Computer Science Program
Department of chemistry, Computer Science, and Physical Sciences
Southeastern Oklahoma State University

Assessment Report
2008-2009

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A. Mission Statement

The department of Chemistry, Computer, and Physical Sciences is dedicated to preparing its students to face the challenges and take advantage of the opportunities of the 21st century by providing excellence in teaching, outstanding academic programs, and relevant research opportunities.

B. Goals

- Prepare students for career opportunities in business, industry, and government;
- Provide students the pre-professional training required for entrance into schools of medicine, osteopath, dentistry, veterinary medicine, optometry, nursing, physical therapy, engineering, pharmacy, and allied public health fields;
- Prepare students to enter the teaching profession in science education;
- Prepare students for graduate study in biotechnology, chemistry, computer science, computer information systems, and environmental science.

C. Learning Outcomes

1. Be fluent in at least two programming languages.
2. Create and describe the programming concepts of arrays.
3. Create and describe functions and recursive programming.
4. Be able to troubleshoot hardware and software problems.
5. Have a firm grasp of the layers of computer architecture.
6. Create and describe the basics of algorithm analysis for problem solving.

D. Assessment Methods Used to Meet Program Outcomes

a) Institute for the Certification of Computing Professionals (ICCP) Core Exam (Meets: Outcomes 4-6)
b) Laboratory/Classroom Experiences in Computer Science (Meets: Outcomes 1-6)

E. Results of Assessment Methods

a) ICCP Core Exam

The ICCP Core Exam was administered to six computer science students this year. The ICCP has 11 assessment indicators which are applicable to computer science. A score of 50% or above is considered good. The table below lists the performance of the six CS students on the exam. Three of these areas (i.e., Interpersonal Communication, Mathematics, and Statistics) are taught outside of the department, but they are an integral part of the CS program. The department actually teaches the indicators which have an
asterisk by them. Of course, such things as interpersonal communication, mathematics, and statistics are incorporated in several CS courses since students use them in preparing and presenting both written and oral reports.

It is shown that the overall average score without Mathematics and Statistics for all of the CS majors was 43.9% (close to good) even though it was lower than the average score of 55.3% in year 2007 and 62.2% the years in 2008. By the way, the reason that we use the average score without the Mathematics and Statistics scores is that the ICCP exam is no longer having the Mathematics and Statistics questions.

<table>
<thead>
<tr>
<th>Assessment Indicator</th>
<th>Yr-2007 (8 students) % Correct</th>
<th>Yr-2008 (2 students) % Correct</th>
<th>Yr-2009 (6 students) % Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal Communication</td>
<td>62.5</td>
<td>50.0</td>
<td>37.5</td>
</tr>
<tr>
<td>Types of Systems*</td>
<td>47.9</td>
<td>75.0</td>
<td>66.7</td>
</tr>
<tr>
<td>Application Strategies*</td>
<td>66.7</td>
<td>62.9</td>
<td>41.0</td>
</tr>
<tr>
<td>Data Architectures*</td>
<td>52.8</td>
<td>53.3</td>
<td>43.1</td>
</tr>
<tr>
<td>Systems Development Cycle*</td>
<td>51.0</td>
<td>59.1</td>
<td>42.4</td>
</tr>
<tr>
<td>Systems Integration*</td>
<td>65.6</td>
<td>66.7</td>
<td>43.5</td>
</tr>
<tr>
<td>Tools and Techniques*</td>
<td>27.5</td>
<td>57.7</td>
<td>46.7</td>
</tr>
<tr>
<td>Hardware*</td>
<td>62.5</td>
<td>50.0</td>
<td>40.7</td>
</tr>
<tr>
<td>Software*</td>
<td>60.9</td>
<td>75.0</td>
<td>33.3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>70.8</td>
<td>70</td>
<td>**</td>
</tr>
<tr>
<td>Statistics</td>
<td>50.0</td>
<td>85.0</td>
<td>**</td>
</tr>
<tr>
<td>Overall Score</td>
<td>56.2</td>
<td>63.0</td>
<td>-</td>
</tr>
<tr>
<td>Overall Score without Mathematics and Statistics</td>
<td>55.3</td>
<td>62.2</td>
<td>43.9</td>
</tr>
</tbody>
</table>

