The central goal of the Biofeedback Certification Institute of America (BCIA) University Initiative is to help colleges and universities to incorporate current BCIA certification requirements and reading lists into their curricula so that their graduates will be eligible to apply for certification in general biofeedback, electroencephalographic biofeedback, and pelvic muscle dysfunction biofeedback. Many institutions already have the resources to help their students satisfy the general biofeedback certification requirements. Programs at East Carolina University, San Francisco State University, Sonoma State University, and the University of Maryland’s School of Nursing are profiled, and their use of new technology and positive impact on their students and communities are discussed.

The heart of the University Initiative is the Biofeedback Certification Institute of America’s (BCIA’s) partnership with both new and established programs to help them incorporate current BCIA certification requirements and reading lists into their curricula so that their graduates will be eligible to apply for certification in general biofeedback, electroencephalographic (EEG) biofeedback, and pelvic muscle dysfunction biofeedback. Many colleges and universities already have the resources to satisfy general biofeedback certification requirements. These include a 3-credit-hour course in human anatomy, human biology, or human physiology and a 3-credit-hour biofeedback course that covers the 48 hours of didactic content from the BCIA Blueprint of Knowledge. The final requirement is practical biofeedback training with a BCIA-approved mentor. Twenty contact hours are used to review 10 sessions of personal biofeedback, 50 sessions of patient/client treatment, and 10 case conference presentations.

In this article, we will introduce you to the exciting biofeedback programs offered by East Carolina University, San Francisco State University, Sonoma State University, and the University of Maryland’s School of Nursing. Each of these programs has found its own unique way of preparing students for BCIA certification and professional careers that incorporate biofeedback.

Program: East Carolina University
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East Carolina University’s Center for Psychophysiology and Biofeedback is celebrating its 5th year of offering biofeedback courses and lab experiences. The Center offers graduate and undergraduate credit as well as continuing education units for successful completion of courses. East Carolina University was the first to offer a university-based distance education course in biofeedback and now offers courses both on campus and through a global classroom environment where distance students participate in the live lectures via streaming audio/video over the Internet. This method provides a rich learning environment where practitioners and students from multiple disciplines interact and bring together theory and application. The Center’s biofeedback course offerings include the following:

- Biofeedback Principles and Practices: Overview of biofeedback history, instrumentation, and intervention techniques, including assessment, treatment, and evaluation processes.
- Biofeedback Lab: Application of biofeedback measuring and monitoring techniques in a variety of health and human performance settings.

Be sure to check out East Carolina University Biofeedback’s Web site, at www.ecu.edu/rcls/biofeedback, to see the plans for the new East Carolina University
Center for Psychophysiology and Biofeedback being constructed and scheduled to open in 2007.

The courses are primarily taught by Carmen V. Russoniello, PhD, TRS/CTRS, LPC, and include guest lectures by experts in biofeedback. Dr. Russoniello is a fellow of the Biofeedback Institute of America in both general and EEG biofeedback and brings more than 20 years of clinical experience and an extensive research background involving biofeedback, the reduction of stress, childhood obesity, and posttraumatic stress disorder.

**Program: San Francisco State University**

**Contact:** Erik Peper, PhD, BCIAC, Professor and Co-director, Institute for Holistic Healing Studies, Department of Health Education, San Francisco State University, 1600 Holloway Avenue, San Francisco, CA 94132; email: epeper@sfsu.edu; Web site: www.sfsu.edu/~ihhs. tel: 415-338-7683; fax: 415.338.0570.

