

MASTER OF SCIENCE IN BIOENGINEERING

³ Program Total Credits must include a minimum of 21 semester credits earned at CSU (not including thesis or independent study) in 500-level (or above) regular courses.

Requirements

Intra-University in Colleges of Health and Human Sciences, Engineering, Natural Sciences, Veterinary Medicine & Biomedical Sciences

Effective Fall 2021

| Code | Title | Credits |
|--|--|-----------|
| Core Course Requirements | | |
| BIOM 533/CIVE 533 | Biomolecular Tools for Engineers | 3 |
| BIOM 570/MECH 570 | Bioengineering | 3 |
| BIOM 576/MECH 576 | Quantitative Systems Physiology | 4 |
| BIOM 592 | Seminar ¹ | 2 |
| BIOM 699 | Thesis | 8 |
| Select three credits from the following: | | 3 |
| MATH 530 | Mathematics for Scientists and Engineers | |
| MATH 535 | Foundations of Applied Mathematics | |
| MATH 545 | Partial Differential Equations I | |
| MATH 550/ ENGR 550 | Numerical Methods in Science and Engineering | |
| MATH 560 | Linear Algebra | |
| MATH 569A | Linear Algebra for Data Science: Matrices and Vectors Spaces | |
| MATH 569B | Linear Algebra for Data Science: Geometric Techniques for Data Reduction | |
| MATH 569C | Linear Algebra for Data Science: Matrix Factorizations and Transformations | |
| MATH 569D | Linear Algebra for Data Science: Theoretical Foundations | |
| Select four credits from the following: | | 4 |
| STAR 501 | Data Wrangling/Visualization for Researchers | |
| STAR 502 | Multivariate Analysis for Researchers | |
| STAR 512 | Design and Data Analysis for Researchers II | |
| STAR 513 | Regression Models for Researchers | |
| STAR 514 | Experimental Design/Analysis for Researchers | |
| STAR 531 | Generalized Regression Models for Researchers | |
| STAR 532 | Mixed Models for Researchers | |
| STAR 534 | Machine Learning for Researchers | |
| Electives ² | | 3 |
| Program Total Credits: | | 30 |

A minimum of 30 credits are required to complete this program. ³

¹ BIOM 592 must be taken in two semesters.

² Select a minimum of 3 credits of Engineering courses 500-level or above with approval of advisor.