Title (Units): **COMP4085 Selected Topics in Intelligent Informatics (3,3,0)**

Course Aims: To learn some state-of-the-art topics in intelligent informatics. Students will be able to solve the problems in some selected domains, such as machine learning, planning, self-organization, evolutionary computing, data mining, Web intelligent, intelligent agents, brain informatics, and parallel and distributed information processing.

Prerequisite: The pre-requisite depends on the specific topics covered. The pre-requisite and the chosen topics will be announced before the semester starts.

Course Intended Learning Outcomes (CILOs):
Upon successful completion of this course, students should be able to:

No.	Course Intended Learning Outcomes (CILOs)
	Knowledge
1	Explain the basic concepts in some selected domains
2	Explain the advantages and limitations of various methods developed in the selected domains
3	Describe the problems involved in the selected topics and explain the solutions to these problems
	Professional Skill
4	Solve the problems in the selected topics
5	Articulate complex ideas and relate them to specific situations

Calendar Description: This course deals with the selected topics in intelligent informatics. Students will learn some state-of-the-art topics in intelligent informatics, through which students are able to solve the problems in some selected domains, such as machine learning, planning, self-organization, evolutionary computing, data mining, Web intelligence, intelligent agents, brain informatics, and parallel and distributed information processing.

Teaching and Learning Activities (TLAs):

CILOs	Type of TLA
1-5	Students will learn the basic concepts and fundamental principles in lectures. More examples how to solve problems will be demonstrated in tutorials to help students have a deeper understanding of the teaching materials.
3-5	Students will acquire hands-on experience in formulating and solving problems of intelligent informatics

Assessment:

No.	Assessment Methods	Weighting	CILOs to be addressed	Description of Assessment Tasks
1	Continuous Assessment	30%	1-5	Continuous assessments are designed such that students can apply what they have learned to solve problems involved in the selected topics.
2	Examination	70%	1-5	Examination will be used to assess students' overall understanding in the concepts, and their ability in applying these concepts to solve problems.

Assessment Rubrics:

Excellent (A)	• Achieve all CILOs, demonstrating a good mastery of both the theoretical and practical aspects of the knowledge and skills in the selected topics • Able to develop correct solutions to problems in the selected domain • Demonstrate a thorough understanding and solid knowledge of the selected topics • Able to apply a variety of techniques and relevant knowledge for solving problems in the selected domain

Good (B)	• Achieve most of the five CILOs, demonstrating a good understanding of the knowledge and skills in the selected topics • Able to develop correct solutions to problems in the selected domain • Demonstrate a competent level of knowledge of the selected topics • Ability to make use of appropriate techniques and knowledge and apply them to familiar problems in the selected domain
Satisfactory (C)	• Achieve some of the five CILOs, demonstrating a basic level of understanding of the knowledge and skills in the selected topics • Able to provide acceptable solutions to problems in the selected domain • Demonstrate an adequate level of knowledge of the selected topics • Ability to make use of some techniques and knowledge and apply them to familiar situations in the selected domain
Marginal Pass (D)	• Achieve few of the five CILOs, with minimal understanding of the associated concepts and underlying methodologies in the selected topics • Able to provide solutions to simple problems in the selected domain • Demonstrate a basic level of knowledge of the selected topics • Ability to apply some techniques and knowledge to a limited number of typical situations in the selected domain
Fail (F)	• Achieve none of the five CILOs, with little understanding of the associated concepts and underlying methodologies in the selected topics • Unable to provide solutions to simple problems in the selected domain • Knowledge of selected topics falling below the basic minimum level • Unable to apply techniques and knowledge to situations or problems in the selected domain

Course Content and CILOs Mapping:

Content		**CILO No.**
I	Some selected topics in Intelligent Informatics	1-5

References:

- The references depend on the selected topics. Typically these references include advanced reference books and/or selected articles from journals, magazines, conference proceedings, research monographs, etc.

Course Content:

Topic

I. Some selected topics in Intelligent Informatics
   - Machine Learning
   - Planning
   - Intelligent Agents
   - Evolutionary Computation
   - Self-organization
   - Web Intelligence
   - Data Mining
   - Brain Informatics
   - Parallel and Distributed Computing
   - Other contemporary topics in Intelligent Informatics