Faculty Guide: Developing/Revising Course Outlines For Transfer

Developed by
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References:

Former website - www.curriculum.cc.ca.us/curriculum/DevelopCurOutline/Stylistic_considerations.htm

Current website: http://www.ccccurriculum.net/course-outline-of-record/

ROLE of the COURSE OUTLINE

The course outline of record (COR) plays a critical role on campus. It is the primary vehicle for course planning. When a course is revised or updated, it is the course outline that records the changes, as such, forms the basis for a contract between the student, instructor, college, and 4yr institutions (if transferable or articulated).

The official COR defines: description; units; content; objectives; methods of instruction and evaluation; sample textbooks and instructional materials; prerequisite, corequisite and recommended preparation if applicable.

"Maintaining academic standards means providing consistent, quality instruction in the classroom. As our courses are taught by instructors, both full-time and part-time, it is by reviewing the COR that they may clearly identify the standards and content of the course they are to teach. In addition, the COR plays a critical role in the **on-going process of program/curriculum review** by which a college seeks to keep its curriculum relevant and to allocate its resources sufficiently to maintain its programs."

*COURSE DESCRIPTION

When writing the course/catalog description:

1. start with an adjective or noun other than "a", "the", "course" after the first general phrase put a colon and start the next word with a capital letter; and
2. use no verbs, few articles ... mostly descriptive terms; and
3. limit to four lines—the course description is NOT an outline of the course; and
4. variable level courses should show a separate description for each level; and
5. should be congruence between the course content and the catalog description.

*PCCD PROGRAM AND COURSE APPROVAL PROCESS MANUAL for Faculty and Administrators, 2002

CONTENT

1. Must be written in succinct outline form (see next page). Outline the course content, including essential topics, major subdivisions, and supporting details.
2. Objectives stated in Exit Skills must be clearly reflected in the content of the course. Check the list of Exit Skills to verify that there is a direct correlation between the topic and/or activities and the stated content.

Example of content form:

A. Major Topic

1. Subdivision

a. Support
b. Support

2. Subdivision

    a. Support
    b. Support

B. Major Topic

1. Subdivision

    a. Support
    b. Support

2. Subdivision

    a. Support
    b. Support

OBJECTIVES/EXIT SKILLS

The purpose of this section is to convey the exit skills expected of students. The format typically begins with the phrase "Upon completion of this course the student is expected to be able to:" with a list of those expectations following.

There are several challenges to writing the Objectives/Exit Skills section:

1. Hundreds of specific learning objectives of the course must be distilled down to approximately ten or, at most, twenty. The key is grouping individual items into sets which share commonalities.

   "For example, a sociology course might have many detailed items for students to learn in the area of cross-cultural comparisons, but the collective statement in the Objectives section might be 'Compare and contrast traditions and behaviors in a variety of cultures.' Or a chemistry class might take two or three weeks to discuss the properties of states of matter (gas, liquid, solid) but the combined learning might be summarized as 'Describe the properties of the states of matter, use appropriate equations to calculate their properties, and explain those properties on the molecular level.**' Note:** that each statement is really a collection of objectives rather than a single objective."

2. Degree applicable/baccalaureate (PCCD-numbered 1-249) courses are required to demonstrate critical thinking. The **incorporation of critical thinking must be evident throughout the course outline** but particularly in the Objectives, Methods of Instruction, and Methods of Evaluation. "It must be clear that students are expected to think critically, are instructed in how to do so, and are held accountable for their performance. The manner in which the Objectives section reflects critical thinking is in the higher cognitive expectations expressed in this section. A useful way to evaluate the cognitive level of an objective is to use **Bloom's taxonomy**, which appears below. Basically, critical thinking involves active higher cognitive processes which analyze, synthesize and/or evaluate information. This contrasts with the more passive activities such as recognizing, describing, or understanding information.
3. Not all objectives need to reflect critical thinking, e.g. recognizing, describing, and understanding are valuable skills. It should be clear, however, that higher thinking skills are an essential component of lower division baccalaureate and degree applicable courses.
4. Must demonstrate that students are taught how to acquire these skills and master them to pass the class.
5. When reviewing the specific learning items and writing collective objective statements, keep in mind the cognitive levels expected of students in each area.

