Debra W. Woodall, PhD
Professor, Oceanography/Geology
Daytona State College
Ideas For Innovation

Carol Eaton

Sent: Mon 6/9/2014 1:16 PM
To: Everyone

Colleagues:

In our commitment towards continuous improvement, we have restructured the Employee Suggestion Program to better align with our strategic priorities and initiatives. Ideas for Innovation will provide a means for you to submit your ideas for improvement. Specifically, we are seeking suggestions that directly support our strategic initiatives by:

- Increasing the college’s efficiency
- Improving student and/or employee satisfaction
- Supporting student enrollment, success, retention, and/or completion
- Improving processes

Ideas for Innovation submissions will be accepted throughout the year and will be reviewed by members of the Professional Development Committee. Winning submissions will be announced during planning weeks at the beginning of the fall and spring semesters. Employees who submit for winning ideas will be entered into a drawing for prizes.

For more details on Ideas for Innovation, visit the program’s webpage: http://www.daytonastate.edu/professionaldevelopment/innovation.html

Please direct any questions you may have to John Brady at 506-3837 or bradyj@daytonastate.edu.

Carol W. Eaton
President
Meeting These Goals

...a few definitions

- **Persistence**
  - The student’s desire to finish

- **Retention**
  - The institution’s ability to retain a student
Persistence and Retention Trends and Issues: getting off on a bad foot?!

- “The community college serves nearly 40% of all college students in the country.”

- “Only about half of first-time community college students persist to the second year...”
...Taking Steps to Create a Successful Strategy...
A BRIEF HISTORY

Introduction to Oceanography Lecture (3-credit hours)
- Started in 2008
- First OCE class at DSC
- No lab required
- 3-4 Classes per semester
- 35 Students per class
Created in 2010

Four AA Transfer Tracks

- Marine Science
- Marine Biology
- Environmental Science
- Ocean Engineering

AS Environmental Science Technology
WHY DAYTONA STATE College?

### Comparison of Costs

<table>
<thead>
<tr>
<th></th>
<th>FL Private</th>
<th>FL Public</th>
<th>DSC</th>
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<tbody>
<tr>
<td>Per Credit HR</td>
<td>$1,185</td>
<td>$235</td>
<td>$105</td>
</tr>
<tr>
<td>Per Yr (30hrs/FL resident)</td>
<td>$41,460</td>
<td>$6,576</td>
<td>$3,135</td>
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MEET OUR FACULTY

Dr. Ray Emmett—Wetland Ecology, Florida Plants

Dr. Jennifer Bell—Environmental and Atmospheric Chemistry

Dr. Debra Woodall—Oceanography, Geology

Prof. Al Hill—GIS

Prof. Kristin Mixell—Student Internships

Dr. Michael Olson—Environmental Energy, Meteorology
Meeting Student Persistence and Retention Goals…

A Strategy Still In Development…
Meeting our Goals
Increase Persistence and Retention

1. “…sense of belonging positively influences academic achievement, retention, and persistence.”

2. “…students that were underchallenged were more likely to leave the college.”

3. “…early engagement in career practices increased retention.”

4. “Students had a better chance of staying in college if they had opportunities to interact with faculty.”
Importance of Structure

- Fall, 2013
  - New $250K facility/equipment/instrumentation
Providing a Sense of Belonging

Importance of Communication

- **Increase Communication**
- **Importance of those codes!!**
Four AA Transfer Tracks
- Marine Science (7922)
- Marine Biology (7935)
- Environmental Science (7935)
- Ocean Engineering (7951)

AS Environmental Science Technology (2230)
Challenging our Students and Early Engagement in Career Practices

OCE1001 LAB

- Piloted in Fall, 2013
- Limited enrollment
  - Designed specifically for AA Transfer Students
  - 16 maximum
  - Permission required
- Field intensive
- Requires independent research project
  - Completed in one semester
IMES and Undergraduate Research at a 2YC

OCE1001 LAB

Why is this Lab important?

