The University of Georgia

Department of Computer Science

Course Information Sheet

CSCI 4540

Symbolic Programming

Brief Course Description (50-words or less)

Programming in LISP and PROLOG, with emphasis on artificial intelligence techniques. Other languages used for artificial intelligence work will be presented more briefly.

Extended Course Description / Comments

N/A

Pre-Requisites and/or Co-Requisites

CSCI 1302: Software Development in Java (Pre-Requisite)
CSCI(PHIL) 4550: Artificial Intelligence (Co-Requisite)

Required, Elective or Selected Elective

Selected Elective Course

Approved Textbooks (if more than one listed, the textbook used is up to the instructor's discretion)

PROLOG Programming in Depth, (1996 edition) by Covington, Nute, and Vellino;
Coverage: Chapters 1-9, (maybe parts of 10-12) from
(1). 0-13- 138645-X

Specific Learning Outcomes (Performance Indicators)

1. Students are familiar with (know something about) the Prolog language structure, its environment, and syntax.
2. Students are familiar with (know something about) the use of recursion in Prolog.
3. Students are familiar with (know something about) search tree pruning
4. Students are familiar with (know something about) modifying the Prolog knowledge base. This ability allows the programmer to change the program during execution; not a feature found in most modern programming languages.
5. Students are familiar with (know something about) the "cut" operation in Prolog.

Relationship Between Student Outcomes and Learning Outcomes

		Student Outcomes										
		a	b	c	d	e	f	g	h	i	j	k
Learning Outcomes		●	●	●	●		●		●	●	●	●
		●	●	●	●		●		●	●	●	●
		●	●	●	●		●		●	●	●	●
		●	●	●	●		●		●	●	●	●
		●	●	●	●		●		●	●	●	●

Major Topics Covered (Approximate Course Hours) 3 credit hours = 37.5 contact hours 4 credit hours = 50 contact hours Note: Exams count as a major topic covered	Propositional logic (3) Predicate logic (3) Programming in logic (3) Prolog rule base dynamics (3) List data structure (3) Recursion is our friend (3) Procedural algorithms (3) Data input and output (3) Languages and metalanguages (3) Searching and sorting (3) AI techniques for solving problems (3) Expert systems (3) Expert system shells (3) LISP programming (3) Functions (3) Recursion and Iteration (3) Looping and other special constructs (3)
Course Master	Dr. Fred Maier