Verbs Requiring Cognitive Outcomes (See CurricUNET for more)

			Critical Thinking		
Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
define repeat record list recall name relate underline	translate restate discuss describe recognize explain express identify locate report review tell	interpret apply employ use demonstrate dramatize practice illustrate operate schedule shop sketch	distinguish analyze differentiate appraise calculate experiment test compare contrast criticize diagram inspect debate inventory question relate solve examine categorize	compose plan propose design formulate arrange assemble collect construct create set up organize prepare	judge appraise evaluate rate compare value revise score select choose assess estimate measure

BEFORE: Know the significant art achievements of Renaissance through Modern Europe.

AFTER: Compare and contrast the art works in the same historical period with art works from other historical periods to ascertain their stylistic aesthetic and historical relationships.

BEFORE: Have learned skills in performing and in working with others to create a theatrical event for children.

AFTER: Analyze a text in preparation for rehearsals, including the choice of style, language, and pace.

Critique their own performances and rehearsals using a collectively decided upon matrix and share these critiques with members of the ensemble in appropriate, culturally sensitive ways.

Note: It is often the case, as above, that a single broad objective which has not been well described actually consists of several exit skills, of which some involve critical thinking and some do not.

TEXTS and INSTRUCTIONAL MATERIALS

1. Texts and instructional materials should be completely referenced: author, title, publisher, and date. The text can change almost annually for some courses. However, in this day of computers/CurricUNET (www.curricunet.com/pccd/), it is not difficult to keep the current edition of the text(s) listed in the COR.
2. The main text plays a remarkably strong role in articulation of a course. It should be clearly recognized by those in the discipline at other institutions as a major work which presents the fundamental theories and practices of the subject.

3. List text(s) that the department has evaluated and determined to be representative of the college level materials appropriate for the course.
4. Do the texts reflect the current authors, editions, and publications dates?

From PCCD outline template: ***"Transfer institutions require current publication date(s) within 5 years of outline addition/update."***

Note: It is highly recommended that faculty teaching articulated courses have dialogue with their counterparts at local 4-yr institutions where our students transfer in greater numbers, i.e. UC Berkeley, UC Davis, San Francisco State, and CSU East Bay.

RESOURCES

California Community Colleges Curriculum: http://www.ccccurriculum.net/course-outline-of-record/
California Articulation Policies and Procedures Handbook, revised spring 2006
http://ciac.csusb.edu/ciac/images/CIAC_Handbook_7-22-09.pdf
Laney's Articulation Program Curriculum Resources:
http://www.laney.edu/wp/articulation/curriculum-resources/
Laney's Curriculum Committee:
http://www.laney.edu/wp/curriculum-committee/
C-ID: http://www.c-id.net for TMC-Transfer Degrees/Course Descriptors
Bloom's Taxonomy: http://www.curricunet.com/taxonomy.htm

Two Databases: Where You Can Access CORs

For Articulation, Highly Recommended That You Use #1 and #2

1. COURSE SEARCH in ASSIST

What is a Course Search?

- A summary in ASSIST that reports lower-division/baccalaureate courses at other CA community colleges.
- When faculty proposes a course that is for CSU-GE Breadth Requirements, IGETC or major requirements, you can search/view other CA community colleges to locate outlines.

How to do a Course Search?

- Start with Website: http://info.assist.org
- Place cursor on Database
- Click on ASSIST Maintenance Reports
- Click on "Click Here to go to ASSIST Maintenance Reports"
- Type Username: **LANEYFAC**
- Type Password: **AQUAMARINE**
- On left-menu bar click on Course Search
- Under "Institutions" select and click on All Community College Campuses
- Search in Course Title, e.g. type "Shakespeare" or "Ecology"
- Optional to type minimum and maximum units
- Scroll down, click on Continue
- To view outline, click on pdf (some outlines have not been submitted electronically, if not Articulation Officer can get from CCC)
- To view General Education Area for IGETC and CSU-GE, click on "curric"
- Remember to "**Log-Off**" when finished

Note: If an outline is not posted in ASSIST, I can request COR (Course Outline of Record) from the college's Articulation Officer.

