Nurturing the Next Generation of Computer Science Professionals

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The Computer Science Professionals (CSP) Hatchery will create a revolutionary learning environment by modeling the best practices of a software company work experience, layering nurturing aspects that promote ethical questioning, value diversity, and a focus on professional skills such as increased collaboration, communication, and teamwork.

Partner for Success!

Objectives

- Actively Engaged Stakeholders
- VITaL Vertically Integrated Teaching and learning
- Diversity for Mutual Gain

Next Steps

- Threading HU content in CS courses
- Capstone Integration

Progress

- 14 HU proposals submitted (12/17 faculty participation)
- Approved 10 HU courses: 5 required, 5 elective
- 5 delivered in 2017-2018
- RED team member on each HU team
- All CS faculty interviewed by social science PI
- Received 500+ student responses on beliefs, perceptions, educational experience, social (cultural competence) and emotional (self-esteem)
- Interviewed industry partners

Challenges

- Ingrained biases and comfort zones
- Building student, faculty, and advising buy-in and participation
- Logistics: scheduling, integration and threading, advising, communication
- New course development
- Modifying existing courses to utilize Hatchery concepts – "threading"
- Increasing future survey response rate and willingness to provide feedback on beliefs and experiences
- Using survey and interview data to identify and address ongoing challenges

Knowledge, Skills, & Abilities

Through several meetings with industry representatives, we iteratively developed the KSA categories and desired outcomes shown below.

<table>
<thead>
<tr>
<th>KSA Category</th>
<th>Desired Outcomes</th>
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<tbody>
<tr>
<td>Business</td>
<td>An understanding of how a company makes money and executes strategy</td>
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<tr>
<td>Collaboration &amp; Teams</td>
<td>Working with people and groups to achieve a goal</td>
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<tr>
<td>Entrepreneurship</td>
<td>Organizes, manages, and assumes the risks of a business or enterprise</td>
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<tr>
<td>Professional</td>
<td>A person engaged and qualified in the computing profession</td>
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<tr>
<td>Research &amp; Development</td>
<td>Seeks innovation and improvement of products and processes</td>
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<tr>
<td>Technical</td>
<td>Practical knowledge and skills associated with the computing field</td>
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Hatchery* Change Process

*Hatchery Units (HUs) are one credit courses focused on skills relevant to computer science professionals and designed to rapidly adapt to the changing needs of industry. HUs are also a vehicle to diffuse social justice and equity through the curriculum.

Foundational Values

- Moral
- Technical
- Professional
- Social
- Entrepreneurship
- Business Mindset

The CS Professionals Hatchery

Software Company Environment

"Incubate Agents of Change"

Faculty/Staff

- Advising
- Students
- Industry

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Hatchery Curriculum Map

- Foundational Values
- Intro to Database System Usage
- Intro to Version Control
- Software Testing
- Agile Development
- Technical Interviews, Jobs, and Careers
- Capstone Integration
- Faculty
- Students
- Industry