And Ethics for All: Integrating Values and Ethics for a Diverse Undergraduate Curriculum

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This presentation will move from a macro level of considering values and ethics across the undergraduate curriculum to a more targeted discussion of how professional ethics are covered in individual courses, finally culminating in a discussion of how ethics can be applied in a cross-disciplinary manner.

The presenters will showcase the course content and homework assignments that they use to teach values and ethics in their individual courses as well as their team-taught course and provide suggestions for how to assess whether their courses have impacted student learning or shaped student beliefs about values and ethics.
Indiana University Purdue University Indianapolis (IUPUI) has based its undergraduate curricula on the Principles of Undergraduate Learning (PULs). Included in the six PULs is PUL 6 covering Values and Ethics.

The definition for PUL 6 is “[t]he ability of students to make sound decisions with respect to individual conduct, citizenship, and aesthetics. A sense of values and ethics is demonstrated by the student's ability to

- make informed and principled choices and to foresee consequences of these choices;
- explore, understand, and cultivate an appreciation for beauty and art;
- understand ethical principles within diverse cultural, social, environmental and personal settings.”
For each course within the undergraduate programs at IUPUI, faculty members are expected to designate the PUL of Major Importance, the PUL of Moderate Importance and a PUL of Some Importance and be able to demonstrate that students who complete courses have been able to make improvements in these PULs.

Moreover, each assignment is to be tagged with at least a PUL of Major and Moderate Importance.

All courses are to be assessed for the PULs every five years.

Being able to demonstrate that this assessment process was being followed was an integral part of IUPUI’s recent evaluation for accreditation.
Learning Outcomes: Informatics

Graduates of the Informatics undergraduate program will demonstrate expertise in the following core competencies essential to success as an informatics, computing and information technology professional.

5. Professional Ethics and Development:
   ◦ Create a personal code of ethics; articulate principles for resolving ethical conflicts
   ◦ Commit to a regular program of continuing education and lifelong learning that is independent of employer sponsorship
   ◦ Participate in professional organizations that promote responsible computing and service to society
Learning Outcomes: Media Arts and Science

Graduates of the Media Arts and Science undergraduate program will demonstrate expertise in the following core competencies essential to success as an informatics, computing and information technology professional specializing in new and interactive media:

8. Explain the impact of digital media on individuals, organizations and society

9. Acknowledge diverse opinions regarding professional, ethical, legal and social issues with a global perspective

10. Appreciate the need for lifelong learning and have a plan for continuing professional development
INFO 1453: Computer and Information Ethics

- PUL 6 is of Major Importance.
- Required Core course in Undergraduate Informatics Plan of Study.
- Includes weekly Discussion Forum (half the class participates each week). Students are asked to provide feedback about a student’s response from the previous week, providing them with additional feedback.
- Pre–Test on Computer and Information Ethics at the beginning of the semester.
- Post–Test on Computer and Information Ethics at the end of the semester.
Topics covered in the course include:

- Values and ethics – legal and cultural perspectives
- Networked communications
- Intellectual property
- Information privacy; privacy and the government
- Computer and network security
- Computer reliability
- Ethics in research (humans and animals)
- Ethics in virtual worlds and games
- Professional ethics and codes of conduct
- Ethics in social media, virtual worlds, games and new technologies
- Work and wealth
At the end of the semester, students write a Self-Reflection on Computer and Information Ethics where they compare their responses in the Pre-Test with the Post-Test.

- Sample question: A man creates a virus to force users to register for a shareware program he created. Is this: Ethical, Acceptable, Questionable, Unethical or Computer Crime?

- Students also write a Self-Assessment on Professional Ethics, analyzing scenarios selected from the ACM Self-Assessment Procedure XXII and then compare their responses with a panel’s responses.

- Four quizzes.
INFO 1330: Legal and Social Informatics of Security

- PUL 6 is of Some Importance.
- Required course for the Certificate in Legal Informatics/area of specialization.
- Includes weekly Discussion Forum (half the class participates each week). Students are asked to provide feedback about a student’s response from the previous week, providing them with additional feedback.
Topics covered in the course include:

- Federal, state and international laws
- Other legal and regulatory obligations
- Ethical and legal obligations of lawyers
- Information security and privacy liability
- Information risk management
- Information security and privacy controls
- Information security and privacy best practices
- New and emerging technologies (social media, cloud computing, mobile devices, storage, disposal, outsourcing)
- Role of advisors
Because this course is part of the legal informatics curriculum, it includes considerable content about the ethical duties of lawyers and law firms related to information privacy and security.

