

PROPOSAL TO INTRODUCE A NEW COURSE

(Formerly known as subject)

1. COURSE DETAILS

1.1 Course ID

COMP9515

1.2 Course name - Long

Pattern Classification

1.3 Course name - Abbreviated

Pattern Classification

1.4 Course Authority

Dr. Adnan Amin

ext/email

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1.5 Organisational Unit responsible for course

School: School of Computer Science and Engineering

Faculty: Engineering

Academic Group Code (Faculty): ENG

Academic Organisation Code (Owner): COMPSC

1.6 Justification of Proposal

Pattern Recognition is the scientific discipline whose goal is the classification of object into a number of categories or classes. The aim of this course is to classify the objects into the "defect" or "non-defect" class using several techniques such as Structural, Syntactic, Statistical and Neural approaches.

1.7 Consultation Process

This is a new high-level elective course. The following CS&E were consulted and the proposal has been discussed at the School of Computer Science and Engineering Teaching committee.

1.8 Units of credit (UOC) Session/s offered Hours Per Week

6UoC Available S2 3 hours

1.9 Pre-requisites: COMP9024 or Comp2011, and *Statistical course equivalent to MATH2859 or MATH2801 or MATH2901 for UGs. For PGs, assumed knowledge equivalent one of these.*

1.10 Proposed Entry in the Faculty Handbook

The course has three basic aims: firstly to understand the field of pattern recognition in general, secondly to get familiar with pattern recognition techniques, and thirdly to obtain the ability to apply techniques to applications.

This course is an introduction to the subject of pattern recognition. We will cover theoretical foundations of classification and pattern recognition and discuss applications in character, speech, and other applications. A tentative list of topics includes: Bayesian decision theory, discriminate functions for normal class distributions, supervised learning, unsupervised learning and clustering, Structural and Syntactic pattern recognition, Edit distance, String matching, Statistical pattern recognition, and neural pattern recognition.

1.11 Is this course replacing an existing course? NO

1.12 Undergraduate /Postgraduate

1.13 Elective

1.14 Program stage

S2 2005 otherwise S2 2006

1.15 Program/s in which course is be available

MCompIT, GradDipCompIT
MIT, GradCertIT
and combined courses that include these:

3978 CS

3645 CE

3647BI

3648 SE

1.16 Proposed teaching methods and assessment practices

Lectures. Examinable, with programming assignments, and written exam.

1.17 Assessment grades to be used

Full range of grades: HD to FL

1.18 Mode of delivery Internal

1.19 Information Technology Requirements for students

Standard access to computing facilities of the CSE

1.20 Textbooks

Duda, R.O., Hart, P.E., and Stork, D., Pattern Classification, Publisher John Wiley & Sons, Inc. Second Edition, 2001

Recommended:

Schalkoff R. , Pattern Recognition: Statistical, Structural and Neural approaches, 1998.
Theodoridis S. , and Koutroumbas K. , Pattern Recognition, 1998

1.21 Industrial experience component

N/A

2. RESOURCE STATEMENT

2.1 Enrolments

Estimated or proposed enrolments for the next two years

2005: 25-30

2006: 25-30

2.2 Resource Requirements

Field Costs: N/A

Studio/Laboratory Requirements: N/A

Materials Requirements: N/A

Equipment Costs: N/A

Computing Requirements: Standard for CSE courses, and already available

Library Requirements: Standard textbook requirements for a course of this size

Capital Funds Requirements: N/A

Staffing Requirements:

Hours per week

3 hours - Full-time Academic Staff

2.3 Servicing Implications:

N/A

2.4 Teaching Arrangements:

(i) Will other units contribute on a regular basis to the teaching of this course?

NO X

2.5 Alternative Delivery Arrangements:

Not considered for 2004 sessions

2.6 Details of Tuition Fees:

Proposed fee: Standard for an Engineering course of this type.

N/A – no non-award enrolment is anticipated

3. AUTHORISATION

3.1 University Librarian's Endorsement

I have examined the Library needs related to the above proposal and certify that existing Library holdings, staffing, services and accommodation are adequate to cover the demands that are inherent in it.

Appropriate arrangements for the use of digitised material to support this course have been made by the Course Authority with the Librarian.

Librarian
/ /2004

3.2 Head of School's Approval

I have examined the resource implications of the above proposal in regard to staff, space, materials, equipment, capital funds, and computing, and certify that the School can cover the demands that are inherent in it.

Head of School
/ /2004

3.3 Dean's Approval

I have examined the resource implications of the above proposal in regard to staff, space, materials, equipment, capital funds, and computing, and certify that:

3.3.1 the proposal involves no additional resources.

3.3.2 a fee will not be charged for this course.

3.3.3 the proposal conforms to the University's commitment to Equal Opportunity in Education.

Dean
/ /2004