Data of courses form

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Title of the course: Cognitive Informatics

Short syllabus of the course, with topics addressed in each lecture:

Day 1: Introduction to cognitive informatics

1. What is computational cognitive modelling, types of cognitive modelling, what is computational cognitive modelling good for, multiple levels of cognitive modelling, successes and pitfalls of cognitive modelling
2. Introduction to symbolic modelling
3. Introduction to connectionist type modelling
4. Connectionist vs Symbolic vs Hybrid Modelling

Day 2: Connectionist Modelling

1. What is an artificial neuron and how it transmits information – Activation functions, connection weights, output computation
2. McCulloch-Pitts neuronal type
3. Learning rules
4. Network behaviour
5. Worked examples

Day 3: Learning and memory and knowledge representation, concepts, categories

1. Psychological studies and computational models of concept formation, concept learning and knowledge representation
2. PDP approach to semantic cognition
3. Adaptive resonance theory

Day 4: Symbolic Modelling

1. ACT-R
2. Soar

3. CLARION

Day 5: Exams

Course textbook: "Cognitive Modelling (CM)" by Thad A. Polk and Colleen M. Seifert (Bradford Books, 2002) (http://api.ning.com/files/pFUGNH4chIZY4rfEDP1DSg-pM7eUjJOa-wYjcjvSp0xyhMqBucXw37KXqOPz6xkymUfvtqMbaeF3dMEmJHkR5dSTzcjWP2PS/CognitiveModelingBradfordBooks.pdf)