*indicates those courses taught by the computer science faculty

**: the ICCP changed the exam format and there are no longer having the Mathematics and Statistics questions according to my colleague Mrs. Rhonda Richard who is in charge of arranging the ICCP exam for our students.

b) Laboratory/Classroom Experiences in Computer Science

Due to the dramatic advancing nature in the field of computer science and technology, it is not so easy to come up of some generalized methods to assess students' performance each year. For example, many new technologies in wireless networks, computer security, remote computer surveillance systems and other computer related areas have been updated and invented yearly. Our faculty has to spend a lot of time learning and updating our knowledge in order to provide the most state of the art technology and the up-to-date information to our students. That is why most of the objectives listed above can only be
evaluated based on the results of students' homework, exams, and/or projects when the course is taught.

Laboratory and classroom activities are vital parts of the learning experience for computer science majors. The Learning Outcomes are listed below along with how they are met by computer science majors.

c) Learning Outcome Explanations:
1. Be fluent in at least two programming languages:
   All computer science majors are required to take the following three courses:
   • CS 1613 Computer Science I using C++
   • CS 1623 Computer Science II using C++
   • CS 2343 Web Page Design/Internet Programming

   In addition, all computer science majors must take at least one of the following optional languages:
   • CS 2510 Seminar in Programming: Java Programming
   • CS 2513 Seminar in Programming: Visual Basic .NET
   • CS 4623 Advanced Web Application Development using ASP.NET

Here is the description of the evaluation method:

a. How Many Students Participated: on the average of 12 students
b. What Work Was Evaluated:
   Student performance on Homework, Exams, and/or Projects in
   • CS 1613 Computer Science I (using C++)
   • CS 2343 Web Page Design/Internet Programming (using HTML and JavaScript)
   • CS 2510 Seminar in Programming (using JAVA in fall semester)
   • CS 2513 Seminar in Programming (using C# in spring 2009 semester)
   • CS 4623 Advanced Web Application Development (using ASP.NET)

c. When Measured:
   Each time the courses are taught.

d. Improvements Identified:
   Suggested by recently graduates (class of spring 2008) to include:
   • C# (pronounced C-Sharp)
   • AJAX (Asynchronous JavaScript and XML)

e. Improvements Implemented:
   • The C# language has been taught in spring 2009 and students’ feedback were very positive since C# is very similar to C++ language. The over all grade average was 84.12 and that was very satisfied. However, there were some students which did complete the course because of personal issues.
   • We did not cover AJAX in the CS4623 course in spring 2009 because of the background of students. However, the AJAX is still being considered to be covered n the CS4623 course in spring 2010.
2. **Create and describe the programming concepts of arrays**

In various programming classes, students are trained to use arrays to store statistical data, such as, test scores. The data in the array is then used to calculate the total score, average score, highest score, lowest score, and letter grades.

**Here is the description of the evaluation method:**

a. How Many Students Participated: on the average of 12
b. What Work Was Evaluated:
   Student performance on Homework, Exams, and/or Projects in
   - CS 1613 Computer Science I
   - CS 1623 Computer Science II
   - CS 2513 Seminar in Programming
c. When Measured:
   Each time the courses are taught
d. Improvements Identified:
   Need more exposure to the concepts of multi-dimensional arrays.
e. Improvements Implemented:
   Multi-dimensional programming problems have been given in each course.

3. **Create and describe functions and recursive programming**

In recursive programming, students have chances to apply recursive programming techniques to solve some basic problems, such as, Binary Search and GCD (Greatest Common Divisor) problems in low-level classes and to solve more advanced problems, such as, Quick Sort, Radix Sort, and Merge Sort problems in high-level classes.

**Here is the description of the evaluation method:**

a. How Many Students Participated: on the average of from 10
b. What Work Was Evaluated:
   Student performance on Homework, Exams, and/or Projects in
   - CS 1623 Computer Science II
   - CS 2813 Data Structures
   - CS 2510 Java Programming (in fall semester)
   - CS 2513 VB.NET Programming (in spring semester)
c. When Measured:
   Each time the courses are taught
d. Improvements Identified:
   Need more exposure to the application of recursive programming in the real world scenarios.
e. Improvements Implemented:
   We will give more practical recursive programming problems in each course in the future.

