



IUPUI

SCHOOL OF INFORMATICS AND COMPUTING

DEPARTMENT OF BIOHEALTH INFORMATICS

Indiana University–Purdue University
Indianapolis

Fundamentals of Clinical Care for Health Informaticians- INFO B509 Spring

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|-----------------------|----------------|
| Course Info | 3 Credit hours |
| Location | Online |
| Prerequisites: | None |

COURSE DESCRIPTION

This course enables students to communicate effectively with clinicians by developing an understanding of the purposes of healthcare, how clinicians make healthcare decisions, such as their strategies for diagnosing common ailments and choosing treatments, and how healthcare processes take place in various settings.

Rationale

The purpose of this course is to enable health informatics students who do not possess medical backgrounds to communicate with clinical experts by developing a fundamental understanding of the processes for delivering healthcare, including anatomical and physiological principles of the human body, diagnostic strategies, clinical decision-making treatments, and basic principles of evidence-based practice.

Required Textbooks

1. Scanlon, V. C., & Sanders, T. (2010). *Essential of anatomy and physiology*. F. A. Davis. ISBN: 0803622562 www.amazon.com/dp/0803622562
2. Coiera, E., Magrabi, F., & Sintchenko, V. (2014). *Guide to health informatics* (3rd ed.). CRC Press. ISBN: 144417049X www.amazon.com/dp/144417049X
3. Sultz, H. A., & Young, K. M. (2013). *Health care USA: Understanding its organization and delivery* (8th ed.). Jones & Bartlett. ISBN: 1284029883. www.amazon.com/dp/1284029883

Teaching and Learning Methods

- Lectures
- Threaded topical discussions
- Case studies

Student Learning Outcomes

| Upon successful completion of the course, students will | PGPL |
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| 1. Categorize the basic principles of the human body from cell to organism | 1 |
| 2. Distinguish various organ system levels | 1 |
| 3. Summarize medical problems using information from real-world cases | 2 |
| 4. Diagram the flow of patient information in healthcare routines | 1 |
| 5. Communicate with essential healthcare vocabulary | 3 |
| 6. Appraise what information clinicians collect and why | 1, 2, 3 |
| 7. Analyze clinical decision support services to health professionals | 1, 2, 3, 4 |
| 8. Recognize various issues in the healthcare industry | 1, 2, 3 |

Principles of Graduate and Professional Learning (PGPL)

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| 1. Knowledge and skills mastery | Major emphasis |
| 2. Critical thinking and good judgment | Moderate emphasis |
| 3. Effective communication | Some emphasis |
| 4. Ethical behavior | |

Evaluation and Assessment

Detailed instructions regarding each assignment will be provided as the course progresses. Attention to the instructions, clarity of expression and presentation, and evidence of critical thinking are important for all assignments.

Grading will be based on a 100-point scale distributed as follow:

| Assignment | Percent |
|-----------------------------------|---------|
| 1 Assignment # 1–4 (Case Study) | 24% |
| 2 Quiz # 1–12 (MCQ) | 30% |
| 3 Critical Reviews (1-3) | 18% |
| 4 Exam (Midterm & Final) | 20% |
| 5 Class Activity | 8% |
| Total | 100% |

Grading Scale

The conversion table from numerical format to letter grades is followed:

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|----|------------|---|
| A+ | 97 – 100 | Outstanding achievement, given at the instructor’s discretion |
| A | 93 – 100 | Excellent achievement |
| A– | 90 – 92.99 | Very good work |
| B+ | 87 – 89.99 | Good work |
| B | 83 – 86.99 | Marginal work |
| B– | 80 – 82.99 | Very marginal work |

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| C+ | 77 – 79.99 | Unacceptable work (Course must be repeated) |
| C | 73 – 76.99 | Unacceptable work (Course must be repeated) |
| C– | 70 – 72.99 | Unacceptable work (Course must be repeated) |
| D+ | 67 – 69.99 | Unacceptable work (Course must be repeated) |
| D | 63 – 66.99 | Unacceptable work (Course must be repeated) |
| D– | 60 – 62.99 | Unacceptable work (Course must be repeated) |
| F | Below 60 | Unacceptable work (Course must be repeated) |

(1) Assignments: Assignments will be posted each week on CANVAS and are expected to be turned in by the assigned deadline. Detailed posting and due dates are available online in the course schedule. Assignments are short discussions written individually by students about a given problem or case based on each week’s topic. Assignments should be submitted through the CANVAS website.

(2) Quizzes: A number of out-of-class quizzes will be administered throughout the course. Quizzes are multiple-choice questions and will cover topics reviewed in previous classes.

(3) Exams (Midterm and Final): Midterm and Final exams will be take-home exams. There will be a certain opening and closing time on accessing and submitting the exam on CANVAS. The nature of exams will follow the format of the assignments and will include clinical cases for you to discuss.

