

6. INNOVATION IN CURRICULUM DESIGN, TEACHING-RELATED PROPOSALS, GRANTS AND CONTRACTS

Curriculum Design

2006

1. **PHYS 3441 Electromagnetism**. Modification of content and development of teaching material in support to Dr. Harold Slusher, Summer 2006.

2005

2. **PHYS 3331 Thermal Physics**. Modification of content and development of teaching material of PHYS 3331 in support to new faculty Dr. Tunna Baruah, Fall 2005.
3. **PHYS 3243: Radio Astronomy**. A radio telescope designed and constructed for PHYS 3243, with Luis Basurto, Spring 2005.

2004

4. **PHYS 3325: Modern Physics**. Co-development of an in-class demo “Bohr Model Spectroscopy”, with elaboration of pre- and post-exams, in collaboration with lecturer Jaime Morales. Fall 2004. Testing occurred in two Modern Physics Courses in the Fall of 2004.

2003

5. **Survey of Modern Physics**. Introduction of web and powerpoint material for the teaching of PHYS 3325, Fall 2003.

2002

6. **Alpha PIXE Spectroscopy**. Development of an in-class demo for modern physics, with pre- and post-exams. With the help of physics student Mario Borunda and lecturer Jaime Morales. Fall 2002. Testing occurred in two Modern Physics Courses in the Fall of 2002.

2001

7. **Modern Physics**. Testing of three computer simulations of a set of eleven to add an interactive component to the course Phys 3325. With the help of physics students Manuela Ortiz and Jazmin Dominguez. Fall 2001 funded by CETAL. Testing occurred in two Modern Physics Courses in the Fall of 2001, Spring of 2002 and Fall of 2002.
8. **Termodinámica Nuclear**. Preparation of a two-week course in Spanish which was delivered to the 2nd Mexican Nuclear Physics School at Universidad Nacional Autónoma de México, Mexico City, 4/2001. Funded by UNAM and Soc. Mex. Física. Lecture notes published as a chapter in a book.

2000

9. **UTEP-UT Brownsville Distance Learning Masters Program**. Proposer, designer and director of the program. Memorandum of understanding reviewed in 2000, first graduate in 2002, second one in 2004.
10. **PSCI 3304**. Design of course team-taught to education majors at Marion Manor Elementary in conjunction to ELED 3311. Fall 2000.

1999

11. **PHYS 5325**. Design of distance-learning course and web-based material for UT Brownsville students, Fall 1999.

1998

12. **Physical Science**, introduction of science kits for elementary school in the class Psci 3304, Fall 1998.

1995

13. **Modern Physics**. Development of two computer simulations of a set of eleven to add an interactive component to the course Phys 3325. Since Fall 1995 to date.
14. **Nuclear, Particles and Relativity**. Development of the curriculum for the new class Phys 3457. New physics course to use basic quantum mechanics to study applications in nuclear and particle physics. Relativistic kinematics was introduced. Spring of 1995.

1994

15. **Computational Physics**. To develop a computer laboratory with funding from the College of Science and from an IBM donation to the Physics Department, 1994.
16. **Introduction to Physics**. Development of the curriculum for a new class Phys 2477. New physics course to introduce freshman physics majors to physics concepts and physics as a career. Fall 1994, 9 students.