



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

New Course Request

USD/SDSM&T	Biomedical Engineering/Nanoscience & Nanoengineering
Institution	Division/Department
USD 9/10/2018 <i>Elizabeth M. Freeburg</i>	SDSM&T Senate 10/11/18
Institutional Approval Signature	Date

Section 1. Course Title and Description

Prefix & No.	Course Title	Credits
BME 404	Biomedical Signal and Imaging	3
BME 404 L	Biomedical Signal and Imaging Lab	1

Course Description

Introduction to the application of signal and image processing methodologies and tools in the field of biomedical engineering. This course includes a hands-on laboratory component, and the students will have opportunity to operate state of the art biomedical imaging systems, such as inverted phase contrast microscopy and confocal laser scanning microscopy.

Pre-requisites or Co-requisites (add lines as needed)

Prefix & No.	Course Title	Pre-Req/Co-Req?
CSC 170/L	Programming for Engineering and Science	Pre-Req
MATH 225	Differential Equations	Pre-Req

Registration Restrictions

Junior Level Standing

Section 2. Review of Course

2.1. Was the course first offered as an experimental course?

- Yes (if yes, provide the course information below) No

2.2. Will this be a unique or common course?

- Common Course** *Indicate universities that are proposing this common course:*
- BHSU DSU NSU SDSMT SDSU USD

Section 3. Other Course Information

3.1. Are there instructional staffing impacts?

- No. Schedule Management, explain: Use available FTE.

3.2. Existing program(s) in which course will be offered: Biomedical Engineering, B.S.

3.3. Proposed instructional method by university: R: Lecture, L: Laboratory

3.4. Proposed delivery method by university: 025/020 DDN Host/Send Site

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: 25 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: UBME/MNANO
- 4.2. Proposed [CIP Code](#): 14.0501
Is this a new CIP code for the university? Yes No

NEW COURSE REQUEST

Supporting Justification for On-Campus Review

Request Originator	Signature	Click here to enter a date. Date
Department Chair	Signature	Click here to enter a date. Date
School/College Dean	Signature	Click here to enter a date. Date

1. Provide specific reasons for the proposal of this course and explain how the changes enhance the curriculum.
This course presents the fundamentals of signal and image processing with particular emphasis on problems in biomedical research and clinical medicine. Students will learn how to produce signals from samples, how to image them, and how to process the data they obtain.
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. Not Applicable.
5. Desired section size 25
6. Provide qualifications of faculty who will teach this course. List name(s), rank(s), and degree(s).
Zhongkui Hong, Assistant Professor, PhD
Erin Harmon, GEAR Lab Manager, PhD
7. Note whether adequate facilities are available and list any special equipment needed for the course. Adequate Facilities are available.
8. Note whether adequate library and media support are available for the course.
Adequate library and media support are available.
9. Will the new course duplicate courses currently being offered on this campus?
 Yes No
If yes, provide justification.
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
11. Add any additional comments that will aid in the evaluation of this request.