

Biosystems Analytics & Technology PhD Curriculum

| Core Coursework | Course | 12 Units |
|--|-----------|------------|
| Applied Biostatistics | BE 513 | 3 |
| Biosystems Analytics | BE 534 | 3 |
| Design of Experiments | STAT 571B | 3 |
| Scientific Writing | ENVS 508 | 3 |
| Theory & Methods | Course | 11 Units |
| Research Methods | BE 501 | 2 |
| Teaching Internship | BE 693 | 1 |
| Graduate Seminar - presenting | BE 696A | 4 |
| Graduate Seminar - non-presenting | BE 696B | 4 |
| Minor | Course | 9-12 Units |
| Candidate will choose a minor & follow minor department's policies | | |
| Dissertation | Course | 18 Units |
| Dissertation | BE 920 | 18 |
| Electives | Course | 6-9 Units |
| Can be part of the minor program | | 6-9 |
| TOTAL | | 60 UNITS |

Elective Suggestions

Seeking More Depth In: Analytics

| Electives | Course | Units |
|--------------------------------------|-------------|-------|
| Metagenomics | BE 587 | 3 |
| Applied Cyberinfrastructure Concepts | INFO/BE 529 | 3 |
| Advanced Data Visualization | CSC 544 | 3 |
| Algorithms in Bioinformatics | CSC 550 | 3 |

Seeking More Depth In: Sensors & Controls

| Electives | Course | Units |
|--|----------|-------|
| Sensors & Controls | BE 547 | 3 |
| Applied Instrumentation for Controlled Environment Agriculture | BE 579 | 3 |
| Remote Sensing Data and Methods | BE 585 | 3 |
| Introduction to Machine Learning | INFO 521 | 3 |

Applying Supporting and Core Coursework to an Area of Interest: Controlled Environment Ag

| Electives | Course | Units |
|--|-----------|-------|
| Applied Instrumentation for Controlled Environment Agriculture | BE 579 | 3 |
| Controlled Environment Systems | BE 583 | 3 |
| Plant Physiology | PLS 575A | 3 |
| Greenhouse Pest Management: Methods and Practice | ENTO 597C | 3 |

Applying Supporting & Core Coursework to Area of Interest: Remote Sensing, Precision Ag

| Electives | Course | Units |
|--|---------|-------|
| Globalization, Sustainability, and Innovation | BE 552 | 3 |
| Applications of Geographic Information Systems | RNR 503 | 3 |
| Geographic Applications of Remote Sensing | RNR 583 | 3 |
| Microbial Biogeochemistry and Global Change | PLS 510 | 3 |

SAMPLE PLAN OF STUDY

| Semester 1 | | Semester 2 | | Semester 3 | | Semester 4 | |
|--|-------|--|-------|---|-------|--|-------|
| Course prefix and number | Units | Course prefix and number | Units | Course prefix and number | Units | Course prefix and number | Units |
| BE 513 Applied Biostatistics | 3 | BE 501 Research Methods | 2 | Minor courses | 6 | STAT 571B Design of Experiments | 3 |
| Electives | 6 | ENVS 508 Scientific Writing | 3 | | | BE 585 Remote Sensing | 3 |
| | | BE 534 Biosystems Analytics | 3 | | | Minor course | 3 |
| BE 696B Graduate Seminar II – non- presenting | 1 | BE 696A Graduate Seminar I - presenting | 1 | BE 696B Graduate Seminar II – non- presenting | 1 | BE 696A Graduate Seminar I - presenting | 1 |
| Total | 11 | Total | 9 | Total | 7 | Total | 10 |

| Semester 5 | | Semester 6 | | Semester 7 | | Semester 8 | |
|--|-------|--|-------|---|-------|--|-------|
| Course prefix and number | Units | Course prefix and number | Units | Course prefix and number | Units | Course prefix and number | Units |
| BE 696B Graduate Seminar II – non- presenting | 1 | BE 696A Graduate Seminar I - presenting | 1 | BE 696B Graduate Seminar II – non- presenting | 1 | BE 696A Graduate Seminar I - presenting | 1 |
| Elective | 3 | BE 693 Teaching Internship | 1 | BE 920 Dissertation | 5 | BE 920 Dissertation | 5 |
| BE 920 Dissertation | 4 | BE 920 Dissertation | 4 | | | | |
| | | Schedule Comprehensive Examination | | | | Schedule dissertation defense | |
| Total | 8 | Total | 6 | Total | 6 | Total | 6 |