

# Physical Sciences

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| ANTHRO 132   | Course Not Available   |     |
| ANTHRO 134   | Analysis of the Archaeological Record  | 4   |
| ANTHRO 134A  | Field Course in Archaeological Methods   | 6   |
| ARCH 39A   | Freshman/Sophomore Seminar   | 2-4 |
| ARCH 140   | Energy and Environment   | 4   |
| ARCH 149   | Special Topics in Energy and Environment   | 1-4 |
| ARCH 150   | Introduction to Structures   | 4   |
| ASTRON: Any course, except ASTRON 100  |  |     |
| BIO ENG C125   | Introduction to Robotics   | 4   |
| CHEM: Any course, except CHEM 20, CHEM 130A, and CHEM 130B                         |  |     |
| CHM ENG 140  | Introduction to Chemical Process Analysis  | 4   |
| CHM ENG 141  | Chemical Engineering Thermodynamics  | 4   |
| CHM ENG 142  | Chemical Kinetics and Reaction Engineering   | 4   |
| CHM ENG 150A   | Transport Processes  | 4   |
| CHM ENG 150B   | Transport and Separation Processes   | 4   |
| CHM ENG 154  | Chemical Engineering Laboratory  | 4   |
| CHM ENG 160  | Chemical Process Design  | 4   |
| CHM ENG 162  | Dynamics and Control of Chemical Processes   | 4   |
| CHM ENG 170A   | Biochemical Engineering  | 3   |
| CHM ENG 176  | Principles of Electrochemical Processes  | 3   |
| CHM ENG 179  | Process Technology of Solid-State Materials Devices  | 3   |
| CIV ENG 70   | Engineering Geology  | 3   |
| CIV ENG 100  | Elementary Fluid Mechanics   | 4   |
| CIV ENG 103  | Introduction to Hydrology  | 3   |
| CIV ENG C106   | Air Pollution  | 3   |
| CIV ENG 111  | Environmental Engineering  | 3   |
| CIV ENG 112  | Environmental Engineering Design   | 3   |
| CIV ENG 115  | Water Chemistry  | 3   |
| CIV ENG C116   | Chemistry of Soils   | 3   |
| CIV ENG 122N   | Design of Steel Structures   | 3   |
| CIV ENG 123N   | Design of Reinforced Concrete Structures   | 3   |
| CIV ENG 124  | Structural Design in Timber  | 3   |
| CIV ENG 153  | Transportation Facility Design   | 3   |
| CIV ENG 166  | Construction Engineering   | 3   |
| CIV ENG 171  | Rock Mechanics   | 3   |
| CIV ENG 173  | Groundwater and Seepage  | 3   |
| CIV ENG 175  | Geotechnical and Geoenvironmental Engineering  | 3   |
| CIV ENG 177  | Foundation Engineering Design  | 3   |
| COMPSCI 61C  | Machine Structures   | 4   |
| COMPSCI 61CL   | Machine Structures (Lab-Centric)   | 4   |
| COMPSCI 188  | Introduction to Artificial Intelligence  | 4   |
| EL ENG 40  | Course Not Available   | 4   |
| EL ENG 42  | Introduction to Digital Electronics  | 3   |
| EL ENG 100   | Electronic Techniques for Engineering  | 4   |
| EL ENG 117   | Electromagnetic Fields and Waves   | 4   |
| EL ENG 121   | Introduction to Digital Communication Systems  | 4   |
| EL ENG 122   | Introduction to Communication Networks   | 4   |
| EL ENG 123   | Digital Signal Processing  | 4   |
| EL ENG C125  | Course Not Available   |     |
| EL ENG 130   | Integrated-Circuit Devices   | 4   |
| EL ENG 140   | Linear Integrated Circuits   | 4   |
| EL ENG 141   | Course Not Available   |     |
| EL ENG 142   | Integrated Circuits for Communications   | 4   |
| EL ENG 143   | Microfabrication Technology  | 4   |
| ENE,RES C100   | Energy and Society   | 4   |
| ENE,RES 102  | Quantitative Aspects of Global Environmental Problems  | 4   |
| ENGIN 45   | Properties of Materials  | 3   |
| ENGIN 117  | Methods of Engineering Analysis  | 3   |
| ENV SCI 10   | Introduction to Environmental Sciences   | 3   |
| EPS: Any course, except EPS 39A, EPS 60, EPS C100, EPS 104, EPS 106AC, and EPS 120 |  |     |
| ESPM 2   | The Biosphere  | 3   |
| ESPM 15  | Introduction to Environmental Sciences   | 3   |
| ESPM 120   | Soil Characteristics   | 3   |
| ESPM C128  | Chemistry of Soils   | 3   |
| ESPM C129  | Biometeorology   | 3   |
| ESPM 172   | Photogrammetry and Remote Sensing  | 3   |
| ESPM C180  | Air Pollution  | 3   |
| ESPM 181A  | Fire Ecology   | 3   |
| GEOG 1   | Global Environmental Change  | 4   |
| GEOG 40  | Introduction to Earth System Science   | 4   |
| GEOG C82   | Oceans   | 3   |
| GEOG C139  | Atmospheric Physics and Dynamics   | 3   |
| GEOG 140A  | Physical Landscapes: Process and Form  | 4   |
| GEOG 144   | Principles of Meteorology  | 3   |
| GEOG 171   | Special Topics in Physical Geography   | 3   |
| HISTORY 181B   | Topics in the History of the Physical Sciences: Modern Physics: From the Atom to Big Science | 4   |
| IND ENG 130  | Methods of Manufacturing Improvement   | 3   |
| IND ENG 131  | Discrete Event Simulation  | 3   |
| IND ENG 140  | Course Not Available   |     |
| IND ENG 150  | Production Systems Analysis  | 3   |
| IND ENG 161  | Course Not Available   |     |
| IND ENG 162  | Linear Programming and Network Flows   | 3   |
| IND ENG 165  | Engineering Statistics, Quality Control, and Forecasting                                     | 3   |
| IND ENG 180  | Senior Project   | 4   |
| INTEGBI C82  | Oceans   | 3   |
| L & S C70T   | The Planets  | 3   |
| L & S C70U   | Introduction to General Astronomy  | 4   |
| L & S C70V   | Descriptive Introduction to Physics  | 3   |
| L & S C70W   | Physics and Music  | 3   |
| L & S C70Y   | Earthquakes in Your Backyard   | 3   |
| MAT SCI 102  | Bonding, Crystallography, and Crystal Defects  | 3   |
| MAT SCI 103  | Phase Transformations and Kinetics   | 3   |
| MAT SCI 104  | Materials Characterization   | 4   |
| MAT SCI 111  | Properties of Electronic Materials   | 4   |
| MAT SCI 112  | Corrosion (Chemical Properties)  | 3   |
| MAT SCI 117  | Properties of Dielectric and Magnetic Materials  | 3   |
| MAT SCI 120  | Materials Production   | 3   |

