

New Course Request

Indiana University

Indianapolis Campus

Check Appropriate Boxes: Undergraduate credit Graduate credit Professional credit

1. School/Division Informatics 2. Academic Subject Code INFO-I
3. Course Number 642 (must be cleared with University Enrollment Services) 4. Instructor Kharrazi
5. Course Title Clinical Decision Support Systems

Recommended Abbreviation (Optional) _____
(Limited to 32 Characters including spaces)

6. First time this course is to be offered (Semester/Year): Spring 2010
7. Credit Hours: Fixed at 3 or Variable from _____ to _____
8. Is this course to be graded S-F (only)? Yes _____ No X
9. Is variable title approval being requested? Yes _____ No X

10. Course description (not to exceed 50 words) for Bulletin publication: This course provides an overview of the state-of-the-art Clinical Decision Support Systems (CDSS). Topics include: design principles behind clinical decision support systems, mathematical foundations of knowledge-based systems, clinical vocabularies, legal and ethical issues, patient centered clinical decision support systems, and applications of CDSS in clinical practice.

11. Lecture Contact Hours: Fixed at 3 or Variable from _____ to _____
12. Non-Lecture Contact Hours: Fixed at 0 or Variable from _____ to _____
13. Estimated enrollment: 15 of which 100 percent are expected to be graduate students.
14. Frequency of scheduling: yearly Will this course be required for majors? yes
15. Justification for new course: introductory course to CDSS - foundational
16. Are the necessary reading materials currently available in the appropriate library? yes
17. Please append a complete outline of the proposed course, and indicate instructor (if known), textbooks, and other materials.
18. If this course overlaps with existing courses, please explain with which courses it overlaps and whether this overlap is necessary, desirable, or unimportant.
19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be overlap of the new course with existing courses or areas of strong concern, with instructions that they send comments directly to the originating Curriculum Committee. Please append a list of departments, schools, or divisions thus consulted.

Submitted by: Mathew Palakal Date 2/26/2009
Department Chairman/Division Director
Mathew Palakal
Date _____
Dean of Graduate School (when required)

Approved by: Tony Faiola Date _____
Dean
Tony Faiola
Date _____
Chancellor/Vice-President
Date _____
University Enrollment Services

After School/Division approval, forward the last copy (without attachments) to University Enrollment Services for initial processing, and the remaining four copies and attachments to the Campus Chancellor or Vice-President.

School of Informatics
Clinical Decision Support Systems
INFO 642

Course Information

- Credit Hours: 3.0
- Placement in Curriculum: Optional course for MS and PhD students
- Prerequisites: Graduate standing or permission of instructor
- Co-requisites: None

Faculty: Dr. Hadi Kharrazi (kharrazi@iupui.edu)

Description: This course provides an overview of the state-of-the-art of Clinical Decision Support Systems (CDSS). Topics include: the design principles behind clinical decision support systems, mathematical foundations of the knowledge-based systems, clinical vocabularies, legal and ethical issues, patient centered clinical decision support systems, and applications of CDSS in clinical practice.

Rationale: This course is an introduction to CDSS. The knowledge acquired in this course will help the students to familiarize themselves with the design principals, applications, integration and management of CDSS. Topics that will be covered are: mathematical foundations, data mining, diagnostic, and ethical and legal issues relating to CDSS.

Educational Outline:

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

1. Explain and analyze the state of the current research in CDSS
2. Characterize different aspects of CDSS such as design principles, implementation barriers and legal issues related to CDSS
3. Evaluate a given CDSS based on different criteria such as design, application, integration, methodology and outcome

Course Content and Preliminary Lecture Schedule

Week	Topics
Week 1	Overview and History of Clinical Decision Support Systems
Week 2	Mathematical Foundations of Decision Support
Week 3	Data Mining and Clinical Decision Support Systems
Week 4	Design and Implementation Issues
Week 5	Diagnostic Decision Support Systems
Week 6	Representing The Knowledge and Standardization Efforts
Week 7	Knowledge Management Approaches
Week 8	Clinical Trials of Information Interventions
Week 9	Evidence-Based Medicine and Meta-Analysis
Week 10	Clinical Decision Support Systems in Clinical Practice (Regenstrief)
Week 11	Clinical Decision Support Systems in Clinical Practice (Vanderbilt)
Week 12	Clinical Decision Support Systems in Clinical Practice (Intermountain)
Week 13	Decision Support for Patients
Week 14	Ethical and Legal Issues in Decision Support

