CAREER AWARENESS AND PREPARATION FOR THE WORKFORCE: USF GEOSCIENCES PROGRAMS AND PARTNERSHIPS, AND LESSONS LEARNED

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* S&ME, Inc., Tampa, Florida
First, a reality check. Where do students go?
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CONSENSUS VIEWS*:

- **Professional skills** are critical in geoscience graduates, at all levels:
  + Career awareness
  + Interpersonal skills (teamwork, cultural awareness)
  + Professional ethics
  + Communication (oral and written)
  + Project management

- **Many of these are not readily amenable to classroom instruction (at least not by “regular” faculty!!)**

* Taken from the NSF Summit on Improving Geoscience Graduate Student Preparedness for the Future Workforce, May 2019, Univ of Texas
A strategy to consider...

- Engaging local employers and/or your alumni for student professional development (and even instructional) support and assistance

- A “case study”
  - Nov. 1997: The USF Geology Alumni Society (GAS) is formally established. Organization of USF Geology graduates working in environmental industries and state/regional/local government. Later expanded to include representatives of local/regional/national firms where USF graduates work
  - Developed at the behest of our alumni, with USF Geology/Geoscience support
Origins, and a timeline...

- The University of South Florida has developed course work, programs and partnerships over the past 30 years that have evolved into a vibrant symbiosis between the geology department, the alumni and local and regional employment sectors.
Origins, and a timeline...

- A critical component of USF’s development of course work and ancillary offerings in support of job preparedness is the ongoing interaction with the Geology Alumni Association (GAS).
- It’s worth a few minutes of this presentation to summarize a timeline and highlight certain milestones to show this evolution.
- As always, things start small......
Origins, and a timeline...

- Spring semester, 1997: USF Geology Club (an undergraduate student organization) holds a “networking reception” to learn about local geoscience employment opportunities.
  + Geology faculty (mostly one faculty member...) contact alumni in local firms, government, etc., to attend.
  + **April 16** - 40+ students and ~25 alumni take part (and faculty too...)
    - The alumni start talking, to each other, then to that faculty member....

- **Sept. 25** - Letter to alumni – call for a meeting to possibly form a society.
- **Oct. 6** – Meeting is held
- **Oct. 24** – Paperwork is submitted – formal request to form the society
- **Nov. 5, 1997**: The USF Geology Alumni Society (GAS) is formally established within the USF Alumni Association.
Origins, and a timeline...

- The paperwork submitted to the University requesting formation of the GAS was prescient in several ways – it included the following as the initial purpose for the formation of the society:
  - Networking with fellow USF geologists
  - Recruiting USF geology students for employment
  - Joint activities with the USF Geology Club
  - Mentoring USF Geology students, and.....
  - PROFESSIONAL EVENTS AND CONTINUING EDUCATION
Alumni-Employer-Student-Faculty partnering...

- Direct engagement and communication with USF Geoscience student organizations
- Facilitating employer-student contacts and networking, at all GAS events
- More direct partnering with the department on events (graduation receptions)
- Explicit employer partnerships on courses and curricula (USF PGSM in Geology; Professional Advisory Committee; courses on Professional Geology and Careers in the Geosciences)
- Garnering Support for new Departmental initiatives (Field Camp/Field School)
Professional Masters

- Preceding, and then parallel with the evolving relationships described above, USF implemented professional MS programs:
  - 1986 – Hydrogeology Internship
  - Superseded by the Professional Science Masters (PSM) – ongoing and expanded from just hydrogeology
  - Both are non-thesis options and the PSM accommodates part-time, working students as much as possible
More Timeline, re: GAS initiated events*

- 1999: First "Mixer", which became the annual Rockbreaker for students, alumni and faculty**
- 1999: Richard A. Davis Fellowship in Geology initiated.**
- 2001: 1st Geology Alumni Society Banquet
- 2002: USF GeoPark established**
  (http://hennarot.forest.usf.edu/main/depts/geosci/facilities/geopark.aspx)
- Fall 2002: First GAS "Rockbreaker" semester kickoff reception for students, alumni, and faculty

*Theme of almost all GAS programming: student career preparation and readiness!