4. **Be able to troubleshoot hardware and software problems**

Students have been able to troubleshoot various hardware and software problems in the CIS 4343 Applied Net-Centric Computing class (which is required of all majors).
The purpose of this course is to apply the knowledge of Computer Networking to meet the network needs of an organization by integrating the Windows operating systems, Linux operating system, wired/wireless routers, network printer servers, and various network services/servers together.

**Here is the description of the evaluation method:**

a. How Many Students Participated: on the average of from 9
b. What Work Was Evaluated:
   Student performance on Homework, Exams, and/or Projects in
   - CIS 4343 Applied Net-Centric Computing
c. When Measured:
   Each time the course is taught
d. Improvements Identified:
   - Need more hands-on exposure to set up various Domain controllers in a Local Area Network (LAN) environment
   - Need more exposure to Network Security set up (e.g., Firewall)
   - Prepare students for the MCSE (Microsoft Certified System Engineer) #70-216 certification exam.
   - **An advanced computer lab is desirable**, so we can cover more advanced topics (e.g., firewall, wireless networks, surveillance systems, video conferencing, etc.) By the courtesy of the Chemistry faculty, they let us to teach this course in one of their Chemistry labs.
e. Improvements Implemented:
   - The Wireless Network Setup and Implementation have been taught in spring 2009.
   - Part of the MCSE exam has been incorporated into the homework project in the cis4343 course since spring 2008.
   - Mr. David Trey, a Junior, took the Microsoft Certified Desktop Support Technician exam and Passed the exam in spring 2009.

5. **Have a firm grasp of the layers of computer architecture**

In CS 3143 Computer Architecture (which is required of all majors), students study the architecture of computer organizations and computer operations. Topics include hardware structure, machine and assembler languages, and software systems.

**Here is the description of the evaluation method:**

a. How Many Students Participated: on the average of from 8
b. What Work Was Evaluated:
   Student performance on Homework, Exams, and/or Projects in
   - CS 3143 Computer Architecture
c. When Measured:
   Each time the course is taught
d. Improvements Identified:
• Use software simulation to help students understand computer hardware’s behavior
• Introduce basic digital logic topic such as gate, adder, counter and etc.
• Encourage students to write simple driver controlling real hardware

e. Improvements Implemented:
• Students are asked to write program to simulate Little Man Computer model’s behavior in Spring 2009
• IA-32 Processor Architecture study is added in Spring 2009
• Intel’s assembly program language study is added in Spring 2009
• Transistor’s working mechanism is added in Spring 2009

Programming projects related to graph are planned to be assigned in fall 2008

6. Create and describe the basics of algorithm analysis for problem solving
In CS 4223 Algorithm Analysis (which is required of all majors), students learn how to analyze different types of algorithms. The topics include algorithms, such as, Searching and Selection, Sorting, Numeric, Matching, Graph, Nondeterministic algorithms and other algorithmic techniques.

Here is the description of the evaluation method:

a. How Many Students Participated: on the average of 13
b. What Work Was Evaluated:
   Student performance on Homework, Exams, and/or Projects in
   • CS 4223 Algorithm Analysis
c. When Measured:
   Each time the course is taught once every two-year
d. Improvements Identified:
   • Implement advanced data structures used in algorithm such as Tree and Graph
   • Assign algorithm design projects to let student design their own version of algorithm and do their own analysis
   • More exposure to Internet related algorithm such as packet routing, web auction, and web caching
   • More exposure to security algorithms and their current status (e.g. some of them become not secure enough these years after recent advance in mathematics which can be used to attack)
e. Improvements Implemented:
   Programming projects related to graph have been assigned in fall 2008.

F. Analysis and Interpretation

The overall performance of the computer science majors on the ICCP without Mathematics and Statistics was 43.9% (close to good which is 50%) which was close to good. In the various sub areas of the ICCP that were taught within the department, the following assessment indicators were close to or above 50%:
• Types of Systems (66.7%)
• Application Strategies (41.0%)
• Data Architectures (43.1%)
• Systems Development Cycle (42.4%)
• Systems Integration (43.5%)
• Tools and Techniques (46.7%)
• Hardware (40.7%)

The area taught within the department where performance was below 40%:
• Software (33.3%)

After we re-reviewed the test scores, we found out that we have had two 2+2 transfer students took the exam just one year after they transferred to SE and did not do too well on the questions related to Software. The rest of our traditional 4-year students got 45% (i.e., close to good) on the questions related to Software. In the future, we will try to suggest students to take the ICCP exam at the last semester when they are going to graduate.