2. TMC (Transfer Model Curriculum / SB 1440) COURSE DESCRIPTERS – C-ID

- Start with Website: http://www.c-id.net/descriptors.html
- Click on "View Final Descriptors," use pull down menus
- Not all descriptors have been finalized by discipline faculty, check periodically

PERALTA COMMUNITY COLLEGE DISTRICT COURSE OUTLINE

COLLEGE: Laney College
ORIGINATOR: Pinar Alscher
EFFECTIVE START DATE: Spring 2012
DATE OF OUTLINE 02/12/2009
DATE OF CURRICULUM COMMITTEE APPROVAL: 02/20/2011

DIVISON/DEPARTMENT: CHEM

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1. REQUESTED CREDIT CLASSIFICATION:(check one only)

Community Services (Fee-based) [ ]	Degree Credit [X]	Non-Degree Credit [ ]	Non-Credit [ ]

2. DEPT/COURSE NO: CHEM 030A

3. COURSE TITLE: Introductory General Chemistry

4. COURSE: Laney New Course[ ] | Laney Course Reactivation[ ] | Laney New Fee Based Course[ ] | Laney Modified Course Proposal[X] | Laney Minor Course Change[ ]

TOP NO. 1905.00

5. UNITS: 4 **HRS/WK LEC:** 3 Total: 52.5 **HRS/WK LAB:** 3 Total: 52.5 **HRS/WK TBA:** 0 Total:

6. NO. OF TIMES OFFERED AS SELECTED TOPIC: **AVERAGE ENROLLMENT:**

7. JUSTIFICATION FOR COURSE

Satisfies Associate Degree General Education requirement for Natural Science Satisfies requirement for Associate in Science Degree Acceptable for credit: CSU Prerequisite for Nursing Schools

8. COURSE/CATALOG DESCRIPTION

Fundamental principles of general chemistry: Metric measurements, matter and energy, atomic structure, chemical nomenclature, chemical bonding, chemical reactions, stoichiometry, gas laws, nuclear chemistry, properties of liquids, solids, solutions, acids and bases.

9. OTHER CATALOG INFORMATION:

a. Modular: Yes [ ] No [X] If yes, how many modules:
b. Open entry/open exit: Yes [ ] No [X]
c. Grading Policy: Both Letter Grade or Pass/No Pass [ ] Pass/No Pass [ ] Letter Grade

Only [X]

d. Eligible for credit by Exam: Yes [ ] No [X]
e. Repeatable according to state guidelines: Yes [ ] No [X] If yes, number of allowable repeats:
f. Required for degree/certificate (specify):
g. Meets GE/Transfer requirements (specify):
   Acceptable for credit: CSU, UC
h. Are there prerequisites/corequisites/recommended preparation for this course? Yes [X] No [ ]
   Date of last prereq/coreq validation:

10. LIST STUDENT PERFORMANCE OBJECTIVES (EXIT SKILLS): (Objectives must define the exit skills required of students and include criteria identified in Items 12, 14, and 15 - critical thinking, essay writing, problem solving, written/verbal communications, computational skills, working with others, workplace needs, SCANS competencies, all aspects of the industry, etc.)(See SCANS/All Aspects of Industry Worksheet.)

Students will be able to:

1. Solve numerical problems involving the topics listed in the course content: unit conversions, density, heat, stoichiometry, gas laws, solution concentrations, pH, and titrations.
2. Calculate numerical answers and round the results to the appropriate number of significant figures.
3. Discuss the differences between the states and types of matter.
4. Discuss and diagram the structure of the atom and electron configurations.
5. Apply rules of nomenclature to name different types of compounds and write formulas.
6. Predict the products and write equations for double-displacement reactions.
7. Balance and classify chemical equations.
8. Determine electron-dot structures and overall geometry of small molecules.
9. Explain the origin of the properties of gases at the molecular level.
10. Discuss types of intermolecular forces present in various substances, and evaluate the relative strengths of those forces.
11. Compare and contrast the properties of acids and bases.
12. Work safely and efficiently in the laboratory. Accurately measure quantities in the laboratory.
13. Analyze the results of laboratory experiments.

