Alumni Students from Computer Science Program:  N=8

Survey items

1. Graduated with a:
   - BS 37%
   - MS 63%
   - Year Graduated 2010 (3), 2009 (3), 2008 (1)

2. The Computer Science education at USM helped me to:
   a. Apply knowledge of computing and mathematics appropriate to the discipline. %
      | Strongly Disagree | Strongly Agree |
      | 0%                | 38%            |
   b. Analyze a problem, and identify and define the computing requirements appropriate to its solution. %
      | 0%                | 25%            |
   c. Design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs. %
      | 0%                | 25%            |
   d. Function effectively on teams to accomplish a common goal. %
      | 12%               | 25%            |
   e. Apply professional, ethical, legal, security and social issues and responsibilities to my work. %
      | 12%               | 38%            |
   f. Communicate effectively with a range of audiences. %
      | 25%               | 12%            |
   g. Analyze the local and global impact of computing on individuals, organizations and society. %
      | 12%               | 37%            |
   h. Recognize the need for and an ability to engage in continuing professional development. %
      | 0%                | 38%            |
   i. Use current techniques, skills and tools necessary for computing practice. %
      | 13%               | 75%            |
   j. Apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-base systems in a way that demonstrates comprehension of the tradeoffs involved in design choices. %
      | 0%                | 37%            |
   k. Apply design and development principles in the construction of software systems of varying complexity. %
      | 12%               | 25%            |
**Preparation for my Career**

3. *Which statements accurately reflect your preparation at USM for your career.*

   a. My studies prepared me **well** for my career.  
      - 63%
   b. My studies prepared me **adequately** for my career.  
      - 25%
   c. Although I have had to adapt to changes in computer science, my studies gave me a perspective on computing that made the adjustment easier for me than it would have been without them.  
      - 38%
   d. My studies were **inadequate** preparation for my career.  
      - 13%
   e. My career only rarely requires concepts and skills learned during my studies at USM.  
      - 0%

   - Additional comments:
     Several courses including web applications and databases directly related to my current work.

4. *Which statements accurately reflect your preparation at USM in comparison to your colleagues.*

   a. I was **better** prepared than most of my colleagues.  
      - 63%
   b. I was as **well** prepared as most of my colleagues.  
      - 38%
   c. Many of my colleagues seem **better** prepared than I was.  
      - 0%
   d. I was **poorly** prepared.  
      - 0%

   - Additional comments:
     I am a leader on my current team.
5. **Comments on how much help USM gave you in finding your first job.**

- None (2)
- I didn’t use USM’s help finding a job. (2)
- I had a job prior to joining USM.
- I caught the attention of a staff member that happened to run a software development shop.
- USM provided me with knowledge and resources to find my first internship.
- USM did a great job connecting me with local employers.

**Current Employment**

6. **Current job title**

- Senior Security Architect
- Self-employed
- Teaching Assistant
- Software Engineering Manager
- Senior Application Developer
- Director of Engineering
- System Engineer
- Software Developer II

7. **Describe what software systems, languages, environments and aids you most frequently use in your work.**

- Windows/Linux/Mainframe; .NET and Java; Identity and Access Management tools; SAML, OAuth
- Python, C/C++, Ruby, Ruby on Rails
- No longer in the field
- Windows 7, Cygwin, Maven, Jenkins, Nexus, Git, Subversion, Intellij IDEA, Safari Books online
- Writing daily Java, JavaScript, CSS, HTML
- Python, Django, queuing, caching, soa, relational db, newer non-relational data stores, (tiny bit of Java) Linux, OSX Tons of open source No Microsoft products.
- I write in T-SQL, VB.Net, and JavaScript. Our systems are deployed on Windows Server running IIS. We use DevExpress component. And our own framework, Appframe (not uniquely named).
- SAP ERP systems, ABAP, HTML, CSS, Javascript, JSP, XSLT, Java, SQL, XML
8. Describe the technical, computer science aspects of your work.

