate Degree (AA/AS) or Certificate Requirement

Student Information

Last Name | First Name, M.I.

W# | Date 09/27/2021

Current Address | City Livermore | State CA | ZIP 94551

Phone | Email Address

Program Information

Program/Major: Biology-Allied Health

Program Type
- ○ Associate of Arts (AA) Degree
- ◉ Associate of Science (AS) Degree
- ○ Certificate of Achievement
- ○ Certificate of Accomplishment

I wish to substitute the following course:

Course Prefix: Chem | Course Number: 30B | Course Title: Intro and applied chemistry II

Units: 4.0 | Semester/Year

I wish to use the following course:

Name of Institution: Ohlone

Course Prefix: CHEM | Course Number: 109-07 | Course Title: Chem109 Biochem for Health Science

Units: 4.0 | Semester/Year: 2019 Fall

Rationale

- ○ Required course no longer offered
- ◉ Completed a similar course at another institution
- ○ Required course has not been offered in the last two terms and will not be offered in the next term

Other/Comments:

I wish to substitue Ohlone's Chem 109-07 Biochem for Health Science for LasPo's Chem 30B. I was told by counseling, before I took the course, that it is an acceptable substitue, however, Degree Works is not applying it to my AA Biology Allied Health degree requirements. I understand that Degree Works could be incorrect. LasPo has my Ohlone transcript on file.

Program Faculty Coordinator

Signature | Date

○ Approved ○ Denied Rationale:

Program Division Dean

Signature | Date

○ Approved ○ Denied Rationale:

Las Positas College Academic Senate President

Signature | Date

○ Approved ○ Denied

Craig Kutil

From: Christopher Dudzik
Sent: Tuesday, September 28, 2021 7:45 AM
To: Craig Kutil
Subject: Re: Equivalency question

Hi Craig,

Sorry it took me so long to get back to you. I looked over the Chem 109 class description and I am convinced that it is the equivalent of Chem 30A and Chem 30B in principle. I have taught a similar course before at other colleges and can tell you that the topic coverage is superficial compared to our courses but that the subject matter is almost identical. Chem 109 students would just be presented with the material at a faster rate and with less time to practice. Everything you want in a course that teaches people who eventually might hold your life in their hands.

Hopefully this answers your question. If not please let me know and I can give more specific examples.

Best,
Chris

From: Craig Kutil <CKutil@laspositascollege.edu>
Sent: Monday, September 27, 2021 5:01 PM
To: Christopher Dudzik <cdudzik@laspositascollege.edu>
Subject: Equivalency question

Hi Chris,

A student is requesting a course substitution for CHEM 30B, and I want to see the course they want to use is equivalent (making the substitution superfluous). I attached the COR for CHEM 109 from Ohlone. I am wondering if the Ohlone course is our CHEM 30A + 30B, but covering less depth. Our CHEM 30A and 30B both articulate to C-ID descriptors, and the Ohlone course does not. Please let me know if you believe that CHEM 109 form Ohlone is the same as our CHEM 30B.

Take care,

Craig Kutil

Articulation Officer
Professor, Mathematics
Instructor, Martial Arts
Vice President, Academic Senate
Faculty at Large, Faculty Association
Advisor (ASCCC), ICAS – IGETC Standards Subcommittee
Member (ASCCC), C-ID AO Subgroup
Las Positas College
(925) 424-1346
http://laspositascollege.edu/faculty/ckutil
http://www.laspositascollege.edu/lpcarticulation/

