

NEW COURSES

- MECHENG 110 ENGINEERING FUNDAMENTALS I. 4 cr., U
Introduction to engineering disciplines, problem-solving, visualization, technical communication, and data collection and analysis.
Prereq: Math 231(C) or Math 225(C), admis to College of Engineering & Applied Science.
- MECHENG 111 ENGINEERING FUNDAMENTALS II. 4 cr., U
Intermediate problem-solving skills, experimentation, technical communication and introduction to engineering design.
Prereq: MechEng 110(P).
- MECHENG 701 ADVANCED LINEAR SYSTEM ANALYSIS. 3 cr., G
Theory and analysis of linear dynamic systems; discrete and continuous state models; linear algebra for dynamic systems; state transition matrix; numerical methods; and applications. ElecEng 701 & MechEng 701 are jointly offered and count as repeats of one another.
Prereq: Grad st, or cons instr.
- MECHENG 816 OPTIMAL CONTROL THEORY. 3 cr., G
Analysis and synthesis of discrete and continuous optimal control systems; linear quadratic regulators; dynamic programming; and variational methods; applications. ElecEng 816 & MechEng 816 are jointly offered and count as repeats of one another.
Prereq: Grad st; MechEng 474(P) or ElecEng 474(P) or equiv; MechEng 701(P) or ElecEng 701(P); or cons instr.
- MECHENG 819 ADAPTIVE CONTROL THEORY. 3 cr., G
Study of adaptive control systems including mathematical foundations; estimation; model reference adaptive control; self tuning regulators; numerical methods; and applications. ElecEng 819 & MechEng819 are jointly offered and count as repeats of one another.
Prereq: Grad st; MechEng 474(P) or ElecEng 474(P) or equiv; MechEng 701(P) or ElecEng 701(P); or cons instr.

COURSE CHANGES

- COMPSCI 132 INTRODUCTION TO COMPUTERS AND PROGRAMMING. 3 cr., U
How computers work; communicating with computers; introductory programming in a high-level language; elementary problem solving.
Prereq: Math placement code of 30 or Math 105(C).

had been

- COMPSCI 132 INTRODUCTION TO COMPUTERS AND PROGRAMMING. 2 cr., U
How computers work; communicating with computers; areas of application and significance; simple programming in a high-level language; elementary data processing and problem solving.
Prereq: Math placement code of 30 or Math 105(C).
- COMPSCI 201 INTRODUCTORY COMPUTER PROGRAMMING. 3 cr., U
Problem solving with structured programming techniques using an object-oriented programming language, including control structures, functions, arrays, vectors, and pre-defined objects.
Prereq: Math placement code of 30 or Math 105(P).
- had been
- COMPSCI 201 INTRODUCTORY COMPUTER PROGRAMMING. 3 cr., U
Problem solving with structured programming techniques using an object-oriented programming language, including control structures, functions, arrays, vectors, and pre-defined objects.
Prereq: Math placement code of 30 or Math 105(P); prior exposure to computer programming or CompSci 132(R).
- COMPSCI 438 SOFTWARE ENGINEERING LABORATORY. 1-6 cr., U/G
Software projects involving definition, design, development, documentation and implementation of software systems. May be retaken with change of topic to 6 cr max.
Prereq: Jr st; C or better in CompSci 251 (P)
- had been
- COMPSCI 438 SOFTWARE ENGINEERING LABORATORY. 1-6 cr., U/G
Software projects involving definition, design, development, documentation and implementation of software systems. May be retaken with change of topic to 6 cr max.
Prereq: Jr st; C or better in CompSci 252(P).
- COMPSCI 459 FUNDAMENTALS OF COMPUTER GRAPHICS. 3 cr., U/G
Scan-line algorithms, object representation, homogeneous coordinates, geometric transformations, viewing, curves and surfaces, illumination models, interactive input methods, texture mapping.
Prereq: jr st; Math 233(P); Math 234(P) or ElecEng 234(P); CompSci 251(P) or 252(P).
- had been
- COMPSCI 459 FUNDAMENTALS OF COMPUTER GRAPHICS. 3 cr., U/G
2 and 3D point computations, Computer manipulation and perspective transformations of figures. Curved line and surface calculations: Spline, Beizer, and B-Spline. Soft and hard copy graphical devices.
Prereq: jr st; CompSci 217(P) & 252(P).

