Dr. Bailey welcomed everyone to the inaugural Florida Tech Computing Alliance with a short history of the university, where the College of Engineering and Department of Computer Sciences specifically, fit in the scheme of things. The College currently has an enrollment of 1750 students, 75 faculty, of which CSE comprises 25%. Computer Sciences is split evenly between research and instruction. Dr. Bailey alluded to the possibility CS could be the fourth building in the Olin Complex.

Dr. Bailey requested members assist us in fine tuning our program by helping us make better choices, hiring our grads and investing in us by going into partnership with the college and the department.

Following introductions Dr. Shoaff requested input on the groups name. It was decided to keep Florida Tech Computing Alliance.

After discussing meeting virtually in addition to our annual meeting it was decided we could not make good progress if we only met on an annual basis. A web forum will be considered as well as convening when the university has Career Day. Is was suggested that meetings be at least quarterly, and the next meeting will be in May, 2004.

1 Computing Alliance Charter

The discussion turned to the charter of the Computing Alliance. The mission statement of the alliance and its wording was discussed. It was decided the word systems will replace programs to show computing support for computer
engineering.

The mission of the Florida Tech Computing Alliance is to engage in activities that will improve the department’s educational and research activities, resulting in better computing programs systems to meet the needs of society.

The structure of the Computing Alliance was discussed next. The proposal to have two sub-groups of the alliance: One focusing on Curriculum and Instruction, the other focusing or Research and Scholarship was accepted. There was broad agreement that improving academics was an essential role for members of the alliance.

The role of the Curriculum and Instruction Committee was presented and no changes were noted. The role of the Research and Scholarship Committee was presented and no changes were noted. Some suggestions were:

- Try to increase the number of undergraduates working on internships. Dr. Shoaff reported that a goal of 25% of undergraduates enrollment in cooperative education had been a long sought goal, but the actual number remained close to 10
- Design ways to encourage individuals to participate in an internship.
- Meet, as a group, with the students and request their feedback.

1.1 Computing Alliance Survey

The survey prepared for member of the alliance to complete was presented. The following suggestions were made:

- Add code of ethics awareness
- Make the statement more specific
- Remove software from complex real-world software systems
- Make the statement complex real-world technology
- Make the statement more general
- Integrate hardware and software, equally important, overlap them
- Add awareness of code of ethics to the goals
- Look at outcome in terms of ABET accreditation
• Find ways to distinguish themselves with a clear distinction between programs
• Tie language to an area of specialization
• Add teamwork to interpersonal and personal skills and professional attitude.

2 The Department’s Quality Enhancement Plan

The topic of the meeting changed to the quality enhancement plan that outlines the department’s goals for academics and research. It was suggested that service be included. Service is a recognized and rewarded activity of the faculty and efforts to improve the service of the department will be included in subsequent revisions of the planning document.

2.1 Mission Statement

The department’s mission statement was discussed. It was suggested that systems be broadened to technologies. This will be proposed to the faculty for further consideration. Otherwise the mission was approved.

Our mission is to prepare computing professionals for success and leadership in the conception, design, implementation, and operation of complex real-world systems, and to expand knowledge and understanding of computing through research, scholarship, and service.

2.2 The Department’s Constituents

The stake-holders in the department were discussed and it was asked the list was inclusive. Several suggestions were made to better define the department’s constituents.

• Add public and private sector to “Employers of our current and former students” skill sectors are different.
• Add Prospective students and parents, faculty, and sponsors.

Several other suggestions were made to better engage our constituents:

• Look into high school outreach programs (Dr. Stansifer has been involved in attempts to develop outreach programs)
• Add web site links to computer games on the CS web site. This will tweak the interest of potential students and create an awareness of our activities. (Dr. Shoaff requested feedback on the CS web site from members of the alliance).

• Target parents of students, answer what kind of jobs their child may have upon graduation and internship possibilities.

• Stay in contact with different employers updated information on jobs that could be available.

• Request alumni speak to all classes levels, include new graduates, 10 year graduates, and 25 year graduates.

• Ask alumni to make a “I wish I had learned” list.

