

**I. CATALOG INFORMATION**

- A. Discipline: CHEMISTRY
- B. Subject Code and Number: CHEM M122
- C. Course Title: Independent Study - Chemistry

- D. Credit Course units:  
 Units: 0.5 – 3  
 Lecture Hours per week: 0  
 Lab Hours per week : 1.5 – 9  
 Variable Units : No

- E. Student Learning Hours:  
 Lecture Hours:  
 Classroom hours: 0 - 0  
 Laboratory/Activity Hours:  
 Laboratory/Activity Hours 26.25 - 157.5  
**Total Combined Hours** in a 17.5 week term: 26.25 - 157.5

- F. Non-Credit Course hours per week \_\_\_\_\_

- G. May be taken a total of:  1  2  3  4 time(s) for credit

- H. Is the course co-designated (same as) another course: No  Yes   
 If YES, designate course Subject Code & Number: \_\_\_\_\_

- I. Course Description:

Allows independent study for students who wish to extend their knowledge of a particular area of Chemistry through research and study. Utilizes an approved independent project. Includes one-on-one work with instructor.

- J. Entrance Skills

\*Prerequisite: No  Yes  Course(s)  
Completion of one course in Chemistry and instructor approval.

\*Corequisite: No  Yes  Course(s)  
 \_\_\_\_\_

Limitation on Enrollment: No  Yes   
 \_\_\_\_\_

Recommended Preparation: No  Yes  Course(s)  
 \_\_\_\_\_

Other: No  Yes   
 \_\_\_\_\_

- K. Other Catalog Information:

Interested students should contact a Chemistry instructor for assistance in developing a contract for learning about a specific topic. May be taken for a maximum of 3 units. Formerly CHEM M22A/B. Transfer credit: CSU; UC (determined after admission).

## II. COURSE OBJECTIVES

Upon successful completion of the course, a student will be able to:

		<b>Methods of evaluation will be consistent with, but not limited by, the following types or examples.</b>
1	apply the knowledge acquired to other aspects of chemistry.	Successful completion of a course project, i.e., portfolio, paper, performance, presentation, or lab research. Evaluation methods will be determined by the instructor in consultation with the student.
2	formulate statements designed to assess the applicability of their knowledge to other related topics.	Successful completion of a course project, i.e., portfolio, paper, performance, presentation, or lab research. Evaluation methods will be determined by the instructor in consultation with the student.
3	analyze new data and conduct further research to assess the accuracy of their information and findings.	Successful completion of a course project, i.e., portfolio, paper, performance, presentation, or lab research. Evaluation methods will be determined by the instructor in consultation with the student.

## III. COURSE CONTENT

<b>Estimated %</b>	<b>Topic</b>	<b>Learning Outcomes</b>
<b>Lecture</b> (must total 100%)		
<b>Lab</b> (must total 100%)		
100.00%	Project content and specific topics will be determined by the student in consultation with the supervising faculty member.	1, 2, 3

**IV. TYPICAL ASSIGNMENTS****A. Writing assignments**

Writing assignments are required. Possible assignments may include, but are not limited to:	
1	essays, term projects, fieldwork reports, library research and literature reviews.
2	to be determined in conversations between the instructor and the student.

**B. Appropriate outside assignments**

Appropriate outside assignments are required. Possible assignments may include, but are not limited to:	
1	to be determined in conversations between the instructor and the student.

**C. Critical thinking assignments**

Critical thinking assignments are required. Possible assignments may include, but are not limited to:	
1	to be determined in conversations between the instructor and the student.

**V. METHODS OF INSTRUCTION**

Methods of instruction may include, but are not limited to:

Distance Education – When any portion of class contact hours is replaced by distance education delivery mode (Complete DE Addendum, Section XV)

Lecture/Discussion

Laboratory/Activity

Other (Specify)

The specific methods to be used will be determined by the supervising faculty member in consultation with the student.

---

Optional Field Trips

Required Field Trips

**VI. METHODS OF EVALUATION**

Methods of evaluation may include, but are not limited to:

Essay Exam

Classroom Discussion

Skill Demonstration

Problem Solving Exam

Reports/Papers/Journals

Participation

Objective Exams

Projects

Other (specify)

Evaluation methods will be determined by the instructor in consultation with the student.

**VII. REPRESENTATIVE TEXTS AND OTHER COURSE MATERIALS**

The specific books, articles, films, etc. used will be determined by the supervising faculty member in consultation with the student.

### VIII. STUDENT MATERIALS FEES

No  Yes

### IX. PARALLEL COURSES

College	Course Number	Course Title	Units
Ventura College	CHEM V90	Directed Studies in Chemistry	1-6
Santa Monica City College	CHEM 88A/B	Independent Studies in Chemistry	1-2
Santa Barbara City College	CHEM 299	Independent Study in Chemistry	1-4

### X. MINIMUM QUALIFICATIONS

#### Courses Requiring a Masters Degree:

Master's in chemistry OR Bachelor's in chemistry or biochemistry AND Master's in biochemistry, chemical engineering, chemical physics, physics, molecular biology, or geochemistry OR the equivalent.

