|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Course Number and Title* | *Credits* | *Completed* | *In Progress* | *Future* |
| Required Core Courses |  |  |  |  |
| MSE 605 Crystallography and Crystal Chemistry | 4 |  |  |  |
| MSE 608 Solid State Thermodynamics | 4 |  |  |  |
| MSE 618 Phase Transformations and Kinetics | 4 |  |  |  |
| Required Core Emphasis Course  Choose at least three credits from the following, or alternative Core Emphasis Course(s) approved by the graduate program coordinator:  MSE 510 Electrical, Optical, and Dielectric Materials  MSE 512 Mechanical Behavior of Materials I  \*PHYS 515 Solid State Physics | 3 |  |  |  |
| Required Characterization Course  Choose at least three credits from the following, or alternative Characterization Course(s) approved by the graduate program coordinator:  CHEM 522 Spectroscopy  CHEM 540 Spectrometric Identification  CHEM 560 Introduction to NMR Spectroscopy  MSE 521 Introduction to Electron Microscopy  MSE 522 Advanced Transmission Electron Microscopy  MSE 525 Surface Analysis  \*PHYS 523 Physical Methods of Materials Characterization | 3 |  |  |  |
| Required Processing Course  Choose at least three credits from the following, or alternative Processing Course(s) approved by the graduate program coordinator:  ECE 540 Intro to Integrated Circuit Processing  ECE 540L Intro to Integrated Circuit Processing Lab  ECE 541 Advanced Topics in Silicon Technology  ECE 542 Photolithography  ECE 543 Introduction to MEMS  MSE 540 Advanced Processing  MSE 542 Ceramic Processing  MSE 545 Nanoscale Processing | 3 |  |  |  |
| Required Experiential Learning Courses  At least two credits must be filled by MSE 651 or MSE 650.  Remaining credits can be fulfilled by one or more of the following:  GCOLL 514 Field Experience in College Teaching  GCOLL 512 Internship in College Teaching  GCOLL 513 Practicum in College Teaching  MSE 590 Practicum/Internship  MSE 650 Teaching Experience  MSE 651 Graduate Teaching Assistant Experience | 4 |  |  |  |
| Other Graduate Courses  Additional elective courses in Materials Science and Engineering or related fields as approved by the supervisory committee and by the coordinator of the Materials Science and Engineering Doctoral program. | 9 |  |  |  |
| MSE 601 Graduate Student Orientation | 1 |  |  |  |
| MSE 691 Doctoral Comprehensive Examination | 1 |  |  |  |
| MSE 693 Dissertation | 30 |  |  |  |
| Total | 66 |  |  |  |
| \*Recommended Course |  |  |  |  |