11A. COURSE CONTENT: (List major topics in sequence; address objectives listed in #11 above. Degree applicable course must be taught at college level; see definition. List percent of time spent on each topic. Also, differentiate content of each level, when levels are assigned.) Lecture and lab content are to be listed separately.

LECTURE CONTENT:

I. Measurements 10%
   A. Scientific notation
   B. Significant figures

C. Unit conversions
D. Density

II. Atoms and Elements 8%
A. Elements
B. Introduction to the periodic table
C. Isotopes and their symbols
D. Orbitals and electron configurations

III. Compounds and Their Bonds 14%
A. Valence electron s and the octet rule
B. Naming and writing ionic formulas
C. Covalent bonds
D. Lewis structures
E. Naming and writing formulas of covalent compounds
F. Molecular geometry and polarity

IV. Energy and States of Matter 10%
A. Specific heat
B. Energy and nutrition
C. States of matter
D. Intermolecular attractive forces
E. Phase changes
F. Heating and cooling curves

V. Chemical Reactions 10%
A. Writing and balancing chemical equations
B. Classifying types of reactions
C. Oxidation-reduction reactions
D. Reaction energy
E. (Optional: rate of reaction and chemical equilibrium)

VI. Chemical Quantities 10%
A. The mole and molar mass
B. Conversions between grams, moles, and number of molecules
C. Percent composition and empirical formulas
D. Stoichiometry problems
E. Percent yield

VII. Gases 10%
A. Kinetic-molecular theory
B. Pressure
C. Boyle's, Charles', Gay-Lussac's, and the Combined Gas Law
D. The ideal gas law
E. Partial pressures

✓III. Solutions 10%
A. Properties of water
B. Predicting relative solubility of various compounds
C. Equivalents of electrolytes
D. Concentration units: Molarity and percent composition
E. Dilutions
F. Osmosis

IX. Acids and Bases 10%
A. Properties
B. Conjugate acid-base pairs
C. Relative strengths
D. pH

E. Acid-base reactions and titration problems
F. Buffers

X. Nuclear Radiation 8%
A. Natural radioactivity
B. Nuclear equations
C. Detection and Measurement of radiation
D. Half-life
E. Nuclear fission and fusion

11B.

LAB CONTENT:

Laboratory experiments that support the above topics, including quantitative and qualitative experiments and analysis of data

Laboratory topics include:

I. Metric measurements and density 6%
II. Physical properties 6%
III. Paper chromatography 5%
IV. Separation of mixtures 6%
V. Molecular modeling 6%
VI. Specific heat 6%
VII. Chemical and physical changes 6%
VIII. Determination of empirical formulas 6%
IX. Stoichiometry 5%
X. Double replacement and single replacement reactions 6%
XI. Gas laws 6%
XII. Line emission, flame tests 6%
XIII. Periodic properties 6%
XIV. Solubility and structure 6%
XV. Concentration of solutions 6%
XVI. pH of solutions 6%
XVII. Titration 6%

12. METHODS OF INSTRUCTION (List methods used to present course content.)

1. Lecture
2. Lab
3. Other: Problem Solving

13. ASSIGNMENTS: 8 hours/week. (List all assignments, including library assignments. Requires two (2) hours of independent work outside of class for each unit/weekly lecture hour. Outside assignments are not required for lab-only courses, although they can be given.)

Out-of-class Assignments: 1. Homework assignments from the textbook involving calculations and explanations 2. Laboratory reports including calculations, observations, and conclusions 3. Quizzes and exams that require students to show their problem solving methods 4.

Comprehensive final exam

ASSIGNMENTS ARE: (Check one. See definition of college level):

[X] Primarily college level

[ ] NOT primarily college level

14. STUDENT ASSESSMENT: (Grades are based on): (Check as many boxes as are applicable. Note: For degree credit, AT LEAST ONE of the first three boxes must be checked. If "ESSAY" is not checked, please explain why here.)

[X] ESSAY (Includes "blue book" exams and any written assignment of sufficient length and complexity to require students to select and organize ideas, to explain and support the ideas, and to demonstrate critical thinking skills.)

