# MAE Course Offerings for 2018-2019

| Dept | Number | Cr. | Area | Official Course Title | SEMESTER |
|------|--------|-----|------|----------------------|----------|
| MAE | 4060 | 3 | AERO | Introduction to Spaceflight Mechanics | Fall |
| MAE | 5070 | 3 | AERO | Dynamics of Flight Vehicles | Spring |
| MAE | 5160 | 4 | AERO | Spacecraft Technology and Systems Architecture | Spring |
| MAE | 6530 | 3 | AERO | Space Exploration Engineering | Spring |
| MAE | 5790 | 3 | APPLIED MATH | Nonlinear Dynamics and Chaos | Spring |
| MAE | 6810 | 3 | APPLIED MATH | Methods of Applied Mathematics I | Fall |
| MAE | 4530 | 3 | BIO | Computer-Aided Engineering: Applications to Biomedical Processes | Spring |
| MAE | 4660 | 3 | BIO | Biomedical Engineering Analysis of Metabolic and Structural Systems | Fall |
| MAE | 5640 | 3 | BIO | Orthopaedic Tissue Mechanics | Spring |
| MAE | 6620 | 3 | BIO | Biomedical Technologies for Point of Care Diagnostics and Mobile and Global Health | Spring |
| MAE | 6630 | 3 | BIO | Immuno-engineering | Fall |
| MAE | 6670 | 3 | BIO | Soft Tissue Biomechanics: Phasic Theory and Viscoelasticity II | Spring |
| MAE | 4351 | 4 | DES., SYS. & MAN. | Interdisciplinary Design Concepts | Fall |
| MAE | 5150 | 3 | DES., SYS. & MAN. | 3D Printing Parts that Don't Break: From Processing to Performance | Spring |
| MAE | 5250 | 1 | DES., SYS. & MAN. | Introduction to Computer-Aided Manufacture (CAD/CAM) | Fall |
| MAE | 5260 | 1 | DES., SYS. & MAN. | Design for Manufacture and Assembly (7 week course) | Spring |
| MAE | 5270 | 1 | DES., SYS. & MAN. | Design Failure Modes and Effects Analysis (7 week course) | Fall |
| MAE | 5340 | 4 | DES., SYS. & MAN. | Innovative Product Design via Digital Manufacturing | Fall |
| MAE | 5930 | 3 | DES., SYS. & MAN. | Systems Engineering and Six Sigma for the Design and Operation of Reliable Systems | Fall |
| MAE | 5950 | 3 | DES., SYS. & MAN. | Theory and Practice of Systems Architecture | Spring? |
| MAE | 5200/5210 | 2/1 | DES., SYS. & MAN. | Dimensional Tolerancing in Mechanical Design (7 week course) | Spring |
| MAE | 3780 | 4 | DSC | Mechatronics | Fall |
| MAE | 4750 | 4 | DSC | Robotic Manipulation | Spring |
| MAE | 4758 | 4 | DSC | Robot Learning | Spring |
| MAE | 4760 | 4 | DSC | Foundations of Robotics | Fall |
| MAE | 5180 | 4 | DSC | Autonomous Mobile Robots | Spring |
| MAE | 5730 | 3 | DSC | Intermediate Dynamics and Vibrations | Fall |
| MAE | 5780 | 4 | DSC | Feedback Control Systems | Fall |
| MAE | 5910 | 4 | DSC | Model Based Systems Engineering | Fall |
| MAE | 5920 | 3 | DSC | Systems Analysis, Behavior, and Optimization | Spring |
| MAE | 6700 | 3 | DSC | Advanced Dynamics | Spring |
| MAE | 6710 | 3 | DSC | Human-Robot Interaction: Algorithms and Experiments | Fall |
| MAE | 6730 | 4 | DSC | Introduction to Mobile Manipulation | Fall |
| MAE | 6750 | 3 | DSC | Nonlinear Vibrations | Spring |
| MAE | 6780 | 4 | DSC | Multivariable Control Theory | Spring |
| MAE | 4120 | 3 | ENERG | Community Wind Energy Research | Spring |
| MAE | 4590 | 3 | ENERG | Introduction to Controlled Fusion: Principles and Technology | Spring |
| MAE | 5010 | 3 | ENERG | Future Energy Systems | Spring |
| MAE | 5020 | 3 | ENERG | Wind Power | Fall |
| MAE | 5459 | 1 | ENERG | Energy Seminar I | Fall |
| MAE | 5469 | 1 | ENERG | Energy Seminar II | Spring |
| MAE | 6480 | 3 | ENERG | Air Quality and Atmospheric Chemistry | Fall |
| MAE | 5860 | 3 | GEN | Automotive Engineering | Spring |
| MAE | 5940 | 1 | GEN | Professional Development for Master in Engineering in MAE | Spring |

| MAE | 5949 | 1 | GEN | Enterprise Engineering Colloquium | Fall |
|-----|------|---|-----|-----------------------------------|------|
| MAE | 6680 | 3 | MICRO | Cancer for Engineers and Physicists | Spring |
| MAE | 7999 | 1 | SEMIN | Mechanical and Aerospace Engineering Colloquium | Fall |
| MAE | 4130 | 3 | SOLIDS | Mechanics of Composite Structures | Fall |
| MAE | 4320 | 4 | SOLIDS | MicroElectro Mechanical Systems | Spring |
| MAE | 5700 | 4 | SOLIDS | Finite Element Analysis for Mechanical and Aerospace Design | Fall |
| MAE | 6110 | 4 | SOLIDS | Foundations of Solid Mechanics I | Fall |
| MAE | 6140 | 4 | SOLIDS | State Variable Modeling | Fall |
| MAE | 6160 | 4 | SOLIDS | Advanced Composite Materials | Spring |
| MAE | 5230 | 4 | THERMO/FLUIDS | Intermediate Fluid Dynamics | Spring |
| MAE | 5430 | 3 | THERMO/FLUIDS | Combustion Processes | Spring |
| MAE | 5510 | 4 | THERMO/FLUIDS | Aerospace Propulsion | Fall |
| MAE | 5650 | 4 | THERMO/FLUIDS | Biofluid Mechanics | Spring |
| MAE | 6010 | 4 | THERMO/FLUIDS | Foundations of Fluid Mechanics I | Fall |
| MAE | 6310 | 4 | THERMO/FLUIDS | Turbulence and Turbulent Flow | Spring |
| MAE | 6330 | 3 | THERMO/FLUIDS | Multiphase Flow Dynamics | Fall |
| MAE | 6510 | 4 | THERMO/FLUIDS | Advanced Heat Transfer | Fall |