• “...student’s level of social integration...and *intellectual self-confidence*...is significantly and positively related to eventual degree completion.”
OCE1001 LAB

- Give our students experiences that would:
  - Strengthen skills
  - Increase confidence
  - Prepare and make them more competitive for transfer
  - Help to identify academic and career goals
IMES and Undergraduate Research at a 2YC

OCE1001 LAB

- Gave me an opportunity to:
  - Interact closely with my students
  - Identify academically immature students
    - Early intervention
21-foot Jones Brothers
Field/Lab Instruments

- **YSI**— oxygen, salinity, temperature, conductivity
- **Hach Colorimeter**— phosphate, nitrate, metals etc.
- **Turner Aquafluor**— chlorophyll, turbidity
- **Hach Current Meter**
- **SOKKIA Auto Level**
MENTOR PARTNERSHIPS

- NASA
- NOAA
- MDC
- MSC
- SJRWMD
Rigorous Field/Lab Experiences

IMES Undergraduate Research at DSC—OCE1001 Lab

Oxygen Comparison

Surface
Deep

Oxygen (mg/L)

Sample Site ID

1 2 3 4 5

Oxygen Comparison Graph

Sample Site ID

Surface
Deep
BUILDING A REPUTATION…

“...WHEN YOU HEAR OF THE EXCELLENT CLASSROOM, LAB, AND FIELD EXPERIENCES THESE STUDENTS ROUTINELY COMPLETE, I EXPECT YOU WILL BE AS IMPRESSED AS I WAS WITH THE PROGRAM. THESE ARE ALSO THE KIND OF STUDENTS WHO LATER BECOME STRONG APPLICANTS TO OUR GRADUATE PROGRAMS AS WELL. I WOULD EXPECT WE WOULD BE EAGER TO DRAW THE INTEREST OF THESE FOLKS TOWARD APPLYING TO OUR PROGRAM.”

Dr. Donald Duke
Professor, Environmental Science
FGCU
IMES Student Persistence and Retention Strategy

A Brief Summary Thus Far...

1. Providing a Sense of Belonging
   - Communication
     - IMES Facility
     - Transfer Track Codes
     - Social Pages

2. Challenging our Students and Early Engagement in Career Practices
   - OCE1001 Lab

3. Interaction with Faculty
Interaction with Faculty (and peers!)

This one needs some work!!

“...the past twenty years of research on undergraduates suggests that the most potent forms of positive involvement are with academics, faculty, and peers, and that degree completion, in particular, is negatively affected by noninvolvement.”
Interaction with Faculty and Peers

This strategy needs some work!!

- **IMES wish list**
  - Required orientation
  - Faculty Advisor identified for each major/transfer track code
  - Student activity fees support “academic activities” (e.g., orientation, field trips, t-shirts etc.)

- Increases student’s sense of belonging, faculty(peer) interaction
A brief overview

- Designed for students NOT wanting to obtain a B.S.
  - Also note student academic maturity
    - Need of challenge
- Contains program-specific courses that will NOT transfer to a 4-year institution
  - OCE2013/L
  - PCB2033/L
  - EVR2933 & EVR2943
The Gateway to Student Success Begins Here...
What can YOU do to help student persistence and retention??

Our Message to the Frontline!!

Tell them about IMES
- Show them the Webpage
- Assign them a code
- Encourage them to visit/contact
- **SIGN THEM UP FOR THE LAB!!**

Help them identify the appropriate major
- AA in Environmental Science or AS in Environmental Science Technology
Increasing Student Persistence and Retention: It’s going to take all of us working together

IMES can do it with your help!!
“… **jobs** requiring training in the geosciences continue to be lucrative and… *in demand.*”

“…federal government projections still *predict a shortage* …by the end of the decade.”

“… **the role of 2-year colleges** in the development of the future geoscience workforce…represents a *major area of potential growth*….”