Why "ESSAY" is not checked:

[X] COMPUTATION SKILLS

[X] NON-COMPUTATIONAL PROBLEM SOLVING (Critical thinking should be demonstrated by solving unfamiliar problems via various strategies.)

[X] SKILL DEMONSTRATION

[ ] MULTIPLE CHOICE

[ ] OTHER (Describe)

15. TEXTS, READINGS, AND MATERIALS:

A. Textbooks:

Author	Title and Edition	Publisher	Date of Publication*
McMurry,Castellion, Ballantine, Hoeger & Peterson	*Fundamentals of General, Organic & Biological Chemistry* (6th /e).	Pearson,	(2010).
Alscher, Fossum, et al	*Chemistry 50/30A Laboratory Manual*	Laney,	(2012). Rationale: -

*Date is required: Transfer institutions require current publication date(s) within 5 years of outline addition/update.

B. Additional Resources:

1. Library/LRC Materials and Services:

The instructor, in consultation with a librarian, has reviewed the materials and services of the College Library/LRC in the subject areas related to the proposed new course

Are print materials adequate?	Yes [X]	No [ ]
Are nonprint materials adequate?	Yes [X]	No [ ]
Are electronic/online resources available?	Yes [X]	No [ ]

Are services adequate? Yes [X] No [ ]

Specific materials and/or services needed have been identified and discussed. Librarian comments:

Library requests list of recommended supplementary titles (non-textbook) to support this course.

2. Other Resources: Identify types, location, and availability of other resources and materials required for this course.

C. Readings listed in A and B above are: (Check one. See definition of college level):

[X] Primarily college level
[ ] NOT primarily college level

16. Designate Occupational Code (check ONE only):

[ ] A Apprenticeship
[ ] B Advance Occupational
[ ] C Occupational
[ ] D Possible Occupational
[X] E Non-Occupational

SUPPLEMENTAL PAGE

Use only if additional space is needed. (Type the item number which is to be continued, followed by "continued." Show the page number in the blank at the bottom of the page. If the item being continued is on page 2 of the outline, the first supplemental page will be "2a." If additional supplemental pages are required for page 2, they are to be numbered as 2b, 2c, etc.)

1a. Prerequisites/Corequisites/Recommended Preparation:
PREREQUISITE(S):

- MATH 201: Elementary Algebra
  Entry Skills: 1. Solve linear equations with one variable and linear systems of two variables including applications to solving word problems dealing with money, interest and principal, distance, rate and time, chemistry, perimeter, area and volume, and consecutive integers. 2. Simplify polynomials including the four basic operations and factoring. 3. Simplify algebraic fractions, exponential and radical expressions. 4. Graph and interpret linear and quadratic equations. 5. Solve inequalities. 6. Solve quadratic equations in one unknown. For this course (CHEM 30A), students should have the following entry skills: Rearrange and solve algebraic equations Graph and interpret linear equations
  or
- MATH 208: Mathematics for Laboratory Sciences
  Entry Skills: 1. Interpret and write quantities using scientific notation 2. Compute and interpret pH using logarithms and scientific calculators 3. Perform unit conversions 4. Solve formulas for specific variables 5. Convert between fraction and decimal notation 6. Use percents and proportions to compute concentrations and dilutions 7. Calculate dosages 8. Graph linear and exponential data 9. Use a spreadsheet program to determine a line of best fit for a data set

or

- MATH 210A-D: Elementary Algebra (Lab) (Elementary Algebra) or high school algebra (Algebra I)
  Entry Skills: Math 210ABCD exit skills: Solve linear equations with one variable and linear systems of two variables including applications to solving word problems dealing with money, interest and principal, distance, rate and time, chemistry, perimeter, area and volume, and consecutive integers. Simplify polynomials including the four basic operations and factoring. Simplify algebraic fractions, exponential and radical expressions. Graph and interpret linear and quadratic equations. Solve inequalities. Solve quadratic equations in one unknown. For this course (CHEM 30A), students should have the following entry skills: Rearrange and solve algebraic equations Graph and interpret linear equations