



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

New Course Request

SDSU	Natural Sciences / Chemistry & Biochemistry
Institution	Division/Department
Dennis D. Hedge	4/27/2019
Institutional Approval Signature	Date

Section 1. Course Title and Description

Prefix & No.	Course Title	Credits
CHEM 467	Essentials of Glycobiology	3
CHEM 567	Essentials of Glycobiology	3

Course Description	<p>This course focuses on glycobiology, the field of science that studies the structure, biosynthesis, biology, and evolution of saccharides (sugar chains or glycans) that are found in all living life systems. This course will include the following topics: general principles of carbohydrates and carbohydrate chemistry, structure and biosynthesis, glycans in evolution and development, glycan binding proteins, the role of glycans in complex biological systems, glycans in physiology and disease, and various chemical techniques in which to analysis or manipulation glycans. Special emphasis will be placed on understanding the role glycans play in cancer biology and progression.</p>
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Pre-requisites or Co-requisites

Prefix & No.	Course Title	Pre-Req/Co-Req?
CHEM 360 OR CHEM 464	Chemistry of Biological Macromolecules Biochemistry I	Pre-req

Registration Restrictions

None

Section 2. Review of Course

2.1. Was the course first offered as an experimental course? Yes No

2.2. Will this be a unique or common course?

Unique Course

Prefix & No.	Course Title	Credits
BIOL 343-343L	Cell and Molecular Biology & Lab	4
CHEM 464	Biochemistry I	3

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

Existing courses are general treatments of cell biology and biochemistry. Proposed course is an in depth coverage of the biochemistry and biology of saccharides.

Section 3. Other Course Information

3.1. Are there instructional staffing impacts?

No. Schedule Management, explain below: Within workload of existing faculty. The course will be offered during the fall semester of odd-numbered years.

- 3.2. Existing program(s) in which course will be offered: Biochemistry (B.S.), Chemistry (B.S.)
 3.3. Proposed instructional method by university: R - Lecture
 3.4. Proposed delivery method by university: 001 – Face to Face Term Based Instruction
 3.5. Term change will be effective: Fall 2019
 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: 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 Code: SCHB

4.2. Proposed CIP Code: 26.0202

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

**NEW COURSE REQUEST
 Supporting Justification for On-Campus Review**

Douglas Raynie		3/22/2019
Request Originator	Signature	Date
Douglas Raynie		3/22/2019
Department Chair	Signature	Date
Matt Miller	Matt Miller	4/3/2019
School/College Dean	Signature	Date

- Provide specific reasons for the proposal of this course and explain how the changes enhance the curriculum.
 Glycobiology is one of the newest, emerging areas in the biosciences, with ramifications in immunology, virology, cancer biology, pharmaceutical sciences, and many more. The course will prepare students for employment in modern biochemistry laboratories and for research in a number of bioscience disciplines.
- Note whether this course is: Required Elective
- In addition to the major/program in which this course is offered, what other majors/programs will be affected by this course?
 Biology, Microbiology, Veterinary Science, Pharmaceutical Science
- If this will be a dual listed course, indicate how the distinction between the two levels will be made.
 CHEM 567 will go into the content matter a little deeper through assigned readings from the peer-reviewed literature, required papers, and other additional assignments.
- Desired section size 25
- Provide qualifications of faculty who will teach this course. List name(s), rank(s), and degree(s).

Rachel Willand-Charnley, Assistant Professor, Ph.D.

7. Note whether adequate facilities are available and list any special equipment needed for the course.
No special equipment is needed and adequate facilities are available.
8. Note whether adequate library and media support are available for the course.
Yes, the Briggs Library has (electronic) subscriptions to relevant scientific journals which would support this course.
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