- COMPSCI 469 INTRODUCTION TO COMPUTER SECURITY. 3 cr., U/G
 Privacy and authenticity of data and programs, communication, operating systems, network and database security, computer viruses, cryptography, private and public key cryptosystems, protocols.
 Prereq: Jr st; C or better in both CompSci 217(P) & 201(P).
- had been
- COMPSCI 469 INTRODUCTION TO COMPUTER SECURITY. 3 cr., U/G
 Privacy and authenticity of data and programs, communication, operating systems, network and database security, computer viruses, cryptography, private and public key cryptosystems, protocols.
 Prereq: Jr st; C or better in both CompSci 217(P) & 252(P).
- COMPSCI 520 (620) COMPUTER NETWORKS. 3 cr., U/G
 Layered network architecture, protocols, data transmission, local area networks, multiplexing and switching, routing flow and congestion control, internetworking, wireless networking, network reliability and security.
 Prereq: Jr. st; CompSci 215(P) or CompSci 458(P) or ElecEng 367(P).
- had been
- COMPSCI 520 (620) COMPUTER NETWORKS. 3 cr., U/G
 Layered network architecture, protocols, data transmission, local area networks, multiplexing and switching, routing flow and congestion control, internetworking, wireless networking, network reliability and security.
 Prereq: grade of C or better in CompSci 152(P); ElecEng 367(P) or grade of C or better in CompSci 215(P).
- ELECENG 574 (503) INTERMEDIATE CONTROL SYSTEMS. 3 cr., U/G
 State space; frequency domain methods of modeling, analysis and design of control systems; digital control; and multivariate systems. ElecEng 574(503) & MechEng 574(478) are jointly offered & count as repeats of each other. Not open for credit to students who have cr in ElecEng 503(ER) or MechEng 478(ER)
 Prereq: sr st; MechEng 474(P) or ElecEng 474(402)(P); or grad st.
- had been
- ELECENG 503 INTERMEDIATE CONTROL SYSTEMS. 3 cr., U/G
 Synthesis of compensatory networks, analysis of nonlinear systems, sampled data systems, systems with statistically specified inputs.
 Prereq: sr st; ElecEng 402(P)
- ELECENG 701 ADVANCED LINEAR SYSTEM ANALYSIS. 3 cr., G
 Theory and analysis of linear dynamic systems; discrete and continuous state models; linear algebra for dynamic systems; state transition matrix; numerical methods; and applications. ElecEng 701 & MechEng 701 are jointly offered and count as repeats of one another.
 Prereq: Grad st, or cons instr.

had been

ELECENG 701 ADVANCED LINEAR SYSTEM ANALYSIS. 3 cr., G
Selected topics in applied systems analysis for engineers; state variable system representation, vector and matrix algebra, transform theory and complex variable theory. Application of state space methods to circuits, controls and computers.
Prereq: ElecEng 234.

ELECENG 718 NONLINEAR CONTROL SYSTEMS. 3 cr., G
Advanced concepts and methodologies in modeling and design of nonlinear control systems. Lyapunov theory; describing functions; variable structure control. ElecEng 718 & MechEng 718 are jointly offered and count as repeats of one another. Not open for credit to students who have cr in MechEng 778.
Prereq: Grad st; MechEng 474(P) or ElecEng 474(P) or equiv; MechEng 701(P) or ElecEng 701(P); or cons instr.

had been

ELECENG 718 ADVANCED NONLINEAR SYSTEMS ANALYSIS. 3 cr., G
Survey of methods of solving nonlinear problems in engineering; linearization techniques, graphical and numerical methods; classical analytical solutions by elliptic integrals and energy methods; modern nonlinear stability criteria.
Prereq: ElecEng 701

ELECENG 816 OPTIMAL CONTROL THEORY. 3 cr., G
Analysis and synthesis of discrete and continuous optimal control systems; linear quadratic regulators; dynamic programming; and variational methods; applications. ElecEng 816 & MechEng 816 are jointly offered and count as repeats of one another.
Prereq: Grad st; MechEng 474(P) or ElecEng 474(P) or equiv; MechEng 701(P) or ElecEng 701(P); or cons instr.

had been

ELECENG 816 OPTIMAL CONTROL THEORY. 3 cr., G
Analysis and synthesis of discrete and continuous optimal control systems; linear and nonlinear programming; pontryagin's maximum principle; variational methods; time optimal and fuel optimal systems.
Prereq: ElecEng 701.

ELECENG 819 ADAPTIVE CONTROL THEORY. 3 cr., G
Study of adaptive control systems including mathematical foundations; estimation; model reference adaptive control; self tuning regulators; numerical methods; and applications. ElecEng 819 & MechEng819 are jointly offered and count as repeats of one another.
Prereq: Grad st; MechEng 474(P) or ElecEng 474(P) or equiv; MechEng 701(P) or ElecEng 701(P); or cons instr.

had been

- ELECENG 819 ADAPTIVE AND SELF-OPTIMIZING CONTROL THEORY. 3 cr., G
 Study of model reference, self-organization and learning control systems;
 adaptive process identification and pattern recognition.
 Prereq: ElecEng 701.
- MECHENG 574 (478) INTERMEDIATE CONTROL SYSTEMS. 3 cr., U/G
 State space; frequency domain methods of modeling, analysis and design of
 control systems; digital control; and multivariate systems. ElecEng 574(503) &
 MechEng 574(478) are jointly offered & count as repeats of each other. Not
 open for credit to students who have cr in ElecEng 503(ER) or MechEng 478(ER)
 Prereq: sr st; MechEng 474(P) or ElecEng 474(402)(P); or grad st.
- had been
- MECHENG 478 INTERMEDIATE CONTROL SYSTEMS. 3 cr., U/G
 State space and frequency domain methods of modeling, analysis and design of
 multivariate control systems with emphasis on mechanical systems applications
 and case studies.
 Prereq: sr st., MechEng 474(P)
- MECHENG 718 NONLINEAR CONTROL SYSTEMS. 3 cr., G
 Advanced concepts and methodologies in modeling and design of nonlinear
 control systems. Lyapunov theory; describing functions; variable structure
 control. ElecEng 718 & MechEng 718 are jointly offered and count as repeats of
 one another. Not open for credit to students who have cr in MechEng 778.
 Prereq: Grad st; MechEng 474(P) or ElecEng 474(P) or equiv; MechEng 701(P)
 or ElecEng 701(P); or cons instr.
- had been
- MECHENG 778 ADVANCED CONTROL SYSTEMS. 3 cr., G
 Advanced concepts and methodologies in modeling and design of control systems.
 Applications emphasize mechanical, thermal, and process control systems.
 Prereq: grad st; MechEng 474(P) or equiv