

Embedded Systems Masters program

May 2010





Embedded Everywhere



Goal: To train next generation of engineers in fundamentals of embedded system design and implementation

Interdisciplinary Curriculum

Intersection of Computer Science, Computer Engineering, and Control Systems

Industry:

Avionics, Automobile, Defense, Medical devices, Robotics

Topics

Hardware-software co-design

Real-time operating systems

Integration of control, computation, and communication

Safety-critical systems

Model-based design, Specification, and Verification

Curriculum

Required Courses (4)

CIS541: Embedded Software for life-critical applications (Fall I)
CIS540: Principles of Embedded Computation (Spring I)
CIS 542: Embedded Computing Platforms (Spring I)
ESE 519: Real-Time and Embedded Systems (Fall II)

Electives (6)

Embedded Systems Project / Masters Thesis

500-level CIS courses

CIS 501: Computer Architecture

CIS 505: Software Systems

CIS 553: Networked Systems

CIS 580: Machine Perception

500-level ESE courses

ESE 505: Control Systems

ESE 531: Digital Signal Processing

ESE 535: Electronic Design Automation

PRECISE Center

Penn Research in Embedded Computing and Integrated Systems

<http://precise.seas.upenn.edu/>



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