

Mechatronic Engineering

Mechatronic Systems

Modeling and Design

Mechatronic Design Concept

Evolution of Mechatronics

Application Areas

Study of Mechatronics

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Basic Elements and Components

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Fluid Elements

Thermal Elements

Mechanical Components

Passive Electrical Elements and Materials

Active Electronic Components

Light Emitters and Displays

Light Sensors

Modeling of Mechatronic Systems

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Lumped Elements and Analogies

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Modulators and Demodulators

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Instrument Ratings

Bandwidth

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Variable-Inductance Transducers

Variable-Capacitance Transducers

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STRAIN GAGES

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Cyrosopic Sensors

Optical Sensors and Lasers

Ultrasonic Sensors

Thermo-Fluid Sensors

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Sequential Logic Devices

Practical Considerations of IC Chips

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Control System Structure

Control System Performance

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Case Studies in Mechatronics

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Robotics Case Study

Iron Butcher Case Study

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