• Have students groups approach industry

• Request alumni and industry representatives be present when interviewing

• Ask alumni to provide information on what they now do, listing references, use as a marketing tool

2.3 Educational Objectives

The idea that an “objective” is a capability expected to be achieved within a few years after graduation was explained. Educational objectives are expectations of what students will be able to do within a few years after graduation. The question of “How do we measure within a few years after graduation?” was discussed, and it was pointed out that alumni surveys are conducted and an employer survey existed but had not been used. Members of the alliance indicated they could help in providing useful data from employers.

Members of the alliance felt there is a need to broaden the educational objectives statement for all levels of study, and to include new technology and products.

Several general suggestions were made with respect to undergraduate level objectives.

• It was suggested that communication skills should be added to “Use their technical knowledge...” It was pointed out that communication skills are identified as an educational outcome - an expectation of students at the time of graduation.
• What is important is to teach the students how to learn.
• Students need skills that they can transfer.
• Require students to attend career fairs.
• Students must learn to solve problems, regardless of the programming language used.
• Students should be put in a situation where they deal with ambiguous problems and must use their creativity.
• From the employer point of view it is very expensive to train a new employee and then have them leave. Students need to be aware of the “real world” and not stuck in academia. The employer needs efficiency and productivity immediately.

With the modifications noted below, the educational objectives for the Bachelor’s of Science degree programs in Computer Science and Software Engineering were accepted by the board.

2.3.1 BS Computer Science

It was suggested that the word “technology” be inserted in “the development of new software products.” It was also noted that recent trends in computer science include architects and implementations. Within a few years after graduation, Computer Science alumni are expected to:

• Be well respected computational problem solvers and recognized as algorithmic specialists contributing to the development of new technology and software products;
• Be actively engaged in continual professional development;
• Use their technical knowledge, interpersonal and personal skills, and professional attitude to advance their careers, the careers of others, and the organizations for which they work.

2.3.2 BS Software Engineering

It was suggest that team be removed from “be team project leaders” Within a few years after graduation, Software Engineering alumni are expected to:
• Be team project leaders in the development of software where their primary role may be in requirements elicitation, software design, application development, software testing, or software evolution;

• Be actively engaged in continual professional development;

• Use their technical knowledge, interpersonal and personal skills, and professional attitude to advance their careers, the careers of others, and the organizations for which they work.

2.3.3 MS Computer Science and Software Engineering

The objectives of master’s level programs have not been articulated by the department and input from members of the alliance was solicited. To develop these objectives it was suggested that we need to determine the needs of industry, encourage internships, and tie masters project to needs of industry. The question of demographics of master’s level students was raised. Dr. Shoaff said he believes 60% of students are international.

2.3.4 Ph.D. Computer Science

Suggestions were made to improve the objectives of this program. “Actively engaged in computing research” may be considered too weak a statement, consider actively pursuing. Add the phrase “advancing the knowledge.” It was suggested that the department look at specialization and influencing factors in research.

Several issues were raised with respect to doctoral level programs. Technical leadership roles are equal to seven years in industry Industry leaders often recommend at least a year of employment before entering a Ph.D. degree program. Individuals are sometimes less marketable due to being overly qualified and salary expectations.

The question of whether or not work experience be required during Ph.D. was raised. Internships can align the student with company needs. Internships can be used to educate employers on how Ph.D. level students can help a company. Internships build a partnership between the student, the employer, and Florida Tech, and internships keep the student on track. It was suggested to look at R & D labs where technology is pushed into then future to enable better use now.
2.4 Educational Outcomes

The idea that an “outcome” is a capability expected to be achieved immediately or soon. Educational outcomes are expectations of what students will be able to do at the time of graduation. The educational outcomes for the Bachelor’s of Science programs in Computer Science and Software Engineering were provided to members of the alliance. The level of detail in this was too great to be covered in this inaugural meeting and this topic was left for future discussions.

2.5 Research Objectives

3 Adjournment

The members of the alliance were thanked for their participation. They were asked to fill out the survey that was distributed and to indicate whether they wanted to work primarily on academic or research issues. Dr. Shoaff advised that he will schedule the next meeting for sometime in May 2004. The meeting adjourned just before 10:00 am.