The ancillary areas not taught within the department had the following scores:
• Interpersonal Communication (37.5%)
• Mathematics (N/A)
• Statistics (N/A)

The assessment indicators on the ICCP exam seem to indicate the department is not doing a good job in meeting the outcomes that the exam assesses. One of the reasons resulting in lower scores may be that some of the students (including transfer students) were just Junior when they took the exam. It is not easy to perform well on the exam if the students don't have sufficient knowledge on those subjects. In the future, we will suggest students to take the exam at the last semester when they are going to graduate, if possible.

G. Program Modifications

In the fall 2006 semester, the department modified the computer science major program to better fit the needs of students. In particular, two courses were removed from the required list and six hours of electives were inserted. The department feels that this will:

• Get students more quickly involved in programming classes.
• Allow for more flexibility in completing the baccalaureate degree.

H. Effectiveness of Previous Program Changes

The previous changes that were instituted in the program were based on the notion of providing our graduates more experience in computer networking. As data shown from the Post-Graduate Assessment under the section of the strength and weakness of the program, this emphasis has been very successful in helping our students secure employment (at banks, computer companies, Choctaw Nation, etc) since they have the added dimension of computer networking expertise in their repertoire of computing skills.
I. Addition(s) to the Assessment Plan

1. New addition(s) to this Year’s Assessment Plan

   a. MCSE (Microsoft Certified System Engineer) exam #70-216:
      - We’ve incorporated part of the MCSE (Microsoft Certified System Engineer) exam #70-216 as a homework project in the CIS 4343 Applied Net-Centric Computing course. With an earned MCSE certificate in Implementing and Administering a Microsoft Windows 2000 Network Infrastructure, it can help a student's skills relevant and competitive and be a member of certified professionals anywhere around the world.
      - Since this is the second year that we incorporated the exam, the data below can be used to assess student’s performance.

<table>
<thead>
<tr>
<th>MCSE Exam %Answer Correctly</th>
<th>Yr’08-(3 Students)</th>
<th>Yr’09-(11 Students)</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100%</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>80-89%</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>70-79%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-69%</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Below 60% (NO Good)</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
• From the above table, it shows that most of the students’ knowledge on networking has improved in year 2008 even though there was one student’s performance still quite far behind.

• One thing **came as a surprise** this year was that one of our Juniors, Trey David, took and passed the **Microsoft Certified Desktop Support Technician exam** close to the end of spring 2009 semester, and he told that the MCSE questions he did in the class did help.

2. Future addition(s) to next Year’s Assessment Plan
   a. **Microsoft Certified Technology Specialist (MCTS) Exam in Database**
      • We propose to use, Microsoft Certified Technology Specialist (MCTS) Exam 70-432,433: Microsoft SQL Server 2008 – Database Development, to assess our students’ comprehension in the area of computer database in the 2009 academic year.

   b. **The Major Field Test in Computer Science (from ETC)**
      o We didn’t ask our students to take the ETC test in spring 2009 because some of the courses (e.g., Algorithm, Programming Language, and Compiler) were being taught once every two years and some transfer students might not have a chance to take that kind of courses at all. The test result won’t be accurate if some students don’t have certain background at all. However, in addition to the ICCP Test, we are still considering to use the **Major Field Test** to assess our students’ comprehension in the area of computer science in the future.

J. The Strength and Weakness of the Program
   a) **The strength of the program**
      Our CS students have very strong background and hands-on experiences in the areas of Windows programming, computer networking, and advanced web-based programming as it can be seen from the Alumni Job Distribution Table below.

      • **Alumni Job Distribution Table: We are what our records say we are:**
      From the data below, it shows that our students can find jobs in variety of industries, such as software developing company, banking, energy consulting firm, sausage manufacture, Choctaw nation, and university, to work as a programmer, networking, or IT staff, or even pursue a graduate degree in graduate school.