The Biofeedback and Self-Regulation Laboratory and academic program is part of the Institute for Holistic Healing Studies within the Department of Health Education. The undergraduate program offers a minor and a certificate in holistic health. The program includes a semester course on biofeedback with a 3-hour laboratory practicum using peripheral and EEG computer-based systems. The program has a strong focus on self-care and requires active self-practice of the skills. The following courses incorporate stress-management skill components as part of their curriculum: Relaxation and Stress Reduction, Holistic Health: Western Perspectives, Introduction to Biofeedback and Self-Regulation, Introduction to Autogenic Training, Imagery and Meditation in Healing, Psychophysiology of Healing, Holistic Health Internship, and Special Studies. Undergraduate students participate actively with faculty in research. Many students have presented research papers at regional, national, and international meetings, and many have published their research. Figure 2 shows Erik Peper and students analyzing research data. Figure 1 shows students learning about skin conductance biofeedback through a lab exercise.

More than 70% of the students report that these courses made a significant impact on their lives and career choices. San Francisco State University (SFSU) students have said,

> These classes have meant so much to me, and I know from other students that the Holistic Health classes have often been the highlight of their education. I’m so fortunate to have had this program available while attending SFSU. This is an up and coming field, it is a real feather in SFSU’s hat to have this program available.

> Holistic Health has helped me to look at myself and be able to take care of myself, so that I am prepared to lead a happy and healthy life. It has also helped me to understand different cultures better, to identify with other people better.

**Program: Sonoma State University**

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Since 1981, Sonoma State University has offered a unique upper-division biofeedback professional training sequence in the Psychology Department, open to all university students. The biofeedback sequence offers students the opportunity to develop professional psychophysiological skills working with clients while they are establishing a sound theoretical foundation for future work in the field of psychology. The sequence begins with a four-unit, 60-hour didactic course in biofeedback and psychophysiology. The course also includes the student’s personal biofeedback training. The sequence features three biofeedback laboratories equipped with state-of-the-art computerized peripheral and EEG biofeedback equipment. Students get practicum and internship experiences providing biofeedback services for students, faculty, administrators, staff, and community members. The biofeedback training sequence provides the majority of the hours necessary for application for BCIA certification. Figure 3 shows biofeedback interns instructing a classmate in diaphragmatic breathing and heart rate variability training.

The discipline of biofeedback represents a uniquely practical and elegant hybridization of humanism and technology, reflecting the Psychology Department at Sonoma State University’s commitment to the full human being and utilizing the latest advances to help students gain the broadest possible understanding of mind/body health and psychology.

Program: University of Maryland School of Nursing

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The University of Maryland Baltimore (UMB) School of Nursing is one of the oldest schools of nursing in the nation and has consistently ranked among the top 10 nursing schools. The school has a biofeedback lab that is used for training and research.

Karan Kverno, PhD, APRN, is a senior fellow of the BCIA and has maintained an active biofeedback practice for the past 20 years. She is the current director of the graduate program for psychiatric nurse practitioners.

The University of Maryland School of Nursing offers an elective general biofeedback training program that is available to undergraduate and graduate nursing students. The basic biofeedback course is a three-credit course that includes 35 hours of didactic training and 10 hours of personal training (see Figure 4). Anatomy and physiology as well as 13 additional contact hours of didactic content related to physiology and pathophysiology are included in other required courses. The Level 2 biofeedback course is a one- to two-credit (15-30 contact hours) independent study focusing on mentored clinical training and case presentations. Students who complete both courses are eligible to apply to take the BCIA general biofeedback certification exam.
The UMB biofeedback lab is used for diverse research projects. Currently, researchers are comparing a self-regulatory training intervention to two other interventions aimed at treating depressed mothers of toddlers. Students are actively involved in the research studies and have opportunities for poster and conference presentations.

These four programs have found creative ways to prepare their graduates for BCIA certification and professional careers in biofeedback by incorporating new technologies such as distance learning and tele-supervision. They have developed innovative personal training programs and practicum experiences that promise to make their students healthier, expand their professional knowledge and skill sets, and provide an invaluable health care resource to their communities. These programs are a vital part of the renaissance in biofeedback and neurofeedback that is under way in American colleges and universities.

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ISNR Mission Statement

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- Promote scientific research and peer-reviewed publications
- Provide information resources for the public and professionals
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