**MASTER OF SCIENCE IN ELECTRICAL ENGINEERING (MSEE)**
**BIOMEDICAL SYSTEMS TRACK* OPTIONS**

*Curriculum Program of Study*
*Advisor Dr. V.K. Jain*

| | | | |
|---|---|---|---|
| **Name** | | **USF ID #** | |
| **Term/Year Admitted** | | | |
| **Address** | | | |
| **Phone** | | | |
| **Email** | | | |
| **Advisor** | | | |

| Course Title | Number | Credits | *Semester* | *Grade* |
|---|---|---|---|---|
| **1. Mathematics: 6 hours** | | | | |
| Linear and Matrix Algebra | EEL 6935 | 3 | | |
| Numerical Methods and Partial Differential Equations | EEL 6935 | 3 | | |
| Random Processes | EEE 6545 | 3 | | |
| Biostatistics II | PHC 6051 | 3 | | |
| Engineering Apps for Vector Analysis *** | EEL 6027 | 3 | | |
| Engineering Apps for Partial Diff. Eq. *** | EEL 6023 | 3 | | |
| Engineering Apps of Complex Analysis *** | EEL 6022 | 3 | | |
| **2. Biomedical Core: 12 hours (choose any four courses)** | | | | |
| Bioelectricity | EEL 6936 | 3 | | |
| Bioelectronics | EEE 6277 | 3 | | |
| Biomedical Systems and Pattern Recognition | EEE 6282 | 3 | | |
| Biomedical Image Processing | EEE 6514 | 3 | | |
| Biomedical Optical Spectroscopy and Imaging | EEE 6217 | 3 | | |
| Biomedical Engineering | BME 6000 | 3 | | |
| MEMS I/Chem BioSensors | EEE 6276 | 3 | | |
| System on a Chip | EEE 6412 | 3 | | |
| **3. Electives**: 6 hours** | | | | |
| Analog CMOS/VLSI Design | EEL 6357 | 3 | | |
| Intro to Bioengineering | EEL 6935 | 3 | | |
| Biomolecular Systems | EEL 6936 | 3 | | |
| Biosensors and Systems | EEL 6935 | 3 | | |
| Electromagnetic Field Theory | EEL 6486C | 3 | | |
| Integrated Circuit Technology | EEE 5356 | 3 | | |
| Mobile and Personal Communication | EEL 6593 | 3 | | |
| Advanced Fluid Mechanics | EML 6713 | 3 | | |
| Modern Biomedical Technologies | BME 6055 | 3 | | |
| Basic Medical Anatomy | GMS 6605 | 3 | | |
| Medical Histology | GMS 6630 | 3 | | |
| **4. Thesis/Coursework Options:** | | | | |
| Thesis Option: 6 hours | EEL 6971 | 6 | | |
| Non-Thesis Option: 6 hours of project, additional electives or independent study | | 6 | | |

| | | |
|---|---|---|
| *Tracks are for student benefit only. They will not show on transcripts or diplomas.<br><br>**Courses listed under the core can also be taken as electives – beyond the four chosen for the core.<br><br>***This course is no longer offered but will be recognized for credit if previously taken. | | **Total Credits Outside EE** |
| | | **Total Credits Independent Study** |
| | | **Total Credits (30 required)** |