** Faculty engagement at the request of the GAS

*** GAS explicitly reached out to non-alumni employers to engage them in its activities and leadership!
Courses born of the USF-Employer partnership:

- Offered since 2010
- Gateway offering to the PGSM program
- A “business of geoscience” course...

Central to both courses: Professional Networking!

Gly 6739: Introduction to Professional Geoscience
Fall 2019 - Course Schedule

- Offered since 2010
- Gateway offering to the PGSM program
- A “business of geoscience” course...

Gly 2930-004 Preparing for a Career in Geology (1 credit)
Spring 2019

Course Schedule (Subject to Change)

<table>
<thead>
<tr>
<th>Wed</th>
<th>Topic</th>
<th>Instructor(s)</th>
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<tbody>
<tr>
<td>1/10</td>
<td>Introduction to Course</td>
<td>Bruce Nicotta</td>
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<tr>
<td>1/15</td>
<td>Business Development &amp; Marketing</td>
<td>Bruce Nicotta</td>
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<tr>
<td>1/22</td>
<td>Liability &amp; Risk Management</td>
<td>Greg Mitterer</td>
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<td>1/29</td>
<td>State Geologist Dr. Jonathan Arthur</td>
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<td>No Class</td>
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<tr>
<td>2/12</td>
<td>Business Ethics and Leadership Skills</td>
<td>Mike Starks, Ron Nobles, Gregg Jones</td>
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<td>2/19</td>
<td>Wetlands &amp; GIS</td>
<td>Kim Topliff, Karl Roits</td>
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<td>Professional Development</td>
<td>Tom Scott, Gabriele Izzo, Adam Forkiner</td>
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<td>3/5</td>
<td>No Class</td>
<td>Bruce Nicotta</td>
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<tr>
<td>3/12</td>
<td>Water Resources</td>
<td>Dr. Gregg Jones (Cardno)</td>
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<td>3/19</td>
<td>Assessment, Remediation, and Infrastructure</td>
<td>Terry Griffin (Cardno), Matt Wiesler (GeoeyeX), Mikko Starks (ERM)</td>
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<td>TBA (Banquet on 3/29)</td>
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<td>SWFWMD</td>
<td>Brian Armstrong, Sandy Will, Dave Arnold, Jason Lafchole, Julie Zdlek</td>
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<td>4/23</td>
<td>SPRING BREAK</td>
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<tr>
<td>5/1</td>
<td>Mineral and Rock Resources</td>
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Activities, Seminars, Panels, Networking, etc.

- Banquet – annual
- Rockbreaker – annual
- Professional Geology Workshop
- Resume Workshop – annual since 2008
- Undergraduate Curriculum Advisory Panel
- PGSM Internship Symposium
- Job Fair
Activities, Seminars, Panels, Networking, etc.

- Equipment Expo – Bi-annual
- Field Trips
- Graduation Receptions
20 years later...

The USF-Employer-Alumni partnership is now “normal business”, and it continues to grow...
Advice...

- Must have leadership from key alumni and from Dept. Chair
- Promote a business style approach
- It’s a different paradigm so build the culture over time
- Encourage faculty to buy in on the partnering concept by connecting theory with real world application
- Make sure the students understand the expectations of industry
- Dept. needs to listen to community and show progress towards developing students that meet the local/regional community and industry needs
Observation:

Many of the professional development and outreach activities led by our geoscience employers via USF-GAS connections (career awareness events, resume/interviewing tutorials, guest lectures, internships, input on/participation in courses and curricula) have been identified by employers as activities on which they could partner with Departments (discussed at length at the NSF Summit in May)

How to do this?

- **Start VERY small** (for us it was a student-funded afternoon reception/info session with local employers, that then grew...)
- **Help your alumni re-connect** (with your students and each other)
  - A faculty “hero” is very helpful...
  - *If it’s worthwhile to do, it’s worth assigned time....*
- **Say “thank you!”** (all the time!)
Thank You

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