      From the most recent correspondence with our alumni, we got to know that **Mr. Trantham** is working for a software company which is a Microsoft’s certified (software) provider. **Mr. Lowe** currently works as a software testing contractor at Microsoft. **Mr. Kelley** even starts his own start-up Website Hosting company right after he graduated. In addition, our recent graduates, Josh Mussett and Nathaniel Jackson, work as IT staff at the Choctaw Nation and Durant Independent School District, respectively.

      We are so proud of what our students have been doing after they graduated. It shows that
the department has prepared them with a solid knowledge and skills at school to face challenges in various areas in the future. More importantly, it shows that our students have the abilities to contribute their services to the IT needs in the local economical growth in the regions of Southeastern Oklahoma and North Texas. In addition, they also possess the ability to serve in other state or start their own company if they choose to.

<table>
<thead>
<tr>
<th>First Name</th>
<th>Last Name</th>
<th>Last Known Company</th>
<th>Status/Position</th>
<th>Major</th>
<th>Graduated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kelly</td>
<td>Prather</td>
<td>CCS-Corporation&quot;</td>
<td>Programmer</td>
<td>CS</td>
<td>5/31/2005</td>
</tr>
<tr>
<td>Roy</td>
<td>Miller</td>
<td>N/A</td>
<td></td>
<td>CS</td>
<td>5/31/2005</td>
</tr>
<tr>
<td>Keith</td>
<td>Robinson</td>
<td>First United Bank&quot;</td>
<td>Mortgage IT</td>
<td>CS</td>
<td>5/31/2005</td>
</tr>
<tr>
<td>Gary</td>
<td>Glover</td>
<td>N/A</td>
<td>Web Programmer</td>
<td>CS</td>
<td>5/31/2005</td>
</tr>
<tr>
<td>Andria</td>
<td>Ridley</td>
<td>N/A</td>
<td></td>
<td>CS</td>
<td>7/15/2005</td>
</tr>
<tr>
<td>Rami</td>
<td>Abu-Arja</td>
<td>University of North Texas&quot;</td>
<td>Graduate Student</td>
<td>CS</td>
<td>7/15/2005</td>
</tr>
<tr>
<td>Christopher</td>
<td>Trantham</td>
<td>MAQ Software&quot;</td>
<td>Software Developer</td>
<td>CS</td>
<td>12/18/2005</td>
</tr>
<tr>
<td>Craig</td>
<td>Mustgrove</td>
<td>Southeastern Oklahoma State University&quot;</td>
<td>Administrative System Programmer</td>
<td>CS</td>
<td>5/13/2006</td>
</tr>
<tr>
<td>Lawrence</td>
<td>McKevitt</td>
<td>Baker &amp; O'Brien&quot;</td>
<td>Network Assistant</td>
<td>CS</td>
<td>5/13/2006</td>
</tr>
<tr>
<td>David</td>
<td>Kobosky</td>
<td>Southeastern Oklahoma State University&quot;</td>
<td>Network Assistant</td>
<td>CS</td>
<td>5/12/2007</td>
</tr>
<tr>
<td>Robert</td>
<td>Kelley</td>
<td>Texoma Hosting&quot;</td>
<td>Founder</td>
<td>CS</td>
<td>5/12/2007</td>
</tr>
<tr>
<td>Ronald</td>
<td>Schied</td>
<td>N/A</td>
<td></td>
<td>CS</td>
<td>5/12/2007</td>
</tr>
<tr>
<td>Corey</td>
<td>Carpenter</td>
<td>Oklahoma Lottery Commission&quot;</td>
<td>IT Staff</td>
<td>CS</td>
<td>5/12/2007</td>
</tr>
<tr>
<td>Emit</td>
<td>Lowe</td>
<td>Contractor at Microsoft&quot;</td>
<td>Software Developer</td>
<td>CS</td>
<td>12/15/2007</td>
</tr>
<tr>
<td>Carroll</td>
<td>Maxwell</td>
<td>N/A</td>
<td></td>
<td>CS</td>
<td>12/15/2007</td>
</tr>
<tr>
<td>Cliff</td>
<td>Eddings</td>
<td>J.C. Potter&quot;</td>
<td>Network Staff</td>
<td>CS</td>
<td>5/10/2008</td>
</tr>
<tr>
<td>Brandon</td>
<td>Gooch</td>
<td>Southeastern Oklahoma State University&quot;</td>
<td>Network Analyst</td>
<td>CS</td>
<td>5/10/2008</td>
</tr>
<tr>
<td>DeRaymous</td>
<td>Rose</td>
<td>N/A</td>
<td></td>
<td>CS</td>
<td>12/13/2008</td>
</tr>
<tr>
<td>Michael</td>
<td>Parker</td>
<td>Radio State&quot;</td>
<td>IT Staff</td>
<td>CS</td>
<td>12/13/2008</td>
</tr>
<tr>
<td>Joshua</td>
<td>Mussett</td>
<td>Choctaw Nation&quot;</td>
<td>IT Staff</td>
<td>CS</td>
<td>5/16/2009</td>
</tr>
<tr>
<td>Nathaniel</td>
<td>Jackson</td>
<td>Durant Independent School District&quot;</td>
<td>IT Staff</td>
<td>CS</td>
<td>5/16/2009</td>
</tr>
</tbody>
</table>

