



**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 781	Chemical Waste Disposal and Storage Techniques	1

Course Description

This course focuses on waste that is commonly found in secondary and post-secondary teaching laboratories. The overall goal of the course is to bring awareness of the safety issues that surround chemical waste and learn appropriate techniques to handle and store this waste.

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
CHEM 580	Chemical Hygiene	1

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. BIOL 504 goes far beyond what a high school science teacher would experience in their classroom and is delivered as an asynchronous course which provides limited interaction between the students and professor.

CHEM 580 Chemical Hygiene trains students in the proper handling and storage of chemicals, proper waste disposal and regulatory awareness. While it generally addresses similar topics to the proposed course, it is geared towards training graduate students specifically for work in academic research labs, not necessarily a teaching lab that exists in a high school.

The proposed course, CHEM 781, 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 summer. 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\(A-1\)](#)): X29 – Hybrid Online

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

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

Safety is a continuous concern, especially when working with chemicals. CHEM 781 addresses the need for high school chemistry teachers who may not have a chemistry degree to better understand the chemical hazards and risks related to chemical waste. The course will also teach how to properly store and dispose of chemical waste while minimizing risks to students. 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:

- Identifying chemicals that are specific examples of hazardous waste.
- Developing plans for how to handle chemical waste in your classroom.
- Gaining skills necessary to conduct specific waste disposal techniques.
- Creating new ways to reduce chemical waste in your classroom.

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. It will be delivered in a Hybrid Online modality during the summer semester where there will be both distance-learning components and options for in-person components. 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