Southern Arkansas University

Department of Physical Science and Technology

STRATEGIC PLAN
2002 – 2007

MISSION STATEMENT:

The primary mission of the Physical Science and Technology Department is to provide specialization programs which prepare students with education and training for entry into an occupation or entry into professional or graduate school. Majors in chemistry, engineering-physics, and industrial technology and chemistry-medical technology provide this preparation.

The secondary mission is to provide students with an understanding of the physical world through core educational requirements in chemistry, geology, general physical science and physics. The department provides additional science service courses to other majors through the offering of minors and additional required course work in the above disciplines. Significant support is provided to the education school with courses for a teaching major and supporting field, as well as graduate physical science courses contributing to the Master of Education degree.

Goal 1: To emphasize the classroom and laboratory as the most important place on campus.

Objective 1: To obtain new and replacement equipment for the laboratories to enhance learning.

Objective 2: To provide laboratory facilities for industrial technology and some engineering labs. such as circuits, robotics, automation materials, etc.

Objective 3: To continue to use departmental and engineering – physics scholarships to help junior and senior majors complete their program and graduate.

Objective 4: To promote the use of supplementary instruction, tutoring and study sessions to emphasize student achievement.

Objective 5: To encourage teacher effectiveness through recognition, awards, and competitive salary.

Goal 2: To provide a superior education in developing students’ abilities to think, solve problems, use the scientific method, and communicate effectively.
Objective 1: Use a comprehensive assessment program to place students in courses which will meet their needs and enhance their chances of success; to assess accomplishment at the end of the sophomore year to insure the presence of learning skills needed for continued success; to assess accomplishments at the senior level in their major field. Continue the use of the SME Manufacturing Technology certification (C Mfg T) for BSIT seniors assessment.

Objective 2: To encourage upper level majors to engage in undergraduate research or projects to specialize in their field and experience an advanced level of problem solving and enhanced laboratory skills.

Objective 3: To improve the academic image of the departmental programs by achieving professional accreditation in industrial technology (NAIT) and chemistry (ACS).

Objective 4: To continue to provide the physical science component of the general education curriculum emphasizing the scientific reasoning to everyday problems.

Objective 5: To insure that the majors’ curriculum prepares graduates for employment and/or professional school. To insure that graduates’ experience is closely aligned with anticipated future job requirements.

Objective 6: Continue to support student activity clubs (A A B club and the SPS and engineering club) to enhance student identity with a professional field and to interact with fellow students with the same interest.

Goal 3: To recruit and retain well qualified diverse faculty.

Objective 1: Recognize faculty for achievement in teaching, research, and service by listing on annual reports and nominating for awards.

Objective 2: Retain and/or increase the current level of terminal degreed faculty in the department.

Objective 3: Promote and recommend competitive salaries to retain well-qualified faculty. Compare to similar size state university salaries around the United States rather than just Arkansas.

Objective 4: Place emphasis on faculty with teaching expertise and full-time expectation for advising, sharing committee assignments, and workloads by using as criteria for hiring and recommendation for raises.
Objective 5: To encourage departmental faculty to attend professional meetings and remain current. At least one professional meeting per year by providing travel money. Request increased travel funds to meet this objective.

Objective 6: To request an additional faculty member in industrial technology to replace the half-time faculty position lost in fall 2002. (BSIT graduating majors average 9.3 for ten years 1990-2000 and about 15 majors/year from 2000-2002 pending December graduates.) The new/replacement faculty needs to be qualified to teach courses in industrial technology, engineering and physics.

**Goal 4:** Recruit and retain well-qualified students in the physical sciences and technology including students interested in science teaching.

Objective 1: Recruit southwest Arkansas students identified by the Admissions staff. Provide tours of laboratory facilities to increase admitted students.

Objective 2: Revise the SAU Departmental Web site to provide recruiting information on major and pre-professional programs.

Objective 3: Recruit international students by cooperating and providing major information with the international student campus advisor.

Objective 4: Provide additional student help with supplemental student instruction, tutorial help and study sessions to improve retention and increase the graduation rate.

Objective 5: To strengthen the on-campus industrial technology program by establishing a regular course offering schedule.

Objective 6: Continued emphasis on advising based on up-dated degree plans and use of advising transcripts.

Objective 7: Active recruiting of potential students through visitation of schools, industries and civic groups.

Objective 8: Increase graduation rates by maintaining contact and advising students who have “stopped out”.

Objective 9: To evaluate the need and viability of a major in Industrial Technology Education.

Objective 10: To evaluate the need and viability of an AS in Engineering Technology to replace the current AA in Industrial Technology.
**Goal 5:** To reinforce and promote a positive image of the physical science and technology department and its programs and faculty.

Objective 1: Promote the presentation of papers at professional meetings. Target: fifty percent of the departmental faculty will present papers at least once per year.

Objective 2: Promote the application for grants. Target: at least one-half the departmental faculty will write a grant application per year.

Objective 3: Recognition of faculty or programs in the press or through community participation service. Example: science fair judging or promotion.

Objective 4: Recognition of faculty through consulting or other application of expertise activities.

**Goal 6:** To promote the utilization of a broad range of technology.


Objective 2: Increased utilizations of electronic access of library materials for research and enhanced course work.

Objective 3: Greater use of compressed video or other distance learning technology in the off-campus industrial technology courses.

Objective 4: Greater use of simulation computer technology in chemistry, physics, engineering and technology where appropriate.

Objective 5: Greater use of computers for data collection and analysis in laboratory. More interfacing equipment will be purchased to utilize computer hardware and update current capability.

Objective 6: Greater utilization of graphing calculators in doing what was formerly computer analysis of data by interfacing to TI-CBL and Casio Analyzers.

Objective 7: Evaluate Web based BSIT Courses for supplements to the curriculum.

**Goal 7:** To prepare for the projected New Science building
Objective 1: To assist in designing of laboratories and classrooms for chemistry.

Objective 2: To assist in the designing of laboratories and classrooms for earth science and geology.

Objective 3: To assist in the designing of laboratories and classroom for engineering-physics.

Objective 4: To assist in the designing of laboratories and classrooms for industrial technology.

Objective 5: To assist in the designing of laboratories and classrooms for physical science and science education.