Legend for Areas:

a1: Sherman-TX
a2: Durant-OK
a3: Denton-TX
a4: Seattle-WA
a5: Dallas-TX
a6: Oklahoma City-OK

b) The weakness of the program
Over the years, our CS students are required to take mathematics courses of up to Calculus-I only and I think that might be a weakness for them if some of them plan on working or furthering their education in the areas of computer vision and computer graph. Those areas require at least the knowledge of Linear Algebra and Calculus-II. However, most of our graduates have been working on IT related areas, so it won’t be a problem for them and we encourage our students to take mathematical courses as electives as well.

K. Assessing Online, Blended, and IETV Instruction

The computer science program does not have any online or IETV courses.

L. Constituents and Stakeholders

Due to the nature of computer business, the constituents can themselves be the stakeholder as well. For example, we have students started their own website design and hosting company right after graduation, so they are the constituents and stakeholders as well. In addition, we keep a very close contact with employers, owners, alumni, and so on to share with them about our CS program and get inputs/suggestions from them at least annually. The following are just some of the feedbacks that we got from some of the students, owners, employers, alumni, contractors, and so on in recent years:

“Hello Dr. Su,

Everything is going great for Bill and myself. We are working really hard trying to network and meet people. …

The company is growing [see the note]. We were on the front page of the newspaper last week for a benefit website. … We are wanting to make it a really strong site so that we use it as a showcase site.

Talk to you later,
Deb”, Debbie Kelley, 12/07/2007

[Note: Debbie Kelley and Bill Kelley started their own web hosting company, Texoma Hosting, after they graduated from our department.]

“Thanks! I hope you are doing well.

I would like you to know that I've been putting some of the things that I learned in your class to good use. I have put together a web site for myself and other fans of the Dave Matthews Band. … As of this morning, I have 168 members and I'm very surprised that my site has become this popular.
My website uses a combination of html and php, several external css files, and two different mysql tables [see the note]...

I would like to thank you for the part that you played in helping me become more motivated in web programming! It has given me a lot of confidence in myself. ...

I hope that you like it!

Thanks for everything,

Seth” – Seth Southerland, 2/06/2008

[Note: Those are the topics covered in the CIS4343-Applied Networking course which was introduced in spring 2006. And it shows that the course is heading to the right direction and meeting the needs of job market.]

“Dr. Su:

Thank you for the New Year wishes-- ... I would like to invite you to take a look at the website that Kevin and I are rewriting for Grayson County College. We still have a couple of months work ahead of us before we switch it to a live state, but you can still see a rather impressive combination of .NET, AJAX, XML, and MySQL. [see the note] ...

Best wishes to you and your family,

Danny Phelps” – 2/07/2008

“Hi Dr. Su, hope everything is going good there.

The reason I am emailing you is I wanted to know if you had a recent graduate that would be interested in work in San Antonio.

I need a programmer for my team (.NET, XHTML, AJAX, XML) [see the note] or could learn.
Starting salary is 52K

...

Kevin R. Roark.
Senior Programming Lead
Air Education Training Command
Randolph AFB …

Kevin R. Roark, Contractor, HQ AETC/A3FO-LSI/FPMI” – 7/09/2008
"Hey Dr. Su,

... Things are going great up here, I'm enjoying my new job a lot. I'm mostly creating back-end tools for a browser add-on that we're developing for Microsoft so it's pretty cool! Thanks for the preparation working with multiple joined tables by the way, it's been invaluable to me [see the note]- the current project I'm working on uses 12 different tables, it's crazy!