(4) Critical Reviews: Students in the graduate class will critically appraise clinical practices (observed) with the published literature and guidelines. In this course, there is no requirement to memorize the content of the presented material in the class; however, understanding the content and the logical relations among topics is crucial. Assignments, quizzes, and exams are conducted in an out-of-class fashion. You are permitted to use any legitimate sources of knowledge such as the web, books, slides, and published papers to find the answers; however, plagiarism is strictly prohibited. Group work (e.g., answering the questions while working in a group), personal assistance (e.g., asking a classmate to help you finding an answer), and sharing answers (e.g., emailing the answers to the class) by any means are not permitted.

(5) Participation: Participation includes punctuality, regular attendance, proactive discussions in the class, helping other students in-and-out of class, and reading the material before the class. The instructor will determine the participation level for each student on an individual basis at the end of the semester.

Grading Principles & Policies

Evaluation Forms: Students should review all grading forms that will be used by the instructor to grade projects, presentations, papers, and other assignments.

If students want to see their grades at any time during the semester, they should contact the instructor by phone or email.

Score: Criteria to Evaluate Threaded Discussions

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| 4 | <ul style="list-style-type: none"> • Exceptional quality (not quantity) • Evident that individual has completed all reading assignments • Demonstrates applied level of understanding through personal reflections • Answer is well-developed and logically reasoned • Provides original insights or responses; extends of others • Supports and leads others in discussion; respects other and their ideas |
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| 3 | <ul style="list-style-type: none"> • Superior quality (not quantity) • Evident that individual has completed all reading assignments • Demonstrates applied level of understanding through personal reflections • Answer is provided; logic may not be clear • Provides original insights or responses • Makes connections to what others say; respects others and their ideas |
| 2 | <ul style="list-style-type: none"> • Satisfactory quality and quantity • Evident that individual has completed all reading assignments • Primarily consists of summary or paraphrasing of readings • Answer is not fully developed; logic is not clear • Contribution is primarily a response to others; minimal originality • Is respectful of others and their ideas |
| 1 | <ul style="list-style-type: none"> • Does not meet expectations • Not clear that individual has completed reading assignments • Only consists of summary or paraphrasing of readings • Minimal effort put into answer • Is not respectful of others and their ideas |
| 0 | <ul style="list-style-type: none"> • Assignment not completed |

EXPECTATIONS, GUIDELINES, AND POLICIES

Attendance:

A basic requirement of this course is that you will participate in all class meetings, whether online or face-to-face, and conscientiously complete all required course activities and assignments. Class attendance is required for classroom-based courses. It entails being present and attentive for the entire class period. Attendance shall be taken in every class. If you do not sign the attendance sheet while in class, you shall be marked absent. Signing the attendance sheet for another student is prohibited. The instructor is required to submit to the Registrar a record of student attendance, and action shall be taken if the record conveys a trend of absenteeism.

Only the following are acceptable excuses for absences: death in the immediate family (e.g. mother, father, spouse, child, or sibling), hospitalization or serious illness; jury duty; court ordered summons; religious holiday; university/school coordinated athletic or scholastic activities; an unanticipated event that would cause attendance to result in substantial hardship to one's self or immediate family. Absences must be explained with the submission of appropriate documentation to the satisfaction of the instructor, who will decide whether missed work may be made up.

Absences that do not satisfy the above criteria are considered unexcused. To protect your privacy, doctor's excuses should exclude the nature of the condition and focus instead on how the condition impacts your attendance and academic performance.

Missing class reduces your grade through the following grade reduction policy: You are allowed two excused or unexcused absences. Each additional absence, unless excused, results in a 5% reduction in your final course grade. More than four absences result in an F in the course. Missing class may also reduce your grade by eliminating opportunities for class participation. For all absences, the student is responsible for all covered materials and assignments.

Incomplete:

The instructor may assign an Incomplete (I) grade only if at least 75% of the required coursework has been completed at passing quality and holding you to previously established time limits would

result in unjust hardship to you. All unfinished work must be completed by the date set by the instructor. Left unchanged, an Incomplete automatically becomes an F after one year.

<http://registrar.iupui.edu/incomp.html>

Deliverables:

You are responsible for completing each deliverable (e.g., assignment, quiz) by its deadline and submitting it by the specified method. Deadlines are outlined in the syllabus or in supplementary documents accessible through the learning management system (e.g., CANVAS). Should you miss a class, you are still responsible for completing the deliverable and for finding out what was covered in class, including any new or modified deliverable. In fairness to the instructor and students who completed their work on time, a grade on a deliverable shall be reduced 10%, if it is submitted late and a further 10% for each 24-hour period it is submitted after the deadline.