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| MAT SCI 121                            | Metals Processing                                 | 3   |
| MAT SCI 122                            | Ceramic Processing                                | 3   |
| MAT SCI 123                            | ELECTRONIC MATERIALS PROCESSING                   | 4   |
| MAT SCI 125                            | Thin-Film Materials Science                       | 3   |
| MEC ENG 101                            | Introduction to Lean Manufacturing Systems        | 3   |
| MEC ENG 104                            | Engineering Mechanics II                          | 3   |
| MEC ENG 106                            | Fluid Mechanics                                   | 3   |
| MEC ENG 109                            | Heat Transfer                                     | 3   |
| MEC ENG 110                            | Introduction to Product Development               | 3   |
| MEC ENG 122                            | Processing of Materials in Manufacturing          | 3   |
| MEC ENG 130                            | Design of Planar Machinery                        | 3   |
| MEC ENG 132                            | Dynamic Systems and Feedback                      | 3   |
| MEC ENG 133                            | Mechanical Vibrations                             | 3   |
| MEC ENG C134                           | Feedback Control Systems                          | 4   |
| MEC ENG 135                            | Design of Microprocessor-Based Mechanical Systems | 4   |
| MEC ENG 140                            | Combustion Processes                              | 3   |
| MEC ENG 151                            | Advanced Heat Transfer                            | 3   |
| MEC ENG 163                            | Engineering Aerodynamics                          | 3   |
| MEC ENG 170                            | Engineering Mechanics III                         | 3   |
| MEC ENG 173                            | Fundamentals of Acoustics                         | 3   |
| MEC ENG 175                            | Intermediate Dynamics                             | 3   |
| MEC ENG 185                            | Introduction to Continuum Mechanics               | 3   |
| NUC ENG 92                             | Course Not Available                              | 2,3 |
| NUC ENG 107                            | Introduction to Imaging                           | 3   |
| NUC ENG 124                            | Radioactive Waste Management                      | 3   |
| NUC ENG 150                            | Introduction to Nuclear Reactor Theory            | 4   |
| NUC ENG 161                            | Nuclear Power Engineering                         | 4   |
| NUC ENG 162                            | Radiation Biophysics and Dosimetry                | 3   |
| NUC ENG 180                            | Introduction to Controlled Fusion                 | 3   |
| PHYSICS: Any course, except PHYSICS 39 |   |     |
| PUB POL C184                           | Energy and Society                                | 4   |