..."

Chris, Chris Trantham, 9/03/2008

"Dr. Su,

I just wanted to let you know that Josh [Note: Joshua Mussett is our recent graduates] is working with me now here at Choctaw Nation and has within a week shown that he knows his stuff and can think on the ball. We’re about the implement .... Just this morning he was able to solve a problem that was posted to us just yesterday about posting to two different calendars in the SharePoint site.

When he told me what assignments he had completed while at Southeastern I knew he would do good here and wasn’t surprised that he was able to find this solution. Pretty soon I know ... because I know just how hard he had work to finish the assignments you give out in your classes.

Keep up the good work.

David Coxsey
Choctaw Nation Of Oklahoma
Office of Technology" - 5/14/2009

"I took the Microsoft Certified Desktop Support Technician exam, which covered Windows XP and Office, but there were some networking aspects to the exam. I passed the
exam and the questions we did in the book did help [see the note], ...

Trey Davis" – 8/17/2009
[Note: Trey is currently a Junior student and he passed the Microsoft Certified Desktop Support Technician exam after he took the CS4223 Applied Networking course in spring 2008.]

In addition to the above feedbacks, our Alumni Christopher Trantham, Oliver Wilson, and Emit Lowe have compiled a list of interview questions for our future graduates to reference. Here is part of the email and I have put the Interview questions in the appendix and over the website link below if anyone is interested to know.

“Hello Dr. Su, ...
Also, I thought you might be interested in some of my interview questions, as they might help others coming to the professional world. These are some of the various interview questions I was asked, and a few of them are from Oliver and Emit as well. I grouped them into batches where the questions are similar. Some of them are hard.”, -7/02/2008

Here is the website of the interview questions,
http://babbage2.se.edu/FreeComputerClinic/interviewQuestions.aspx

M. Faculty Involvement in Assessment

In the Department of Chemistry, Computer, and Physical Sciences all major courses are taught by professors that have advanced degrees in Computer Science or Information Technology. The faculty is highly qualified to assess student performance in the subject areas. Assessment is performed individually by each faculty member in the courses they teach through, programming projects, exams, laboratory experiences, and etc.

A nationally standardized exam (ICCP) is administered in the Senior Seminar class. This report represents a summation of the assessment performed by the CS faculty: Dr. Ming-Shan Su and Dr. Lie Qian who involved in collecting Data, implementing program modification, editing the report and etc. Dr. Su was more involved in the learning outcomes of C.1, C2, and C4 whereas Dr. Qian was more in C.3, C.5 and C.6 (please refer to Section C. Learning Outcomes for more information). Dr. Jerry Polson, department chair, assisted in compiling the report.

N. Appendix: Interview questions

Thanks to our alumni Christopher Trantham, Oliver Wilson, and Emit Lowe for their contribution on compiling those questions. – 7/02/2008

• Write a method in C++ to reverse a string.
• Write a method in C++ to reverse the words in a string (but not the order of the words).
• Write a method in C++ to determine whether a given substring is in a string

• Write an implementation of a LinkList in C++.
• Write the insert method for your LinkList of type integer.
• Write the delete method for your LinkList of type integer.
• Given the previous LinkList, how can you determine if the list is cyclical?
• Given two LinkLists where at some point the LinkLists merge, locate the exact node where the merge occurs.

• Write a method (using a data structure of your choosing) to evaluate a tic-tac-toe board and see if there is a winner - the method should return the winner or some default value if there is no winner.
• Expand your previous method to work for a 2-player connect 4 game where the board size is 4 x 4.
• Expand your previous method to work for a 2-player connect 4 game where the board size is M x N.
• Expand your previous method to work for a 2-player connect K game where the board size is M x N.
• Expand your previous method to work for a J-player connect K game where the board size is M x N.

• What are some fundamental differences of C++ and C# (or Java)?
• What are transactions and why are they useful?
• If you were given new software that was to run on a vending machine, what test cases would you run?
• If a data-intensive application you designed ran out of usable memory, what would you make it do in response?
• What is AJAX and why is it useful?

• Also, inheritance is very, very important in the professional dev world.

O. Signatures

Department Chair's Signature

Date 8-31-09

Deane's Signature

Date 09/03/09