BIRKBECK (UNIVERSITY OF LONDON)

MODULE PROPOSAL FORM

Registry use only:

Date Received	*Date approved DC*	*Module Code*

Please refer to the Guidance Notes to help you complete this proposal.

1	**Module Title**	**Intelligent Technologies**			
2	**Level** *(See Guidance Note 2)*	7 (M)	3	**Credit Value** *(See Guidance Note 3)*	15
4	**School responsible for the Module**	Computer Science and Information Systems			
5	**Date Module will commence**	1 October 2009	6	**Minimum / Maximum number of students**	**PT 10/30 FT 5/20**

7	**Mode of Delivery** *(Tick box(es))*	**Face to Face**	X	**Distance Learning**		**WebCT Access required**	X

8 Teaching and Learning *(See Guidance Note 8)*

Indicate (a) total contact hours for each entry as appropriate and (b) approximate non-contact study hours.

(a) Method of Teaching	**Contact hours and attendance requirement**
Lectures	21 1.5 hour sessions plus revision session
Seminars	
Tutorials	
Project Work	
Practical Classes (labs, computers, languages)	
Field Work	
Other (please specify)	
(b) Directed Learning / Private Study / Assessment	117 hours

9	**Status** *(See Guidance Note 9)*	**Core**		**Compulsory**		**Option**	**X**

Designated as a CORE / COMPULSORY * Module for the following Programme(s) *(* Delete as appropriate)*

Code	**Title of Programme**

Available as an OPTION Module on the following Programme(s)

Code	**Title of Programme**
	MSc Intelligent Technologies (compulsory) MRes Computer Science (option) MSc AIS (option)

10 Pre- requisite (PR), Co-requisite (CO) and/or Restrictions (RES) *(See Guidance Note 10)*

Code	**Title of Module**	**PR / CO / RES**

11 Rationale for introducing this module *(See Guidance Note 11)*

This module is being introduced for the MSc Intelligent Technologies in order to support the aims and learning outcomes of the Programme. It is expected to help creating a distinct identity in this Programme with ultimate aim to improve our recruitment. The resulting syllabus overlaps to a large extent with the “Advanced Applications” which was offered on the MSc and MRes programmes mentioned above, so that makes sense to replace “Advanced Applications” with this module.

12 Main Aims *(See Guidance Note 12)*

The module covers alternative methods for intelligent data-driven modelling, information management, decision making and complex problem solving so that students gain a valid image of intelligent computing paradigms and of systems that employ intelligent components. It provides an introduction to technologies such as artificial neural networks, fuzzy systems, evolutionary computation, hybrid systems, ontologies and reasoning services, and service oriented-architectures showing how such technologies work together to support the development of modern intelligent applications. The module explains the fundamental aspects, illustrates what technologies are useful for and how to choose the right technology for an application, and how systems that employ these technologies are designed and built.

13 Learning Outcomes *(See Guidance Note 13)*

Outcomes may be Subject Specific, Intellectual, Practical, or Personal and Social.

On successful completion of this module a student will be expected to be able to:

- Discuss fundamental aspects of intelligent technologies.
- Discus fundamental issues relating to the design and implementation of systems that employ intelligent technologies or components
- Apply theoretical understanding of intelligent computing paradigms to solve data modelling, information processing and decision making problems.

14 Syllabus

Please itemise the main topics of study

- Symbolic knowledge representation and inference
- Expert systems
- Fuzzy logic and fuzzy systems
- Introduction to clustering
- Subsymbolic knowledge representation and inference
- Neural computing and learning algorithms
- Genetic and evolutionary computing
- Hybrid Approaches
- Data modelling, metadata standards and repositories
- Ontologies and reasoning services
- Intelligent systems architecture

15 Scheme of Assessment *(See Guidance Note 15)*

Element of Assessment	Weighting (%)	Characteristics (eg, word count, duration of exam)
Final written examination	100%	**Two hours duration**
Total	**100%**	

Pass requirements: At least 50% at the exam

16 Core Teaching Staff *(See Guidance Note 16)*

Module Co-ordinator	**Name:** George Magoulas	**FT**

Please indicate whether permanent and/or sessional teaching staff will be responsible for teaching on this module

Permanent YES	**Sessional NO**

Name(s): George Magoulas and Alex Poulovassilis	**Name(s):**

17	**Resources**	*(See Guidance Note 17)*

Are additional resources required for this module? ~~**YES**~~ **/ NO** *(Delete as appropriate)*

If **YES**, please give details of additional resources required and obtain the relevant signature(s) to indicate agreement.