- Building Web Services and Web Applications. Performing security evaluations on applications and developing tools and techniques for attacking network based applications (web services as well as wireless communications).
- No longer in the field
- I lead and contribute on a team that develops software systems. These systems are based on a combination of relational databases, web applications, and batch-oriented processes. Primarily they are written in Java and related technologies
- I develop Java web applications, including both the client side UI / JS interactions and backend REST services. I also occasionally developer standalone Java applications, Java web services, and scripts as needed
- I oversee all develop done by 16 engineers and own the architecture.
- We make project management software (e.g. Risk management, Cost Control, Document Control).
- I am a developer on our SAP Development team, so I work mostly within the bounds of our SAP systems

Computer Science Education at USM

9. Which USM computer science courses (or topics) have been most helpful in your career?

- Algorithms
- Java, Operating Systems, Systems Programming in UNIX, Algorithms, Numerical Analysis
- Algorithms, Databases, Web Applications, Web Services, and of course language fundamentals that brought me into CS
- Networks and OS, iOS development
- Operating Systems, Advanced Web Technologies
10. List any courses or subject areas that you think we should add to our curriculum because they are relevant to your work.

- Need more work done as teams utilizing modern development practices and tools such as everyone checking their code into github, using github issues or redmine for issue tracking, code review etc. All of the above can be done for free for academic projects and many modern shops that produce something of aid to the development life cycle offers many free services or greatly reduced services to academic institutions.

- Project management and build automation tools, such as Ant or Maven. Open source project contributions. Disaster problem and bug solving. Mobile development (such as Java on Android).

- Distributed computing in the disconnected systems, SOA, asynchronous processing sense. Not the statistics class that it was when I was there.

- Survey of Frameworks

11. What aspects of your educational experience at USM have been especially helpful in your career?

- Going to DEFCON at the urge of Tiffany Rad was one of the pivotal moments in my career and I am still involved in that conference, others and the contacts and friends I have met have been invaluable in getting my career to where it is now. One of the biggest mistakes I think USM CS has made is not letting her create more of a security program as regardless of her "PHD" in security, she has the contacts and knowledge to have made it a very successful program.

- Real world experience working with several of the professors helped immensely

- My path to my degrees was different than most, by continually taking classes over 10+ years, while working full time...I was able to apply what I was learning in a whole different way. Looking back and also looking and job applicants today, internships in our industry are absolutely critical.

- Working in teams, presenting case studies.

- Teamwork exercises and opportunities to work on large projects (such as in OO Programming course)
12. What additional teaching methods would have best prepared you for your career?

- More group work.
- More exposure to open source projects
- More projects that have you starting from a more advance starting place
- More presentations
- Larger scale projects are a great preparation for the real world. Also discussion and team work is a must in any job setting

13. Indicate any additional educational experiences you have had subsequent to studying at USM.

- Becoming involved in DEFCON, Security B-Sides Las Vegas as a result which has taught me a lot about running conferences, giving talks which I have carried over into my every day life. This has also benefited me in numerous ways in getting jobs and being successful at the jobs I have taken.
- Working on co-op and other team projects with CS professors.
- I am always learning, reading, attending conferences.
- I completed Stanford's MOOC AI course.
- I have attended additional training offered by SAP and also attended multiple SAP conferences
14. How has your computer science education at USM helped you in your professional life?

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
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</thead>
<tbody>
<tr>
<td>a. I was very well prepared to design and build complex software.</td>
<td>28%</td>
<td>71%</td>
</tr>
<tr>
<td>b. I was very well prepared to work with at least one programming language.</td>
<td>0%</td>
<td>29%</td>
</tr>
<tr>
<td>c. I was very well prepared to work with at least one operating system.</td>
<td>43%</td>
<td>28%</td>
</tr>
<tr>
<td>d. I was very well prepared to work with a variety of programming languages and paradigms.</td>
<td>14%</td>
<td>43%</td>
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<tr>
<td>e. I was very well prepared to make written and oral technical presentations on my work and work of others.</td>
<td>14%</td>
<td>15%</td>
</tr>
<tr>
<td>f. I was very well prepared to read and understand technical publications using mathematical notation.</td>
<td>29%</td>
<td>57%</td>
</tr>
<tr>
<td>g. I was made aware of the social and ethical implications of the knowledge and tools I have studied.</td>
<td>29%</td>
<td>57%</td>
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15. Additional comments:

- At this point in time, I could not recommend the USM CS program to others with an interest in computer science
- Thank you
- Learning to learn, and computing fundamentals have given me the best basis from which to build technically proficiency
16. Student’s Name:
- Casey Dunham
- Brent Atkinson
- Alan Fitzgerald
- Kevin Becker

17. Student Contact information: E-mail address, telephone numbers, mailing address
- casey.dunham@gmail.com
- alanfitzgerald@gmail.com (207.956.0056)

18. Student’s current employment, job title, company or firm name, length of time with the company and description of duties.
- Security Consultant, Gnosis Security
- Full time, Director of Engineering, CashStar
- System Engineer, Omega