INFO 581: Health Information Standards & Terminology

Spring 2014

3 Credits

IUPUI, School of Informatics

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Thomas A. Carr, MD MBI</th>
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<tbody>
<tr>
<td>Office Address</td>
<td>Roudebush VAMC</td>
</tr>
<tr>
<td>Office Phone</td>
<td>317-988-3340</td>
</tr>
<tr>
<td>Office Hours</td>
<td>By appointment (e-mail me to arrange)</td>
</tr>
<tr>
<td>Email Address</td>
<td><a href="mailto:carrt@iupui.edu">carrt@iupui.edu</a></td>
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| Credit hours    | 3                               |
| Prerequisites   | Graduate standing or permission of instructor |
| Co-requisites   | None                            |
Course Description

Health information is captured as data of various formats and types. If health data is to improve patient care or if research data from different sources need to be joined together, health information standards are needed. Health information standards exist for data types and structures for messages, databases and documents as well as for the nomenclature of the myriad conceptual entities that are relevant for the biomedical domain (terminologies). The field of health information standards is also rapidly evolving. This course gives an overview of the established standards for health care data interchange, and for the rapidly evolving field of biomedical informatics. The course will expose the principles and methodologies underlying most standards and also introduce the student to practical issues of reading and understanding specifications, implementing, and translating between standards.

Course Objectives, Competencies and Outcomes

Upon successful completion of this course, the student will have a deep understanding of principles of data and knowledge structures for healthcare and the fundamentals underlying their design and applications. The student will have gained an overview of the most relevant existing standards in the health care and bio-medical research domain, and will have a practical idea how standards are implemented technically and organizationally. The student will also have learned to critically assess standards and to be able to participate in standards development.

Readings

Required and optional readings will be defined for each session and can be found in the class schedule. The readings consist of articles, book chapters and slides. Additional independent readings may be recommended.

1. Articles: Articles are provided by the instructor and are available in OnCourse.


(3) Slides: Each week the slides will be posted online. It is highly recommended that students read the articles or book chapters before reviewing the slides.

Course Content and Preliminary Lecture Schedule

Please note that this is the preliminary lecture schedule. Updates will be posted on OnCourse. Holidays are not included in the following schedule. If a deadline falls on a holiday, the deadline will be postponed to the next working day.

<table>
<thead>
<tr>
<th>#</th>
<th>Topics</th>
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<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction, Overview of S&amp;T</td>
<td>8</td>
<td>Review – MIDTERM</td>
</tr>
</tbody>
</table>
Teaching Strategies/Methods

We all hope to have a wonderful time during this course. The most important point is that you want to enjoy the course material and also respect the others' right to enjoy the course by maintaining a suitable class atmosphere during the course.

All of the material (slides and readings) will be posted online and students should review the slides and readings on a weekly basis. The book contains quizzes to ensure your understanding.

The class structure includes various guest speakers. Thus, materials such as slides, readings and quizzes are posted on a weekly basis and may not be posted all at the beginning of the semester.

To access the secure content of the course please login into your OnCourse account at: http://OnCourse.iu.edu

Evaluation and Assessment

Marking will be based on a 100 pointing scale distributed as follow:

<table>
<thead>
<tr>
<th>#</th>
<th>Assignment</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Weekly Assignments</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>Project</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>Midterm and Final (20% each)</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>Participation</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>
(1) **Weekly Assignments:** Most weeks there will be an assignment due as listed in OnCourse. Please pay attention to the points per assignment, as they are not all equal. Assignments are due on the date and time listed in OnCourse. There is no credit for late assignments. Grading is done as follows: Full Credit for exceptional quality - highly innovative work, innovative goals, masterly execution, exceeding the requirements (enabling new uses beyond the immediate goal), innovative use of the tools. 75% Credit for superior quality - set an innovative goal, demonstrates understanding of the goal, meets the requirements elegantly and clearly, demonstrates mastery of the tools. 50% Credit for satisfactory quality - demonstrates basic understanding of the goal, meets the requirements even if somewhat unclear how, demonstrates basic understanding of the tools. 25% credit for does not meet expectations - lacks understanding of the goals, does not meet the requirements, lacks understanding of the tools. No Credit for assignment not completed/turned in on time.