OHLONE COLLEGE
Ohlone Community College District
OFFICIAL COURSE OUTLINE

I. **Description of Course:**

1. **Department/Course:** CHEM - 109
2. **Title:** Biochemistry for Health Science and Biotechnology
3. **Cross Reference:**
4. **Units:** 4
   Total Lecture Hours: 54.00
   Total Lab Hours: 54.00
   Total Contact Hours: 108.00
   Total Outside-of-Class Hours: 108.00
   Total Student Work Hours: 216.00
5. **Repeatability:** No
6. **Grade Options:** Grade Only (GR)
7. **Degree/Applicability:**
   Credit, Degree Applicable, Transferable - CSU & UC (T)
8. **General Education:**
   Plan A - District General Education
   I. Natural Sciences
   Plan B - CSU General Education
   B1 - Physical Science
   B3 - Laboratory Activity
   Plan C - IGETC
   5A. Physical Sciences
   5C. Science Labratory
9. **Field Trips:** Not Required
10. **Requisites:**
    Prerequisite
    MATH 151 Algebra I
11. **Catalog Description:**
    This course covers the basic concepts of inorganic and organic chemistry and biochemistry as they apply to the human body. No previous chemistry is required. This course satisfies the requirements of nursing, biotechnology, and related majors that require one semester of chemistry. This course does not meet the prerequisite for Chemistry 101A. Students are required to purchase a lab coat; goggles with indirect venting and side shielding; and a calculator.
12. **Class Schedule Description:**
    Topics in this course include inorganic, organic, and biochemistry. This course does not meet the prerequisite for Chemistry 101A. Students need to purchase a lab coat, goggles, and a calculator.
13. **Counselor Information:**
    This course is designed to fulfill the prerequisite for BIOL 103A and BIOL 106, which students must complete to apply for the two-year Associate of Science nursing program at Ohlone College as well as other colleges. Students preparing to enroll in CHEM 101A should enroll in CHEM 102. CHEM 109 may also serve to satisfy the GE lab science requirement for other students. A student who completes BIOL 101A may petition to waive CHEM 109.

II. **Student Learning Outcomes**
Students will be able to:

1. Perform calculations including unit conversions, density, dosages, concentrations, dilutions, and pH.
2. Use the Periodic Table of Elements to predict physical and chemical properties of elements and compounds.
3. Analyze and apply concepts of biological and/or physical science obtained through the scientific method, such as endothermic (endergonic) and exothermic (exergonic) processes, kinetic and potential energy; polar and nonpolar molecules; soluble and insoluble solutions; osmosis and diffusion; acids, bases, and buffers; DNA replication and transcription, and RNA translation.
4. Demonstrate correct laboratory techniques, including making solutions, performing dilutions, spectrophotometry, chromatography, and filtration; obey safety rules at all times.
5. Identify the following functional groups when they appear in an organic structure: alkene, alkyne, alcohol, ether, aldehyde, ketone, carboxylic acid, ester, amine, amide, and aromatic rings.
6. Identify the structures of carbohydrates, lipids, proteins, enzymes, and nucleic acids and their roles in living cells.
7. Analyze the role of ATP in the energetics of a cell; describe the major catabolic pathways in the production of ATP including calculations of ATP yield.

III. **Course Content:**

A. Atoms and elements
B. Measurements
    1. Metric and SI units
    2. Manipulation and recording of units
    3. Unit interconversion
    4. Applications: dose calculations
C. Chemical compounds
D. Chemical reactions
E. Energy and the states of matter
    1. Measuring heat
    2. States of matter and energy changes
        a. Solids
        b. Liquids
        c. Gases and kinetic molecular theory concepts
F. Nuclear chemistry and practical applications
G. Aqueous solutions
    1. Nature of aqueous solutions
    2. Solubility
    3. Concentration
    4. Dilution
    5. Applications: blood gases and lung function
H. Acids, bases and salts
    1. pH
    2. Buffers
    3. Applications: blood buffers, acidosis, alkalosis
I. Organic chemistry
    1. Functional groups

2. Solubility
3. Hydrolysis and saponification
4. Oxidation-reduction

J. Biochemistry: selected topics
1. Carbohydrates
2. Polysaccharides
3. Proteins
    a. Amino acids
    b. Structural features
    c. Overview of protein function
    d. Enzymes
        i. Definition of apoenzymes, holoenzymes, cofators, and allosteric enzymes
        ii. How reaction rates are affected by pH, temperature, and substrate concentration
        iii. Models of enzyme action
        iv. Role of enzymes in the metabolic process
        v. Negative feedback mechanisms
    e. Lipids
    f. Steroids
    g. Phospholipids
    h. Nucleic acids
        i. Structures of DNA and RNA
        ii. DNA replication
        iii. DNA transcription, RNA translation, and protein formation
        iv. The gnetic code
        v. Mutations
    i. Catabolic processes and biochemical energetics
        i. The role of ATPi in the energetics of a cell
        ii. Glycolysis and anaerobic degradation of glucose
        iii. The citric acid cycle and calculation of ATP yield

K. Laboratory Skills
1. Safety rules
2. Lab protocol and keeping a laboratory notebook
3. Waste disposal requirements
    a. Use of typical lab equipment
        i. Balances and weighing
        ii. Glassware including graduated cylinders
        iii. Pipetting
        iv. Barometric pressure and temperature
        v. Chemical tests including pH
        vi. Spectrophotometers
        vii. Burets
    b. Titration
    c. Making soltions
    d. Performing dilutions
    e. Observation of chemical reactions
    f. Soap investigation

g. Aspirin investigation
h. Observation of enzyme activity
i. Measurement of protein and/or other concentrations
j. DNA investigation

