

## Master of Science in Engineering

**Degree Codes:** ES MSE ENGR

**Concentration:** Biomedical Engineering

**Contact:** Prof. Steven A. Jones

Overall requirements for the specific options are as follows:

### Requirements for all degree types

| Course Category               | Number   | Course Name   |   | SCH      |
|-------------------------------|--|---|---|----------|
| <b>Core Courses</b>           | ENGR 510   | Introduction to Engineering and Science Research Methods  | 2 | 5        |
|                               | <i>Engineering Mathematics: select <u>one</u> of the following two courses</i> |   |   |          |
|                               | ENGR 520   | Advanced Mathematical Methods for Engineering and Physics | 3 |          |
|                               | ENGR 592   | Engineering Computational Methods                         | 3 |          |
| <b>Concentration Courses*</b> | BIEN 500   | Systems Physiology for Biomedical Engineers               | 4 | 12       |
|                               | BIEN 501   | Physiological Modeling I                                  | 4 |          |
|                               | BIEN 510   | Bioinstrumentation  | 4 |          |
|                               |  |   |   | Total 17 |

### Thesis Option (in addition to the courses above)

| Course Category     | Number  | Course Name   |   | SCH      |
|---------------------|---|---|---|----------|
| <b>Core Courses</b> | ENGR 511  | Engineering and Science Research Proposal Development   | 1 | 1        |
| <b>Electives**</b>  | Two courses (6 semester hours) approved by the student's advisory committee |   |   | 6        |
| <b>Thesis</b>       | BIEN 551  | Research & Thesis (6 SCH are required with at least 3 SCH taken in the quarter the thesis is reviewed and approved) |   | 6        |
|                     |   |   |   | Total 30 |

### Practicum Option (in addition to the courses above)

| Course Category     | Number  | Course Name                    |   | SCH      |
|---------------------|---|--------------------------------|---|----------|
| <b>Core Courses</b> | BIEN 511  | Biomedical Engineering Seminar | 1 | 1        |
| <b>Electives**</b>  | Five courses (15 semester hours) approved by the student's advisory committee |                                |   | 15       |
| <b>Practicum</b>    | BIEN 555  | Practicum                      |   | 3        |
|                     |   |                                |   | Total 36 |

### Coursework Only Option (in addition to the courses above)

| Course Category | Number  | Course Name                    |   | SCH      |
|-----------------|---|--------------------------------|---|----------|
| Core Courses    | BIEN 511  | Biomedical Engineering Seminar | 1 | 1        |
| Electives**     | Four courses (12 semester hours) approved by the student’s advisory committee |                                |   | 12       |
| MATH/STAT       | One MATH and one STAT course  |                                |   | 6        |
|                 |   |                                |   | Total 36 |

\*The concentration courses for the concentration in Biomedical Engineering.

\*\*The maximum number of variable credit Directed Study courses that can be applied towards the degree is 6 SCH.

**Plan of Study Important Information:** When entering information in the plan of study, it is important to note that only core courses and all core courses need to be put in section 1.1, while all others are put in section 1.2 (i.e. special topics, seminar, and research courses). See <http://coes.latech.edu/grad-programs/plan-of-study-instructions.pdf> for plan of study instructions.

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