Case Study #1 – a company’s information security and privacy issues and recommendations, including the legal and ethical duties of officers and directors.

Case Study #2 – a law firm’s information security and privacy issues and recommendations, including the legal and ethical duties of lawyers.

Four quizzes.
INFO 1445: Competitive Intelligence for Informatics I

- PUL 6 is of Some Importance.
- New elective course for the undergraduate Informatics program.
- Weekly Discussion Forums, including questions about ethics.
- Three quizzes.
INFO 1445: Competitive Intelligence for Informatics I

- Topics covered in the course include:
  - The profession of competitive intelligence and its code of ethics
  - Preparation for competitive intelligence
  - Performing the analysis process
  - The research process
  - Analysis techniques and communicating results
  - In-depth examination of 21 traditional and new analysis methods for competitive intelligence
  - Analysis of the methods using a rubric called FAROUT.

- The legal and ethical issues related to competitive intelligence research are emphasized throughout the semester.
INFO 1445: Competitive Intelligence for Informatics I

- Midterm Project:
  - Discuss competitive intelligence for a hypothetical company in a selected industry, including the ethical and legal issues that need to be considered, conduct basic research and provide recommendations.

- Analysis Method Review and Application:
  - Select one of analysis tools/techniques covered in the first part of the semester and apply it to a selected company, including a discussion of the legal and ethical issues that should be considered when using this method.

- Final Project:
  - Select two analysis tools/techniques from the last part of the semester and apply them to a selected company, including a discussion of the legal and ethical issues that should be considered when using these two methods.
Non-traditional format, elective course in Media Arts and Science that encourages exploration of creativity, self discovery, and creative experimentation.

Recommended Texts:

Students keep a public blog where exercises are discussed and each week the course meets to view lecture materials, share projects, and discuss thoughts on the topics in a seminar–style format.
Sample of topics covered in the course include:

- Take an everyday object and try to do something unusual or surprising with it (the egg and eye)
- Give yourself over to random chance and use what you encounter as a starting point or a direction for creative experimentation (serendipity)
- Grapple with a huge abstract concept and explore it from different angles (time)
- Ask questions (what if)
- Try to answer a question you did not ask (what if redux)
- Explore how you encounter, interact with, and ultimately understand the world (senses)
- Work with other people to generate ideas (brainstorming)
- Look to other areas of inquiry outside of your normal realm of experience (what the bleep)
- If you agree or disagree with something, ask yourself why (what the bleep)
- Give yourself some time and freedom to be yourself (bliss)
- Examine what it is that excites or inspires you (inspiration)
Topics covered in the course include (continued:)

- Critically examine the idea of fear and how that ties in with your creative path (fear project)
- Solve a problem in a different way (red light mental exercise and taking a break in our chairs)
- Explore your motivation and understanding of concepts and ideas (questioning your inspiration)
- Ignore your first idea and try multiple approaches (roadblocks)
- Be willing to compromise (roadblocks)
- Don’t be afraid to play (take the rest of class and do something fun)
- Share your ideas/successes/failures/musings (blog)
- Exchange ideas (discussions)
- Explore what is important to you (what moves you)
- Judge ideas by your own measure
NEWM N385: Seeing Sideways

- So how do ethics play into this course?
  - A great deal of emphasis is placed upon examining the repercussions of actions taken while exploring the creative process and how these actions impact others.
  - The Fear Project asks students to examine the role fear plays in their lives, how this impacts their approach to creativity, and the power of understanding fear. Students are asked to use a modified scientific method to critically examine and test their ideas about the role of fear, using the class as their laboratory.
NEWM N102: Digital Media Imagery

- Required core Media Arts and Science course that introduces students to imagery in media arts and science
  - No required textbooks, but many resources and readings are given for students, for example:
    - Tampering with history through image
    - Even Reuters has done it
    - Time/Newsweek OJ Simpson covers
    - Dove Evolution commercial
    - Human Descent
Not only is how you represent an image an ethical decision, but so is how you create your own images, especially if you are not a photographer yourself. Breaking copyright on imagery is easier than you might think. Often misunderstanding copyright leads to students misusing images.

