Bioengineering, MS Effective 2020-2021

College of Engineering

Graduate Coordinator: Yeoheung Yun **Email:** yyun@ncat.edu **Phone**: 336-285-3226
Department Chair: Stephen B. Knisley **Email:** sbknisle@ncat.edu **Phone**: 336-334-7564

The Master of Science in Bioengineering program prepares graduates for Ph.D. level studies or for advanced bioengineering practice in industry, consulting, or government service. The program emphasizes advanced research and education in the application of engineering principles, methods, and technologies to problems in health care. The Bio Engineering Masters students and faculty conduct research in a variety of medical and life science areas such as biosystems analysis, implantable medical devices, artificial organs, tissue engineering, biomaterials, biomechanics, biosignals and biosensors.

Additional Admission Requirements

• Unconditional admission requires undergraduate degree from an ABET accredited Engineering program

Program Outcomes:

• The graduates will perform effectively in an advanced bioengineering (biomedical) related position in industry or in advance graduate/professional schools.

• The graduates will demonstrate research leadership skills in using interdisciplinary and advance approaches or techniques for solving their research or project problems in the bioengineering field.

• The graduates will be active in leadership positions of the professional societies.

• The graduates will enhance their professional credentials through conference presentations, publications and understanding the importance of lifelong learning.

• Be prepared to join the workforce and contribute to economic development.

Degree Requirements

Total credit hours: 30

• Core courses (9 credits): BMEN 711, 712, 713

Thesis option:

• Engineering electives: Take 9 credits from BMEN; CHEN; CIEN; ECEN; ISEN; MEEN; NANO; CSE; COMP with approval of advisor

• Life Sciences electives: Select 6 credit hours from BIOL; ANSC with approval of advisor

• Participate in BMEN Seminar

• Thesis (BMEN 797: 6 credits)

• Pass thesis defense

Project Option:

• Engineering electives: Take 12 credits from BMEN; CHEN; CIEN; ECEN; INEN; MEEN; NANO; CSE; COMP with approval of advisor

• Life Sciences electives: Select 6 credit hours from BIOL; ANSC with approval of advisor

• Participate in BMEN Seminar

• Project (BMEN 796: 3 credits)

Course Option:

• Engineering electives: Take 15 credits from BMEN; CHEN; CIEN; ECEN; INEN; MEEN; NANO; CSE; COMP with approval of advisor

• Life Sciences electives: Select 6 credit hours from BIOL; ANSC with approval of advisor

• Participate in BMEN Seminar