

The Computer Science Professionals' Hatchery
Boise State University

Incorporating Inclusion, Diversity & Social Justice into the Computer Science Curriculum

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Part of the NSF RED Program

(Revolutionizing Engineering & CS Departments)

Team of:

- a. CS Faculty
- b. Engineering Education specialist
- c. Social Scientist
- d. External evaluator

The Hatchery

(Fish hatcheries are unique in Idaho's economic ecosystem)

Help BSU CS Adapt

Responsive to Industry Needs

- Industry Advisory Group identifies new & emerging needs to support their strategic growth

Responsive to Social Forces

- Inclusion, Diversity, Social Justice
 - Moral imperatives and
 - Strategic business objectives



What do we want?

STAGE 1
Identify Industry & Social Needs

STAGE 2
Create & Update CS-HU Curriculum

Offer incentives to faculty & industry to offer CS-HU courses

Continuous Spiral

Formative Evaluation

STAGE 4
Do Students & Industry Accomplish Goals of CSP-Hatchery?

STAGE 3
Update 3-credit Courses

Incorporate ID&SJ into existing curriculum

Industry Identifies Skills We Identify Social Needs

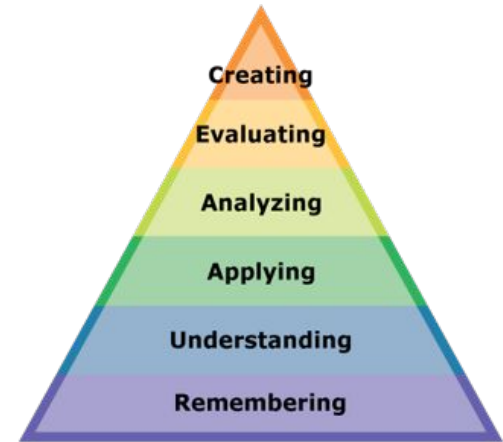
CS-HU (CS-Hatchery Units)

- 1-credit courses in technical and professional skills
 - *CS-HU 130 Foundational Values*
 - CS-HU 153 Navigating Computer Systems
 - CS-HU 250 Version Control (Git)
 - CS-HU 269 HCI Concepts
 - CS-HU 279 Agile Development
 - CS-HU 274 Software Testing
 - CS-HU 310 Intro to Databases
 - CS-HU 390 Interviews, Jobs, Careers
 - CS-HU 398 Current Topics in CS

All CS-HU Courses Use EBIPs

(Evidence Based Instructional Practices)

- Engineering Ed expert (Noah Salzman) is on all course development teams
- Customizing materials, media & assignments



All CS-HU Courses Include ID&SJ

(Customized to fit content as indicated by principal instructor)

- Social Scientist (Don Winiecki) is on all course development teams
- Customizing materials, media & assignments



Adapting Existing Courses

(Embed ID&SJ in technical courses)

Add and Adapt Content and Assignments

In addition to CS-HU courses, the following are affected

- CS 421 Design & Analysis of Algorithms
- CS 481 Senior Design

Including other courses in College of Engineering

- ENGR 130 Introduction to Engineering Applications
- ME 112 Introduction to Biomedical Engineering
- ME 481 Senior Design
- OPWL 586 Professional Ethics

Common Elements Link Content

(Rubrics for Rating Peer Teammates, Analyzing & Addressing Problems)

Rubrics Introduced in CS-HU 130 Foundational Values and Used in Other Courses & in Industry Practice

Teammate Rating Rubric used in grading of team projects

- Based on Social Science Research & Corporate Practice

Analyzing Systemic Problems & Planning Interventions

- Based on Systems Sciences
- Rawls' *Theory of Justice*

Resistance is ...

Institutionalized Norms, Personal Beliefs...

- Startup Seminar to Introduce Main Issues
- One-on-One Meetings, Design Sessions, ...
 - “...just the way it is...” is turned into
 - “...how we have allowed it to become...”
- Use willing faculty as examples of success to gradually improve adoption



Wanna Follow What We're Doing?

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