4. Suggested Experiments
a. Intro/Lab Safety
b. Measurements
c. Using Conversion Factors in Calculations
d. Density
e. Atomic Structure
f. Electron Configuration and Periodic Properties
g. Compounds and Their Formulas
h. Building Models of Molecules Using Model Kits
i. Energy and Specific HEat
j. Chemical REactions & Equations
k. Moles and Chemical Formulas
l. Using Volumetric Flasks to Mix Solutions of Given Molarity
m. Pipetting and Performing Dilutions
n. Testing for Cations and Anions
o. Acid-Base Titration
p. Properties of Organic Compounds
q. Reactions of Hydrocarbons
r. Alcohols and Phenols
s. Aldehydes and Ketones
t. Carboxylic Acids and Esters
u. Amines and Amides
v. Tests of Carbohydrates
w. Saponification and Soaps
x. Peptides and Proteins

IV. **Course Assignments:**

A. Reading Assignments
1. Readings from the textbook pertaining to general chemistry, organic chemistry and biochemistry topics.

B. Projects, Activities, and other Assignments
1. Instructor-generated problem sets on dosages, dilutions, solution concentrations, etc.
2. Pre-lab reading and problem assignments
3. Supplemental lab problem sheets
4. Lab experiments and lab record sheets
5. Homework questions pertaining to general chemistry, organic chemistry and biochemistry topics.
6. One independent project-topic of student's choice related to a health field (presented to the class)

C. Writing Assignments
1. Recording data and observations in a laboratory notebook
2. Prepare reports in a laboratory manual

V. **Methods of Evaluation:**

A. Homework questions pertaining to general chemistry, organic chemistry and biochemistry topics.
B. Laboratory notebook, which include data, observations
C. Lab worksheets which include questions and interpretation of lab results.
D. Written and/or online quizzes, covering basic concepts and calculations from lecture and lab.
E. Written examinations which include: a) Multiple choice questions pertaining to general chemistry, organic chemistry and biochemistry topics. b) Problems requiring demonstrations of ability to use mathematical and non-mathematical strategies. c) Analysis of diagrams, completion of charts, fill-in.

VI. **Methods of Instruction:**

A. Lecture
B. Laboratory
C. Discussion
D. Demonstration
E. Audiovisual
F. Distance Learning

VII. **Textbooks:**

Recommended

1. Karen C. Timberlake *Custom Lab Manual for Ohlone College* custom Edition, Pearson Collection, 2018 ISBN: 9781323884188
2. Timberlake, Karen *Chemistry: An Introduction to General, Organic and Biological Chemistry* 13th Edition, Pearson Education, Inc/Benjamin Cummings, 2018

Supplemental

VIII. **Supplies:**

A. Electronic calculator.
B. Lab coat
C. Safety goggles

Approval Date: 09/14/2020
CCC Number:
TOP Codes:
1905.00
C-ID Number:

LPC - Articulation

From: LPC - Articulation
Sent: Tuesday, September 28, 2021 5:44 PM
To:
Subject: RE: Substitution

Hi ,

The Discipline coordinator has approved this course to be equivalent to both our CHEM 30A + 30B. I will be entering this information in our system, but I am not sure if it will show up in DegreeWorks. I will let the evaluation team know of the equivalency. This means that the substitution request is unnecessary as the course will automatically be applied in place of CHEM 30A + 30 during graduation.

Take care,

Craig Kutil

Articulation Officer
Professor, Mathematics
Instructor, Martial Arts
Vice President, Academic Senate
Faculty at Large, Faculty Association
Advisor (ASCCC), ICAS – IGETC Standards Subcommittee
Member (ASCCC), C-ID AO Subgroup
Las Positas College
(925) 424-1346
http://laspositascollege.edu/faculty/ckutil
http://www.laspositascollege.edu/lpcarticulation/

From:
Sent: Monday, September 27, 2021 3:40 PM
To: LPC - Articulation <lpc-articulation@laspositascollege.edu>; Craig Kutil <CKutil@laspositascollege.edu>
Subject: Substitution

Hello,
I spoke with counseling to make sure my Ohlone Chem course would satisfy my degree requirements before I took the course, however, Degree Works is not counting it. Today, per the advice of a counselor, I filled out a form to request a substitution.

I took Chem 109 at Ohlone, 2019/Fall and would like to use that course to fulfill Chem 30B for my AA Biology Allied Health degree.

Thanks,