Biomedical Informatics Graduate Program (PhD, MS with thesis, MS without thesis)

Learning Objectives for the BMI Health and Clinical Informatics Training Programs:

Graduate Certificate – Health and Clinical Informatics Major

At the end of the program, the graduate will be able to:

- Apply informatics theories, methods and tools related to health care in an industrial workplace.
- Exhibit knowledge in the biological, health and clinical information systems domains that are related to the field of health and clinical informatics.
- Identify differences in organizations and personal behaviors that affect the diffusion of informatics technology.
- Adhere to the professional and legal conduct standards of the field of health and clinical informatics.

MS without thesis (Professional Master's with capstone project or internship) Health and Clinical Informatics Major

At the end of the program, the graduate will be able to:

- Apply informatics theories, methods and tools related to personal health, health care, public health, and biomedical research in an industrial workplace.
- Exhibit knowledge in the underlying biological and health domains that are related to the field of health and clinical informatics.
- Identify differences in organizations and personal behaviors that affect the diffusion of informatics technology.
- Adhere to the professional and legal conduct standards of the field of health and clinical informatics.
- Display effective oral and written presentation skills.
- Show competence in use of information technology tools.

MS with thesis (Research Master's) Health and Clinical Informatics Major

At the end of the program, the graduate will be able to:

- Apply informatics theories, methods and tools related to personal health, health care, public health, and biomedical research in an academic setting.
- Exhibit knowledge in the underlying biological and health domains that are related to the field of clinical informatics.
- Evaluate informatics tools and techniques for solving specific biomedical and health problems.
• Adhere to the professional and legal conduct standards of the field of clinical informatics.
• Produce solutions that address academic or industrial needs using informatics tools and knowledge.
• Demonstrate scholarly oral and written presentations.
PhD Health and Clinical Informatics Major

At the end of the program, the graduate will be able to:

- Apply informatics theories, methods and tools related to personal health, health care, public health, and biomedical research in a research setting.
- Exhibit knowledge in the underlying biological and health domains that are related to the field of health and clinical informatics.
- Apply appropriate evaluative tools to the solution of specific biomedical and health informatics problems.
- Adhere to the professional and legal conduct standards of the field of health and clinical informatics.
- Integrate knowledge in a specialized cognate area in order to form a foundation for future research in health and clinical informatics.
- Demonstrate communication skills through scholarly oral presentations and written publications.
- Construct and deliver educational content in clinical informatics to the standards of the department and field.
- Conduct independent research which contributes new knowledge to the field of health and clinical informatics.
Learning Objectives for the BMI Bioinformatics & Computational Biomedicine (BCB) Training Programs:

**MS without thesis (Professional Master’s with capstone project or internship) BCB Major**

At the end of the program, the graduate will be able to

- Apply bioinformatics methods and tools related to genomics, proteomics, biology, and physiology in an industrial workplace.
- Exhibit knowledge in the underlying biological phenomena related to bioinformatics and computational biomedicine.
- Identify statistical analyses which can be used to solve bioinformatics and computational biology problems.
- Adhere to the professional and legal conduct standards of the field of bioinformatics and computational biomedicine.
- Display effective oral and written presentation skills.
- Show competence in use of the computational tools required for work in bioinformatics and computational biomedicine.

**MS with thesis (Research Master’s) BCB Major**

At the end of the program, the graduate will be able to:

- Apply bioinformatics methods and tools related to genomics, proteomics, biology, and physiology in an academic setting.
- Exhibit knowledge in the underlying biological phenomena related to bioinformatics and computational biomedicine.
- Evaluate statistical analyses which can be used to solve bioinformatics and computational biomedicine problems.
- Adhere to the professional and legal conduct standards of the field of bioinformatics and computational biomedicine.
- Produce solutions that address academic or industrial needs using bioinformatics and computational biomedicine tools and knowledge.
- Demonstrate scholarly oral and written presentations
PhD BCB Major

At the end of the program, the graduate will be able to:

- Apply bioinformatics methods and tools related to genomics, proteomics, biology, and physiology in a research setting.
- Exhibit knowledge in the underlying biological phenomena related to bioinformatics and computational biomedicine.
- Apply appropriate statistical analyses and other evaluative tools to the solution of specific problems in bioinformatics and computational biomedicine.
- Adhere to the professional and legal conduct standards of the field of bioinformatics and computational biomedicine.
- Demonstrate communication skills through scholarly oral presentations and written publications.
- Integrate knowledge in a specialized cognate area in order to form a foundation for future research in bioinformatics and computational biomedicine.
- Construct and deliver educational content in bioinformatics and computational biology to the standards of the department and field.
- Conduct independent research which contributes new knowledge to the field of bioinformatics and computational biomedicine.