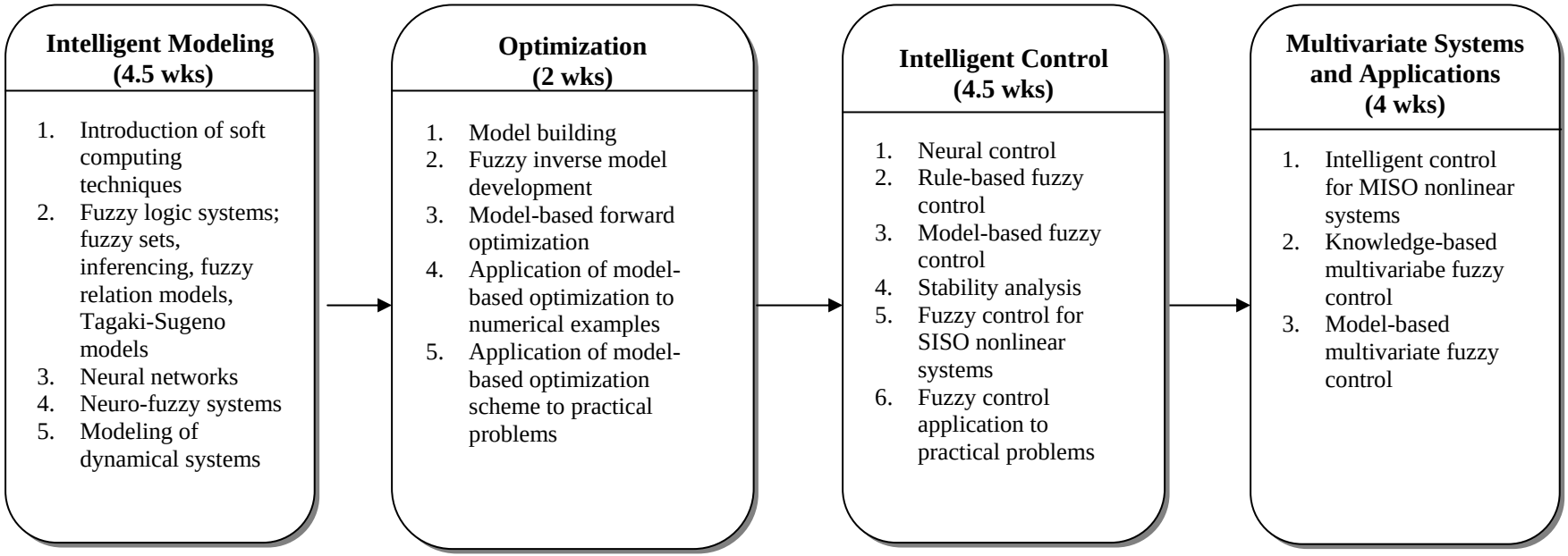
ME 697Y
Intelligent Systems

Course Outcomes

1. Learn the unified and exact mathematical basis as well as the general principles of various soft computing techniques.
2. Provide detailed theoretical and practical aspects of intelligent modeling, optimization and control of non-linear systems.
3. Prepare the students for developing intelligent systems through case studies, simulation examples and experimental results.



COURSE NUMBER: ME 697Y

COURSE TITLE: Intelligent Systems

REQUIRED COURSE OR ELECTIVE COURSE: Elective

TERMS OFFERED: Spring (Alternate Years)

TEXTBOOK/REQUIRED MATERIAL: Y.C. Shin and C. Xu, *Intelligent Systems: Modeling, Optimization and Control, CRC Press, 2008*.

PRE-REQUISITIES: Graduate Standing

COORDINATING FACULTY: Y.C. Shin

COURSE DESCRIPTION: A unified and unique mathematical treatment of various soft computing techniques for constructing intelligent systems, in modeling, optimization and control. The course covers the theory and applications of neural networks, fuzzy logic, evolutionary strategies and genetic algorithms in developing intelligent systems with examples and practical applications.

COURSE OUTCOMES:

1. Learn the *unified and exact mathematical basis* as well as the *general principles* of various soft computing techniques.
2. Provide detailed theoretical and practical aspects of intelligent modeling, optimization and control of non-linear systems.
3. Prepare the students for developing intelligent systems through case studies, simulation examples and experimental results.

ASSESSMENTS TOOLS:

1. Bi-weekly deliverables.
2. A term project.

RELATED ME PROGRAM OUTCOMES: N/A

PROFESSIONAL COMPONENT:

1. Engineering Topics: Engineering Science – 3.0 credits (60%)
2. Engineering Topics: Engineering Design – 3.0 credits (40%)

NATURE OF DESIGN CONTENT: Design issues in real-world problems analyzed in projects.

COMPUTER USAGE: Students are required to carryout programming as part of the project using either matlab or C or C++.

COURSE STRUCTURE/SCHEDULE:

1. Lecture – 2 days per week at 75 minutes.

PREPARED BY: Y.C. Shin

REVISION DATE: Nov. 8, 2008