I. Catalog Description and Credit Hours of Course:

Principles, Indexing methods, Query processing, Linguistic aspects, Agents and AI approaches, Relation to the WWW, Search engines, and Algorithm in Information Retrieval. (3 credits, lecture)

II. Prerequisite (s):

Prerequisite: CS300 Computer Science III OR IS330 Application Development II with a minimum grade of ‘C.’

III. Objectives of the Course:

A. To provide in-depth understanding of technologies and tools for accessing and mining text information.

B. To provide fundamentals and skills to learn algorithms for information retrieval and hands on experience using current information retrieval toolkits.

C. To introduce the concepts of how search engines work.

D. To enable students to write code for text indexing and retrieval using exiting tools for IR.

E. To learn about Web Crawling.

IV. Student Learning Outcomes (Minimum of 3)

Upon the successful completion of this course, the student will be able to:

A. Write programs that use information retrieval techniques.

B. Choose appropriate constructs for solving a particular problem and implement the solution in the program language.

C. Demonstrate knowledge of several information retrieval algorithms, techniques, and tools.

V. Expectations of Students:

A. Attend lectures and participate in lecture discussions and classroom activities.

B. Complete exams, reading, exercises, and projects, within a given time frame.

C. Demonstrate a working knowledge of course concepts through satisfactory performance on exams, and exercises.

VI. Course Content or Outline (Indicate number of class hours per unit or section):

A. Introduction to information retrieval 3

B. The Internet and WWW 3
C. Basic Information Retrieval 3
D. Experimental Information Retrieval 3
E. Query Operations and Languages 3
F. Image Information Retrieval 3
G. Text Representation 3
H. Text Categorization 3
I. Text Clustering 3
J. Advanced Information Retrieval 4
K. Question Answering 3
L. Cross Language Information Retrieval 3
M. Presentation 3
N. Exams 3
Total Hours: 43

VII. Textbook(s) and/or Other Required Materials or Equipment:


B. Other references (Optional):

VIII. Basis for Student Evaluation:

A. Programming Assignments 15%
B. Group Projects 15%
C. Presentation 15%
D. Examinations 30%
E. Final examination 25%