(2) **Final Class Project:** Students will form a small group and will write a paper on a medical standard that may/may not be in use today. It’s history, development, utilization, and why/why not it has survived. There will be 4-5 people per group. 10-12 (for 5 person groups) or 8-10 (for 4 person groups) page paper (double spaced, 10-12 point font).

20% grade will be on the abstract / reference list
30% of the grade will be from your peers
50% of the grade will be on the manuscript

**Roles**

*Mandatory Role*

**Project Manager:** Overall in charge of project, keeping on deadlines. The project manager should set up and determine how communication will be handled, as well as run the "working document". They can use a wiki, Google docs, or Adobe, but there should be a decided place for them to keep their document that all members can access. The project manager should report to Dr. Carr if other members are not participating.

*Suggested roles for other group members*

**Content Expert:** Responsible for content and theme of paper.

**Research Coordinator:** Responsible for finding scholarly articles, citations/bibliography, ensuring references are up to date. Provides content for writers. The researcher should report to Dr. Carr if the project manager is not performing their responsibilities.

**Writers (2):** Responsible for drafting document.

Teammates will provide written feedback and assist with scoring each of the team members. The course instructor will assign the final grade for the entire group.

(3) **Midterm / Final Examination:** There will be 50 questions, multiple-choice examination for both the Midterm and Final Examination. The questions come from the book material (check your understanding, review questions), material covered in lecture, and required readings. Approximately 25% of the final examination includes material from the entire course. Please keep in mind that you will have 90 minutes to complete the 50 questions. As you have only one attempt to take each examination, please ensure you have a reliable internet connection and sufficient time to complete the test.
(4) Participation: Full participation in class/group activities is required to achieve full credit. A portion of your grade will come from OnCourse activities/statistics.

Grading Scale

The final grade will be a weighed composite of many smaller grades. This should create a fair result.

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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A+</td>
<td>97-100</td>
</tr>
<tr>
<td>A</td>
<td>93-96</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
</tr>
<tr>
<td>C</td>
<td>73-76</td>
</tr>
<tr>
<td>C-</td>
<td>70-72</td>
</tr>
<tr>
<td>D</td>
<td>60-69</td>
</tr>
<tr>
<td>F</td>
<td>0-59</td>
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</tbody>
</table>

Grading Principles and Policies

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.

Criteria to evaluate written assignments:

Exceptional quality (not quantity): (90-100 %)

- Evident that individual has completed all requirements
- Demonstrates applied level of understanding through personal reflections
- Answer is well-developed and logically reasoned
- Provides original insights or responses; extends comments of others
- Supports and leads others in discussion; respects others and their ideas

Superior quality (not quantity): (80-89%)

- Evident that individual has completed all requirements
- 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

Satisfactory quality and quantity: (50-79 %)

- Evident that individual has completed all requirements
- 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

Does not meet expectations: (< 50%)

- Not clear that individual has completed all requirements
- Only consists of summary or paraphrasing of readings
- Minimal effort put into answer
- Is not respectful of others and their ideas

Requirements not completed (0)

Late work

Assignments are due by date and time posted in OnCourse. Severe weather rarely results in cancellation of classes or changes in due dates/times of assignments. As such, previously assigned work will still be due as posted in OnCourse. Please clarify with the instructor regarding due dates of future assignments.

Extensions

Extensions may be granted in the case of exceptional circumstances. You must discuss these circumstances with your instructor at least 24 hours before the assignment is due. (Note: Discussing the situation is not the same as merely informing your instructor.) In order for a late assignment to receive full marks, it must include a note from the instructor confirming the extension date. An instructor note, attached to your assignment, can include a printed copy of an e-mail exchange between instructor and student indicating that an extension has been granted. Medical reasons for a late assignment must be documented.
by a doctor's note. Under normal circumstances (according to university regulations) medical excuses must be presented promptly (within two weeks from the date of the illness).

**Plagiarism**

Plagiarism is defined as presenting someone else’s work, including the work of other students, as one’s own. Any ideas or materials taken from another source for either written or oral use must be fully acknowledged, unless the information is common knowledge. What is considered “common knowledge” may differ from course to course.

(1) A student must not adopt or reproduce ideas, opinions, theories, formulas, graphics, or pictures of another person without acknowledgment.

