Course Number: CSC 858 11/02/11
Course Title: Foundations of Biotechnology and Life Sciences
Number of Credits: 3
Grading: Letter grade and Credit/No credit
Prerequisite: Graduate standing in Science

Catalog Description
Covers foundations of biotechnology and life sciences in order to prepare students for further study and for careers in biotechnology and computational life sciences R&D and industry. Students do not need background in life sciences or biology

Expanded Description
- Foundations of biology and genetics
- Foundations of biotechnology
- Data acquisition, storage and processing in life sciences and biotechnology
- Data standards
- Privacy and legal issues
- Selected applications

Course Objectives and Role in Program
The objective of this course is to provide basic foundational knowledge in life science and biotechnology in order to: prepare students for more advanced courses in computational biology, medical informatics and life sciences; to be effective in working in computational life sciences and biotech R&D and industry; and to prepare students for related Ph. D. programs. No prior background required.

Learning Outcomes
At the end of this course students will be able to

Understand basic terms and concepts of biology, genetics and life sciences sufficient to be effective in working or studying the field of computational life sciences and biotechnology

Understand basic applications, concepts and terms related to biotechnology

Understand basic concepts and terms related to medical data acquisition, processing, storage and retrieval

Understand basic data standards used in life science and medical industry

Understand basic issues related to privacy and legal standards in handling medical data

Be exposed to main software applications used in life sciences and biotechnology

Method of Evaluation
Student learning will be evaluated on the basis of several written assignments???

Required Textbooks
None; most materials will be provided as on-line resources

Modified by: D. Petkovic
Last Revision Approved: November 2011