DEGREE/PROGRAM CHANGE
FORM C
Form Number: C2590

Fields marked with * are required

Name of Initiator: Shuang Luan   **Email:** sluan@unm.edu   **Phone Number:** 505 277-9620   **Date:** 10-26-2019

Associated Forms exist? | Yes ▼ | Initiator's Title Director: Biomedical Engineering Graduate Program

Faculty Contact Shuang Luan   Administrative Contact Shuang Luan
Department Computer Science   Admin Email sluan@unm.edu
Branch   Admin Phone sluan@unm.edu

Proposed effective term

Semester | Fall ▼ | Year | 2020 ▼

Course Information

Select Appropriate Program | Graduate Degree Program ▼
Name of New or Existing Program MS/PHD Biomedical Engineering concentration: Bioinformatics (new)
Select Category | Concentration ▼ | Degree Type GR
Select Action | New ▼

Exact Title and Requirements as they should appear in the catalog. If there is a change, upload current and proposed requirements.
See current catalog for format within the respective college (upload a doc/pdf file)

Bioinformatics Curriculum.pdf

☐ **Does this change affect other departmental program/branch campuses? If yes, indicate below.**

Reason(s) for Request (enter text below or upload a doc/pdf file)
Bioinformatics is an interdisciplinary discipline that studies and develops methods and software for extracting information from biological and medical data. It combines the techniques and tools from biology, health science, computer science, electrical engineering, mathematics and statistics to analyze and interpret data. Some of the well known sub-areas within bioinformatics include: DNA sequencing, genome annotation, genomics analysis, protein folding, medical informatics, genetics of disease identification, drug discovery, etc. Bioinformatics is the fastest growing discipline in education, research, industry and entrepreneurship. Today's job market (both academia and industrial) is full of vacancies for bioinformaticians (i.e., people with skills in bioinformatics). Technology giants, such as Google, Amazon, Microsoft have all identified bioinformatics and especially medical informatics as one of their key areas of growth in the future. Major pharmaceutical, biotech and software companies are all seeking bioinformaticians to work with huge amounts of biological and health care information. Within the University of New Mexico community, the interests in bioinformatics are also extremely high. This is evident in that: UNM has a large and ever growing group of faculty doing research in bioinformatics; UNM already has several centers focusing on bioinformatics research; and UNM already has the curriculum infrastructure for educating students interested in bioinformatics. Because of the broad interests, support, and the favorable existing infrastructure of the University, we believe the time is ripe to establish a bioinformatics education program. Our request is to simply to add two new concentrations listing in the SOE Biomedical Engineering Graduate Program description as it stands in the catalog. (The MS program will be a new concentration within the Plan III course only MS Degree Program.)

Upload a document that inlcudes justification for the program, impact on long-range planning, detailed budget analysis and faculty workload implications.(upload a doc/pdf file)

Justification.pdf

☐ **Are you proposing a new undergraduate degree or new undergraduate certificate? If yes, upload the following documents.**

Upload a two-page Executive Summary authorized by Associate Provost. (upload a doc/pdf file)

Upload memo from Associate Provost authorizing go-ahead to full proposal. (upload a doc/pdf file)