Accommodation	
Library	**Librarian:** **Signature:**
CCS	**CCS Manager:** **Signature:**

18	**Agreement**

	Name	**Signature**	**Date**
Module Co-ordinator (or author of this proposal, if different)	George Magoulas		
Head of School	Peter Wood		

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MODULE PROPOSAL FORM

Guidance Notes

In developing the module, account should be taken of the Framework for Higher Education Qualifications, which can be found at: http://www.qaa.ac.uk/academicinfrastructure/FHEQ/EWNI/default.asp**, relevant QAA Benchmarking Statements (**http://www.qaa.ac.uk/academicinfrastructure/benchmark/default.asp**) and, where appropriate, the requirements of Professional, Statutory, and Regulatory Bodies.**

Section	***Note***
1	*Self explanatory*
2	*Level: either 4 (C), 5 (I) or 6 (H) for undergraduate modules; Level 7 (M) for postgraduate modules* *Level descriptors are described in the Framework for Higher Education Qualifications: :http://www.qaa.ac.uk/academicinfrastructure/FHEQ/EWNI/default.asp*
3	*Credit Value: 15 (half), 30 (single) or 60 (double)*
4	*Self explanatory. Add Subject Code and Desk for FCE modules.*
5	*Self explanatory*
6	*Give and minimum and maximum number of students required to run this module.*
7	*Tick one or more boxes as appropriate.*
8	*Normally, 1 credit = 10 notional hours of learning. This includes all study undertaken to achieve the specified learning - contact hours, assessment and private study. Therefore a 30-credit = approximately 300 hours total learning hours.* ***Method of teaching** and **Contact hours/attendance**: For each teaching component give details of the number of associated study sessions and contact hours the student will be expected to attend/undertake in College or elsewhere, eg, Lectures: 11 weekly sessions, each 1.5 hours, plus revision week.* ***Directed Learning/Private Study/Assessment**: Please indicate the approximate number of hours a student might be expected to undertake in other learning and private study, including assessment and preparation for assessment.*
9	*Tick one or more boxes as appropriate to indicate status of module.* ***Core**: must be taken and passed* ***Compulsory**: must be taken, but may be compensated if not passed but overall mark achieved is between 30-39* ***Option**: selected from a range of approved modules within the field as specified in the programme regulations* *Add details of the designated programme(s) for Core/Compulsory modules.* *Add details of all programme(s) for which the module may be selected as an approved Option.* *Elective modules: unless specified otherwise, all modules will be available as electives and open to any student whose programme of study has defined an elective module as part of the approved programme, subject to availability of places, pre(co)-requisite requirements, timetabling constraints and being at the appropriate level/value.*
10	***Pre-requisite**: List any module (Code and Title) which must be successfully completed prior to undertaking this module, or any other condition(s) of eligibility.* ***Co-requisite**: List any module (Code and Title) which must be selected in parallel with this module* ***Restrictions**: List any modules which CANNOT be taken in conjunction with this module*
11	*Rationale for introducing this module in the context of existing provision, including statement of how the proposal meets student need.* *If the proposal supersedes an existing module, please give the code and title of the superseded module and the reason for replacement.* *If the proposal relates to an existing module, please give the code and title of the related module and an explanation of how this relationship will work.*
12	*The overarching aims of the module and how it fits with the programme(s). Any special features should be highlighted.*
13	*Learning Outcomes should relate to the overall aims of the programme(s) to which the module forms part and should be achievable and measurable. The entry should be written in the following format:* *"On successful completion of this module, a student will be expected to be able to ….., followed by a verb, eg, demonstrate, evaluate, operate, apply, analyse, and then an indication of the appropriate skills, complexity, knowledge or understanding.* *Learning outcomes may relate to some, or all, of the following categories:* ***Subject Specific**: The main areas of knowledge to be gained by the student, the understanding of the context in which this knowledge exists and the understanding of how this knowledge can be applied.* ***Intellectual**: Reference should be made to evaluation, applications of theoretical understanding to work/life situations, critical reasoning, formulation and testing of hypotheses, problem solving, analytical skills, synthesis, the ability to study a problem in depth etc.* ***Practical**: Research skills, laboratory skills, IT skills, numeracy skills, use of specialised statistical packages, ability to handle historical documents in a history programme, or other as appropriate.* ***Personal and Social**: Skills that the student should be able to use in areas of life independent of the programme eg, communication skills, the ability to work independently, self-awareness, planning and organisational skills, continuous learning skills, presentational skills, teamwork or an increased awareness of ethical practice.*
14	*Self explanatory*
15	*Assessment methods should enable the student to demonstrate the learning outcomes for the module.* *ALL elements of assessment must be listed (including those that are zero-weighted for purposes of calculating the overall final mark).* ***Elements of Assessment**: e.g. coursework essay, dissertation, project, examination (seen), examination (unseen), group assessment, presentation, portfolio, oral, viva, report (or other that may not be listed here).* ***Weighting**: percentage weighting the element contributes to the final module result.* ***Characteristics**: e.g. word count, submission date, duration of exam or other timed assessment* ***Pass requirements**: e.g. all elements have to be passed; some elements must be passed as well as a pass overall; just a pass overall must be obtained.*
16	*The module co-ordinator should be a permanent member of teaching staff who should ensure that procedures are being adhered to with regard to teaching and assessment practices.*
17	*Provide details of any **ADDITIONAL** resources required. All teaching and learning must be sufficiently flexible to enable all reasonable adjustments to be made in accordance with the Disability Discrimination Act (DDA).*

18	*Self-explanatory*