**STUDENT INFORMATION**

|  |  |
| --- | --- |
| **Name:** | **NAU ID:** |
| **NAU E-mail Address:** | **Phone Number:** |
| **Term of Admission:** | **Expected Graduation Term/Year:** |
| **Advisor:** | **Required Credits for Degree Program: 60** |

# **Bioengineering Foundation Courses (12 units required):**

* **Bioengineering (6 units):** Select from (BE 563 or ME 563), (BE 573 or ME 573), or (ME 599 - Cardiovascular Fluid Mechanics)
* **Grant Writing (1-2 units):** Select from (BE 537 or BIO 537), or (BIO 698 or ME 698 - Scientific Writing)
* **Seminar (4-5 units):** Select from (BIO 698 - Challenges of Interdisciplinarity), or (BIO 698 or ME 698 - Graduate Seminar)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Course** | **Course Title** | **Replacement Course** | **Semester** | **Year** | **Units** | **Grade** | **T/P/I/A\*\*** |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

**II. Biology, Engineering, and Other Electives (33 units required):** Select courses from the following areas in consultation with your advisor.

* **Biology Electives:** BIO 506, BIO 514, BIO 535, BIO 537, BIO 542, BIO 545, BIO 587, BIO 608, BIO 685, or BIO 599 (Immunology, Pathology, Human Physiology, Human Tissue Biology, or Professional Grant Writing).
* **Mechanical Engineering Electives:** ME 520, ME 523, ME 525, ME 530, ME 542, ME 554, ME 556, ME 560, ME 561, ME 563, ME 575, ME 580, ME 599, ME 608, ME 685, or ME 697
* **Other Electives:** As a doctoral student in the Bioengineering program, you are encouraged to pursue coursework related to business foundations and entrepreneurship in the Franke College of Business. You will also be encouraged to take courses in other disciplines, including but not limited to, courses offered in the Informatics and Computing Program, the Applied Physics and Materials Science Program, Mathematics, and other branches of engineering.
* **NOTE:** Of the 33 units of electives, no more than 12 units of individualized study (608 / 685 / 697) may be used towards this degree. ME 608, BIO 608, BE 608 is encouraged so that students obtain an internship with a local or regional industrial partner as part of your graduate training. However, no more than 3 units of 608 may be used towards the degree. All electives must be approved by your advisor. Dissertation / thesis units (799 / 699) may not be used towards fulfillment of any elective requirements.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Course** | **Course Title** | **Replacement Course** | **Semester** | **Year** | **Units** | **Grade** | **T/P/I/A\*\*** |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

**IV. Dissertation (15 units required):**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Course** | **Course Title** | **Replacement Course** | **Semester** | **Year** | **Units** | **Grade** | **T/P/I/A\*\*** |
| BE 799 | Dissertation |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

**ADDITIONAL INFORMATION**

**Required Milestones**: The focus of this program is to develop and execute an original research project in Bioengineering, along with excellent oral and written communication skills necessary for leadership in industry and academia.

**Prospectus**(beginning of 3rd semester)  
You will be expected to complete a dissertation prospectus by the beginning of your third semester. Writing of the prospectus will commence in the first semester in [BIO 698](http://catalog.nau.edu/Courses/course?courseId=001076&catalogYear=2425) Scientific Writing, or in BE/BIO 537, one of which is a required course for all incoming students. The prospectus will include a literature review of your proposed topic area, motivation and rationale for your proposed studies, detailed methods including hypotheses to be tested, expected results and interpretation, and expected impact on the field. After approval of your prospectus, you need to submit a completed and signed Dissertation Recommendation Form, available on the Graduate College's website.  
  
**Advancement to Candidacy**(end of 4th semester)  
After completion of your prospectus, you will form an Advisory committee in consultation with your major advisor. Departmental approval of your candidacy application will be based on evaluation of your written prospectus and an oral presentation to your Advisory Committee, based on the prospectus, which must be completed before the end of your second year as well as completion of the qualifying exam (which may be written and/or oral). The qualifying exam may be a separate examination or part of your prospectus defense. After receiving departmental approval, you need to submit a completed and signed Candidacy Application to the Graduate College.  
  
**Dissertation Defense** (end of final year)  
You will submit a written doctoral dissertation to your Advisory Committee, and present a public seminar based on your research. An oral examination will be administered by your advisory committee after completion of your public seminar.

This Program of Study documents your progress on your academic requirements for the degree and catalog year listed above. For Department of Defense-related requirements, it serves as the evaluated and approved educational plan.

In addition to all University and Office of Graduate & Professional Studies (OGPS) policies, procedures, and requirements, graduate students must also adhere to the academic requirements, policies, procedures, and criteria outlined by their program’s Graduate Student Handbook.

**Students:**

You must secure official approval by your advisor and Department Chair/Director before submitting your final Program of Study for graduation.

By signing or entering your name below, you agree to the following statement:

*“Students are responsible for complete knowledge of Academic Catalog requirements in their degree plan for their catalog year and adhering to all policies in the Academic Catalog.”*

**Advisors and Chairs/Directors:**

Please indicate approval of the curriculum on the Program of Study by placing your signature (formal digital signatures are permitted) in the space provided.

|  |  |
| --- | --- |
| **Student:** | **Date:** |
| **Advisor:** | **Date:** |
| **Chair:** | **Date:** |

**\*\*Transfer/Previous Graduate Degree/Internal Transfer/Accelerated (T/P/I/A)** – Must have Advisor approval

Transfer T = Course transferred from another university

Previous Graduate Degree P = Course taken at NAU from previous graduate degree

Internal Transfer I = Graduate-level course taken as undergraduate; Not applied to undergraduate degree

Accelerated Program “Dual-use” A = Courses completed during the undergraduate career and used to satisfy both the Bachelor’s and Master’s degree requirements. ONLY for designated Accelerated students.