

**Technology Fee Proposal 2011**  
**Department of Psychology**

**Title: Equipment Request for EXP 3202C - Sensation and Perception Laboratory**

**1) Project Description**

The main objective of the Sensation and Perception course is to provide students with a solid foundation in how our sensory systems (e.g., hearing, taste, touch) interpret the world. The laboratory portion of the course allows students to conduct experiments and learn first-hand how we sense and perceive the world (for example, How do we see color? Why are we able to detect subtle differences in odor? How does the auditory system process incoming sound energy into a rhythmic pattern of musical notes).

This request is for equipment that will allow students to learn about the auditory system. DPOAE (distortion product otoacoustic emissions) may sound like an esoteric term, but it is rapidly becoming a standard modern practice for evaluating the health of the human ear. The sophisticated technology presents sounds of two frequencies into the ear and records a “rebound” sound at a different frequency. Students are surprised to learn that healthy ears will actually produce a sound that comes out of the ear. These emitted sounds can be recorded using sensitive microphones. By systematically measuring these “emissions”, this completely safe and non-invasive technique can provide data about, for example, high frequency hearing loss resulting from aging or noise exposure. It has also become a common screening procedure for measuring hearing in newborn infants (who cannot be tested by asking them to raise their hand when they hear a sound). The technology used will be the same as that used by professional audiologists. Students in the laboratory will gain experience with the use of this modern technology and be able to directly compare the data produced by DPOAE with measurements of their hearing thresholds using traditional psychophysical methods (e.g., decreasing the intensity of a sound until it is just detectable).

**2) Impact of the Project on Instruction**

300 to 400 psychology majors enroll annually in EXP 3202C, Sensation and Perception. This is a 4-credit course with a 2-hour lab component. Approximately 14 to 18 lab sections are offered each year. The requested equipment would be used in the lab sections and would allow majors to learn about the auditory system using the most modern of technology. They will be able to compare the results obtained with this modern physiological method with more traditional behavioral methods of audiometry.

**3) Project Plan**

The equipment will be purchased and immediately used by students in the lab sections of EXP 3202C.

#### **4) Relationship of this Project to Other University Activities**

This course teaches students how people sense and interpret information from the environment. The requested equipment will enhance students' learning of the auditory system using a scientific approach (e.g., data collection and interpretation). The skills and knowledge learned by students will better prepare them to do DIS and honors work in faculty research labs, whether it be in the Department of Psychology or other departments and colleges (e.g., College of Medicine, Department of Biological Science).

#### **5) Cost of Ongoing Support**

There will be small charges for consumable supplies (approximately \$1-1.50/student for disposable ear inserts) that will be covered by the department.

#### **6) Description of the Project Team**

If lab instructors are not familiar with the use of the DPOAE, they will be instructed in its use by the faculty who teach the lecture portion of the course before they begin teaching. Training will include effective ways to teach about audition using this modern equipment. The Department has staff who are qualified to keep the units functioning should problems arise.

#### **7) Budget and Budget Explanation/Justification**

Each DPOAE costs \$10,125 from Mimosa Acoustics and we are requesting two units for a total of \$20,250. Since the DPOAE screening is relatively rapid, 2 units could be shared in each lab (which has a typical size of 25 students) and all students would be able to get experience with both performing the test and being a subject for the test.

**Student Technology Fee Budget Template for Spring 2011 Project Funding Proposal**

Project Title: Equipment Request for EXP 3202C - Sensation and Perception Laboratory

Organization or College: College of Arts and Sciences

Department or Unit: Psychology

Project Period                      Start Date: April 2011

End Date: August 2011

**I. Senior/Key Personnel**

List senior and / or key personnel whose compensation will be funded through project non-recurring funds

	First Name	Middle Name	Last Name	Project Role	Requested		
					Salary	Fringe Benefits	Funds Requested
A.							
B.							
C.							
D.							

**Total Funds Requested for Senior/Key Personnel**

\$ -

**II. Student & Other Personnel**

	Requested		
	Salary	Fringe Benefits	FTE Funds Requested
Graduate Students			
Undergraduate Students			
Other Personnel			
<b>Total Funds Requested for Students &amp; Other Personnel</b>	\$	-	
<b>Total Salaries, Wages &amp; Benefits</b>	\$	-	

**Student Technology Fee Budget Template for Spring 2011 Project Funding Proposal**

**III. Equipment**

List items and dollar amounts for each item, including software, (or multiple items of the same type with a total cost of) over \$2,000 - add lines as needed

Item Description	Funds Requested
A. DPOAE (distortion product otoacoustic emissions). 2 units @\$10,125 each	\$ 20,250.00
B.	
C.	
D.	
<b>Total for items over \$2,000</b>	<b>\$ 20,250.00</b>
<b>Total for Additional items (less that \$2,000 each)</b>	
<b>Total Equipment Costs</b>	<b>\$ 20,250.00</b>
<b>IV. Other Costs</b>	
Materials & Supplies	Funds Requested
Consultant Services	
Equipment or Facility Rental/Use Fees	
Additional Project Costs (describe in budget justification)	
<b>Total for Others Costs</b>	<b>\$ -</b>
<b>Total Project Cost</b>	<b>\$ 20,250.00</b>