### XI. ARTICULATION INFORMATION

#### A. Title V Course Classification:

1. This course is designed to be taken either:

- Pass/No Pass only (no letter grade possible); or  
 Letter grade (P/NP possible at student option)

2. Degree status:

Either  Associate Degree Applicable; or  Non-associate Degree Applicable

#### B. Moorpark College General Education:

1. Do you recommend this course for inclusion on the Associate Degree General Education list?

Yes:  No:  If YES, what section(s)?

- A1 - Natural Sciences - Biological Science  
 A2 - Natural Sciences - Physical Science  
 B1 - Social and Behavioral Sciences - American History/Institutions  
 B2 - Social and Behavioral Sciences - Other Social Behavioral Science  
 C1 - Humanities - Fine or Performing Arts  
 C2 - Humanities - Other Humanities  
 D1 - Language and Rationality - English Composition  
 D2 - Language and Rationality - Communication and Analytical Thinking  
 E1 - Health/Physical Education  
 E2 - PE or Dance  
 F - Ethnic/Gender Studies

#### C. California State University(CSU) Articulation:

□

1. Do you recommend this course for transfer credit to CSU? Yes:  No:

2. If YES do you recommend this course for inclusion on the CSU General Education list?

Yes:  No:  If YES, which area(s)?

A1  A2  A3  B1  B2  B3  B4

C1  C2  D1  D2  D3  D4  D5

D6  D7  D8  D9  D10  E

D. University of California (UC) Articulation:

1. Do you recommend this course for transfer to the UC? Yes:  No:

2. If YES do you recommend this course for the Intersegmental General Education Transfer Curriculum (IGETC)? Yes:  No:

IGETC Area 1: English Communication

- English Composition  
 Critical Thinking-English Composition  
 Oral Communication

IGETC Area 2: Mathematical Concepts and Quantitative Reasoning

- Mathematical Concepts

IGETC Area 3: Arts and Humanities

- Arts  
 Humanities

IGETC Area 4: Social and Behavioral Sciences

- Anthropology and Archaeology  
 Economics  
 Ethnic Studies  
 Gender Studies  
 Geography  
 History  
 Interdisciplinary, Social & Behavioral Sciences  
 Political Science, Government & Legal Institutions  
 Psychology  
 Sociology & Criminology

IGETC Area 5: Physical and Biological Sciences (mark all that apply)

- Physical Science Lab or Physical Science Lab only (none-sequence)

- Physical Science Lecture only (non-sequence)
- Biological Science
- Physical Science Courses
- Physical Science Lab or Biological Science Lab Only (non-sequence)
- Biological Science Courses
- Biological Science Lab course
- First Science course in a Special sequence
- Second Science course in a Special Sequence
- Laboratory Activity
- Physical Sciences

IGETC Area 6: Language other than English

- Languages other than English (UC Requirement Only)
- U.S. History, Constitution, and American Ideals (CSU Requirement ONLY)
- U.S. History, Constitution, and American Ideals (CSU Requirement ONLY)

**XII. REVIEW OF LIBRARY RESOURCES**

- A. What planned assignment(s) will require library resources and use?

The following assignments require library resources:

Research projects using the Library's print and online resources.

- B. Are the currently held library resources sufficient to support the course assignment?

YES:  NO:

If NO, please list additional library resources needed to support this course.

**XIII. PREREQUISITE AND/OR COREQUISITE JUSTIFICATION**

CHEM M122: Not Applicable

**XIV. WORKPLACE PREPARATION**

CHEM M122: Not Applicable

**XV. DISTANCE LEARNING COURSE OUTLINE ADDENDUM**

CHEM M122: Not Applicable

**XVI. GENERAL EDUCATION COURSE OUTLINE ADDENDUM**

CHEM M122: Not Applicable

**XVII. STUDENT MATERIALS FEE ADDENDUM**

CHEM M122: Not Applicable

**XVIII. REPEATABILITY JUSTIFICATION TITLE 5, SECTION 55041**

CHEM M122: Not Applicable

## **XIX. CURRICULUM APPROVAL**

Course Information:

Discipline: CHEMISTRY

Discipline Code and Number: CHEM M122

Course Revision Category: Technical Course Revision

Course Proposed By:

Originating Faculty Deanna Franke 09/16/2017

Faculty Peer: Steve Joiner 10/19/2017

Curriculum Rep: Robert Keil 10/23/2017

Department Chair: Robert Keil 10/23/2017

Division Dean: Mary Rees 09/25/2017

Approved By:

Curriculum Chair: \_\_\_\_\_

Executive Vice President: \_\_\_\_\_

Articulation Officer: Letrisha Mai 11/16/2017

Librarian: Mary LaBarge 11/16/2017

Implementation Term and Year: Fall 2018

Approval Dates:

Approved by Moorpark College Curriculum Committee: 12/05/2017

Approved by Board of Trustees (if applicable): \_\_\_\_\_

Approved by State (if applicable): 01/15/2018