(2) A student must give credit to the originality of others and acknowledge indebtedness whenever:

- Directly quoting another person’s actual words, whether oral or written;
- Using another person’s ideas, opinions, or theories;
- Paraphrasing the words, ideas, opinions, or theories of others, whether oral or written;
- Borrowing facts, statistics, or illustrative material; or
- Offering materials assembled or collected by others in the form of projects or collections without acknowledgment.

*Please refer to [http://www.psych.iupui.edu/capstone/plagiarism/what_is_it.htm](http://www.psych.iupui.edu/capstone/plagiarism/what_is_it.htm) for some tips about how to avoid plagiarism.*

**Equipment needed**

Computer with email and web access for participating in the online parts of the course (notes, supplemental material, assignments, etc.) Any appropriate equipment to create papers and presentations. Practical assignments can be carried out on various equipment, including own PC or Laptop, general computer labs and IUPUI Unix servers.

The instructor uses movie files to voice over PowerPoint slides. (Yes there is audio). These are best viewed using QuickTime – available from Apple / online.

**Software used**

Most materials are provided in either PowerPoint or Acrobat PDF. Assignments should be submitted in a Word document format.
University Policies

There are a number of campus-wide policies governing the conduct of courses at IUPUI. These can be found at: [http://registrar.iupui.edu/course_policies.html](http://registrar.iupui.edu/course_policies.html)

*Code of Student Rights, Responsibilities and Conduct*

> All students are responsible for reading the Code of Student Rights, Responsibilities and Conduct of IUPUI ([http://www.iupui.edu/code/](http://www.iupui.edu/code/)).

> “A student must not violate course rules as contained in a course syllabus, which are rationally related to the content of the course or to the enhancement of the learning process in the course.” [Code of Student Rights, Responsibilities, and Conduct, page 29]

*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 a record of students' attendance through the semester, on which they will take action if the record conveys a trend of absenteeism. If a student does not participate in the online discussions for the entire week, the student will be considered absent despite the student’s submission of the assignments.

*Bringing your children to class*

Although not applicable to online classes, it should be stated that “Children are not permitted to attend class with parents, guardians, or childcare providers. This conduct has the effect of unreasonably interfering with an individual’s work or academic performance creating an offensive learning environment.”

*Academic Dishonesty/Integrity and Plagiarism*

Using another student’s work on a project or assignment, cheating on a test, or any other form of dishonesty or plagiarism will result in a grade of zero on that assignment and possibly an “F” in the course, and will be referred to the Dean of Students. All students should aspire to high standards of academic honesty.

*Values and Ethics*

Profanity or derogatory comments about or towards the instructor or any members of the class will NOT be tolerated. Violating this rule will result in a warning and if the offence continues, administrative action will be taken.

*Disabilities Policy*

In compliance with the Americans with Disabilities Act (ADA), all qualified students enrolled in this course are entitled to ‘reasonable accommodations’. Please notify the instructor during the first week of class of any accommodations needed for the course. Students with learning disabilities must provide written verification for this policy to be recognized. If you need any special accommodation due to a disability, please contact Adaptive Education Services at 317-274-3241. The office is located at CA 001E.
Statement of Values

The Mission of IUPUI is to provide for its constituents excellence in

- Teaching and Learning
- Research, Scholarship, and Creative Activity
- Civic Engagement

With each of these core activities characterized by

- Collaboration within and across disciplines and with the community
- A commitment to ensuring diversity, and
- Pursuit of best practices

IUPUI’s mission is derived from and aligned with the principal components – Communities of Learning, Responsibilities of Excellence, Accountability and Best Practices – of Indiana University’s Strategic Directions Charter.

IUPUI values the commitment of students to learning; of faculty to the highest standards of teaching, scholarship, and service; and of staff to the highest standards of service. IUPUI recognizes students as partners in learning. IUPUI values the opportunities afforded by its location in Indiana’s capital city and is committed to serving the needs of its community. Thus, IUPUI students, faculty, and staff are involved in the community; both to provide educational programs and patient care and to apply learning to community needs through service. As a leader in fostering collaborative relationships, IUPUI values collegiality, cooperation, creativity, innovation, and entrepreneurship as well as honesty, integrity, and support for open inquiry and dissemination of findings. IUPUI is committed to the personal and professional development of its students, faculty, and staff and to continuous improvement of its programs and services.