Required and Recommended Text

Ball, M.J., Berner, E.S. Clinical Decision Support Systems: Theory and Practice, Springer, 1st Edition, 1998, ISBN: 978-0387985756

Greenes, R., Clinical Decision Support: The Road Ahead, Academic Press, 1st Edition, 2006, ISBN: 978-0123693778

Evaluation and Grading

Assignments 50%

Forums 10%

Paper 40%

Grading scale:

Point Range	Grade	Point Range	Grade
97 – 100%	A+	80 – 82%	B-
93 – 96%	A	77 – 79%	C+
90 – 92%	A-	70 – 76%	C
87 – 89%	B+	60 – 69%	D
83 – 86%	B	59 and below	F

Cheating and Plagiarism

If students turn in work that was written by someone else, work which was bought, borrowed, stolen, or downloaded from the Internet, and pass it off as their own work, they are cheating. Penalties for this form of plagiarism may range from a lowered grade, to an F for the course, or, in extreme cases, expulsion from IUPUI. Students caught cheating will be penalized and may not receive credit for the exam or assignment.

Americans with Disability Act:

If you need any special accommodation due to a disability, please contact Adaptive Educational Services at (317) 274-3241. The office is located in CA 001E.

POLICIES for ATTENDANCE & ASSIGNMENT PROJECT DEADLINES

1. **Missing class course chat time WILL affect your grade.** Students are allowed two (excused or unexcused) absences before their grade will be effected. In other words, whether you are sick or have personal problems or issues for missing class, it will amount to the same. Missing class means you do not show for the whole or majority of the session. The grade reduction policy works in this way.

a. On the third missed class time your final grade will drop 5 points (regardless of the reason).

b. On the fourth missed class your final grade will drop 10 points (regardless of the reason), and 5 additional points there after for each additional class missed.

2. **Responsible for due dates and related materials:** All weekly due assignments are the students' responsibility. If class is missed, the student is still responsible for the assignment, as well as to find out what was covered in class, e.g., any new assignments or variations to an existing assignment. ALL assignment deadlines are outlined in the syllabus or syllabus supplemental documents provided on Oncourse. The instructor will only give one reminder of these dates. In the end, each student is responsible for the deadline. Also, weekly assignment deadlines should be adhered to, to insure fairness to all students. For the purpose of maintaining an equal and fair evaluation of each student's work, no student will receive special treatment. As a result, the following rules will apply to this course:

a. All assignments must be ready to hand in or email at the designated time and place as stated on the assignment sheet, as communicated via email, or on the syllabus.

b. All assignments handed in late will be reduced 10 points for every day late (24 hrs. from the due date and time). For example, if the assignment is due at 6PM on the due date and it is post-marked 6:01PM, it will be reduced automatically by 10 points. If the class meets in the class room, students must be ready to hand the assignment in at the start of class time.

c. Incompletes will NOT be issued except under very extreme personal conditions that have been reviewed by the instructor and in some cases in consultation with the Dean's Office.

UNIVERSITY POLICIES

1. **University Attendance Policy:** Attendance is required. The University regulations state: "Students are expected to be present for every meeting of the classes in which they are enrolled." IUPUI faculty is required to submit to the office of the Register a record of student attendance through the semester, on which they will take action if the record conveys a trend of absenteeism. As a result, **ATTENDANCE WILL BE TAKEN IN ALL CLASSES.** An Attendance sheet will be passed out in class for each student to sign their name. If you do not sign your name while in class you will be marked absent. The instructor is not expected to remember who attended when, so signing the sheet while in class is important. Signing the attendance sheet for another student is absolutely prohibited. Any student found doing so will be in violation of university policies on ethics and/or conduct.