Morguefile is a site students (and everyone) can use to find images that can be procured ethically.

For the final project students must create a public portfolio of 20 original images and cite the sources for all images used, including images taken by the student or the student’s family.

- Students are further required to include before-and-after images, as well as screen shots of the work in progress.
- Descriptions of images are also required which include information about each image as well as citations for any non-original images used in the final image.
NEWM N250: Team Building in Technology

- Elective course in Media Arts and Science where students have an opportunity to work with a real-world client, Keep Indianapolis Beautiful, in a service-learning capacity.

- Course outcomes students learn:
  - their own personality type.
  - the various roles that make up a successful team.
  - the basics of conflict resolution.
  - how to collaboratively solve problems.
  - the value of approaching projects from a team-oriented aspect.
  - how to present team projects in a professional manner.
  - how to assess the needs of a project and the effectiveness of a team effort.
  - have an opportunity to learn to work effectively with a diverse group of people.
  - about community engagement through hand-on projects with a community partner.
  - how to recognize and deal with the digital divide among diverse target audiences.

- Ethics takes on a dual role in this course
  - Working in the community
  - Working in a team environment
The Center for Service Learning at IUPUI has many resources for service-learning contracts that can be used in service-learning courses

- Contract resources

For working in teams, a great resource for ethics in a team environment, with reflective sections can be found here: http://cnx.org/content/m13760/latest/

Ethics in a team building environment has proven to be particularly important and one way to work with that is to explore the following issues, which are often barriers to clear communication

- Personality Types
- Learning Styles
- Team Role aptitude
INFO 1470/NEWM 1485: Litigation Support Systems and Courtroom Presentations

- Cross-Disciplinary, Team-Taught Course
- PUL 6 is of Some Importance.
- Required course for the Certificate in Legal Informatics/area of specialization.
- Weekly Discussion Forums, including questions about ethics.
- Two quizzes.
INFO 1470/NEWM 1485: Litigation Support Systems and Courtroom Presentations

Topics covered in the course include:

- How to use the SmartDraw software with tutorials and two assignments
- Color theory
- Ethical and legal issues with altering images
- Rules related to presentation of evidence in court, civil and criminal procedure and the ethical rules for lawyers
- Courtroom technology and presentation graphics
- The power of persuasion and the art of story-telling
- Planning and preparation for courtroom presentations
- New evidence technologies
INFO 1470/NEWM 1485: Litigation Support Systems and Courtroom Presentations

- Final Project:
  - Reconstruction of a slip-and-fall case using SmartDraw software, including layout of the scene (looking down and cross-projection), PowerPoint presentation, images, timeline, financial damages, etc.
  - Students provided a short paper in addition to the PowerPoint presentation.
  - For the paper, students were asked to discuss the ethical issues in creating all of the materials that will be needed for the case and how they would prepare or handle any enhancements of the materials while staying true to the facts and evidence?
  - For the paper, student were also asked to discuss any other issues related to their role as the person preparing the material for presentation in the courtroom.
Final Project Examples
Using the SmartDraw software
If the shelving had been properly stacked and barricaded, Ms. Alexander may not have tripped over the shelving.
Pharmacy Floor Plan

Pharmacy Cross Projection
Accident Recreation
Accident Scene Overhead

(scale and location are approximate)
Accident Scene Cross-Projection
It can be difficult to teach ethics and values, especially with a diversified student population.
There may be differences in the ethical obligations of various professional groups.
In emerging disciplines (such as Informatics), there may not yet be agreement on a code of ethics or ethical principles that the members of that discipline should adhere to.
In an effort to help students understand the importance of ethics across the curriculum, faculty members at the School of Informatics have created opportunities for students to explore ethical considerations within programs and interdisciplinary cross-listed courses to demonstrate how personal and professional ethics play a role society.
Any Questions?

Thank you for attending our presentation!
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