



**SOUTH DAKOTA BOARD OF REGENTS
ACADEMIC AFFAIRS FORMS**

New Course Request

SDSU	College of Natural Sciences / Department of Chemistry, Biochemistry and Physics
Institution	Division/Department
Dennis D. Hedge	4/16/2025
Institutional Approval Signature	Date

Section 1. Course Title and Description

Prefix & No.	Course Title	Credits
CHEM 780	Introduction to Laboratory Safety	1

Course Description

This course focuses on safety topics of importance for teachers of chemistry. While the course will not result in safety certification, it will provide teachers with important information to use within their own classrooms to more safely use chemicals and consider the exposure of chemicals to their students.

Pre-requisites or Co-requisites

Prefix & No.	Course Title	Pre-Req/Co-Req?
None		

Registration Restrictions

None

Section 2. Review of Course

2.1. Will this be a unique or common course?

Unique Course

Prefix & No.	Course Title	Credits
BIOL 504	Environmental Health and Safety	3
CPHD 781	Biomedical Tools and Techniques	2

Provide explanation of differences between proposed course and existing system catalog courses below:

BIOL 504 Environmental Health and Safety covers topics of environmental safety and health regulations and practices within a laboratory environment geared towards laboratory instructors. Exploration of chemical and biohazardous groups and understanding the use, storage and waste management of the reagents based on reactivities and regulatory laws. Techniques for preventing cross-contamination, including aseptic techniques and proper chemical handling. Development of chemical hygiene plans, analysis of regulatory requirements, understanding and managing environmental and health risks, and consideration of environmental laws.

CPHD 781 Biomedical Tools and Techniques involves learning about the fundamentals of laboratory safety, the use of radioactive materials, the use and care of animals in research, statistics, and information literacy as well as discussions of ethics and misconduct and learning about the theory and practice of modern research techniques.

Both CPHD 781 and BIOL 504 go far beyond what a high school science teacher would experience in their classroom. The proposed course, CHEM 780, is for high school teachers to gain a better understanding of risks and hazards associated with chemical use in the classroom

and how to mitigate those risks for students. The focus is on chemical safety and assessing risks that are commonly experienced in a high school chemistry classroom.

Section 3. Other Course Information

3.1. Are there instructional staffing impacts?

No. Schedule Management, explain below: Workload is available to offer this course. It will be offered during the spring semester. This course has been taught as CHEM 691. This request assigns the course a permanent course title and number.

3.2. Existing program(s) in which course will be offered: Chemistry (M.S.) – Chemistry Education Specialization

3.3. Proposed instructional method by university (as defined by AAC Guideline 2.4.3.A): D - Discussion

3.4. Proposed delivery method by university (as defined by AAC Guideline 2.4.3.B and 2.4.3.B(A-1)): X18 – Online Synchronous

3.5. Term change will be effective: Fall 2025

3.6. Can students repeat the course for additional credit? Yes, total credit limit: No

3.7. Will grade for this course be limited to S/U (pass/fail)? Yes No

3.8. Will section enrollment be capped? Yes, max per section: 20 No

3.9. Will this course equate (i.e., be considered the same course for degree completion) with any other unique or common courses in the common course system database in Colleague and the Course Inventory Report? Yes No

3.10. Is this prefix approved for your university? Yes No

Section 4. Department and Course Codes (Completed by University Academic Affairs)

4.1. University Department: Department of Chemistry, Biochemistry and Physics

4.2. Banner Department Code: SCBP

4.3. Proposed CIP Code: 40.0501

Is this a new CIP code for the university? Yes No

NEW COURSE REQUEST Supporting Justification for On-Campus Review

Melody Jewell Request Originator	Melody Jewell Signature	2/24/2025 Date
Brian Logue Department Chair	Brian Logue Signature	2/25/2025 Date
Greg Heiberger School/College Dean	Greg Heiberger Signature	3/7/2025 Date

1. Provide specific reasons for the proposal of this course and explain how the changes enhance the curriculum.

Safety is an ongoing issue, especially when working with chemicals. CHEM 780 aims to address a need for high school teachers who teach chemistry but may not have a chemistry degree to gain a deeper understanding of chemical hazards/risks and how to best mitigate those with students while still optimizing the student experience to do chemistry experiments. The course is designed to provide additional knowledge for students in the M.S. in Chemistry with a specialization in Chemistry Education, as well as other high school teachers nationwide, who wish to learn more about these topics:

- How to implement appropriate safety procedures in the classroom and during laboratory activities
- How to implement appropriate labeling processes in the laboratory
- How to implement risk assessment strategies for improved safety
- How to conduct appropriate inspection of safety equipment
- How to understand fundamental knowledge of how the law impacts teachers.

Given that students in this program are located across the country, the course will be offered in a flexible format to accommodate both remote and local teachers. This course has been taught as CHEM 691. This request assigns the course a permanent course title and number.

2. Note whether this course is: Required Elective
3. In addition to the major/program in which this course is offered, what other majors/programs will be affected by this course?
None
4. If this will be a dual listed course, indicate how the distinction between the two levels will be made.
N/A
5. Desired section size 20
6. Provide qualifications of faculty who will teach this course. List name(s), rank(s), and degree(s).
Matthew Miller, Professor, Ph.D.
7. Note whether adequate facilities are available and list any special equipment needed for the course.
No special resources or facilities are required to teach this course.
8. Note whether adequate library and media support are available for the course.
Available support is adequate.
9. Will the new course duplicate courses currently being offered on this campus? Yes No
10. If this course may be offered for variable credit, explain how the amount of credit at each offering is to be determined.
N/A