TO: The Engineering Faculty
FROM: The Faculty of the School of Electrical Engineering
RE: Change of Course Level for EE 669

The Faculty of the School of Electrical Engineering has approved the following course-level changes for EE 669. This action is now submitted to the Engineering Faculty with a recommendation for approval.

FROM:

EE 669. NATURAL LANGUAGE PROCESSING
Spring alternate years, class 3, credits 3
Prerequisite: EE 570 (IE 547)

This course focuses on keyword-driven question answering systems; transition networks; parsing procedures for context-free grammars; theory of transformational grammars; implementation of recursive transition networks; implementation of augmented transition networks; representation of conceptual dependencies, surface semantic conceptual analysis; conceptual dependency parsing; generating natural language from a conceptual base; scripts, plans and goals; building conversationalist programs.

Outline:

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APPROVED FOR THE FACULTY
OF THE SCHOOLS OF ENGINEERING
BY THE COMMITTEE ON
FACULTY RELATIONS

CFR MINUTES 846
11/15/95

CHANCELF CFR
Semantic Interpretation
Semantic rules and Compositionality 2
Semantic grammars
Simple semantic grammars 1
Interleaved Syntactic and Semantic analysis 1
Semantic Preferences and Interleaving 1
Rule-by-Rule Semantics 2
Semantic Ambiguity, how to deal with it 2
Knowledge Representation 3
Discourse Structure 2
Spoken Natural Language 3
How can NLP help
Text-based vs. spoken
Constraint Dependency Grammars
In class proposals and presentation of Course Project 3
In class test 1

TO:

EE 575. NATURAL LANGUAGE PROCESSING
Sem. 1 (alternate years), class 3, credits 3
Prerequisites: EE 373 or graduate standing. Knowledge of LISP

This course will introduce students to the linguistic concepts needed to effectively build natural language systems. Focus will be on parsing techniques (students will modify several different types of parsers), logical form, semantic analysis, knowledge representation, discourse analysis techniques, and the impact of natural language systems on speech systems.

Outline:

Human Language Comprehension 1
An outline of English grammar 2
Grammar Theory 2
Lexicon 1
Top-down parsing techniques:
  Top-down RTNS (1)
  Prolog Parser (1)
  ATNS (4)
    The small ATN program (1)
    A large ATN program (3)
    depth-first vs breadth-first
    morphological analysis
    lexicon--what is needed?
    writing good grammars
Bottom-up parsing techniques: 4
  Bottom-up chart parser (1)
  Tomita Parser and parse forests (3)
  Mixed-mode parsing (1)
Adding features to parsers 3
  Handling passives (1)
  Wh-movement (2)
Deterministic Parsing 1
REASON: As this topic area has matured, the subject matter supporting this course has moved into the undergraduate program. Thus, a move to the 500-level with minor outline and course description changes is appropriate.