

Telephone Number:

**BOARD OF REGENTS SUPPORT FUND ENHANCEMENT PROGRAM PROPOSALS**  
**FY 2008-09**  
**PERSONNEL PAGE**

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## PROJECT SUMMARY

This Centenary College *Enhancing the Multimedia Experience and Incorporating Interactive Technologies in Psychology Classes* proposal will move us dramatically forward in our goal of improving the quality of our larger introductory-level psychology courses. This project will enhance our current multimedia capabilities through improved sound and video projection, and introduce new interactive teaching technologies through student response systems and interactive white board technology. These technologies will allow for classes in which students can better experience the media which demonstrate psychological phenomena, experience real-time demonstrations of these phenomena at work in themselves, and use these media in their own class presentations and data gathering projects. Importantly, interactive technologies will provide faculty (and students) with immediate feedback about the level of understanding which will lead to lectures customized to a particular class, greater opportunity for peer instruction, and the possibility of alteration of lecture content on the fly. As part of the institutional general education curriculum, lower-level psychology courses reach a substantial proportion of Centenary students and thus have the capacity to have a broad impact across our campus. This project will make these larger lecture courses more dynamic, interactive, and engaging; engaged students perform better in the classroom, better performance leads to higher levels of degree completion, which in turn, leads to better-educated graduates and a well-trained workforce.

## 1. THE CURRENT SITUATION

### 1a. Institutional Description

Centenary College of Louisiana, the oldest private, primarily undergraduate institution west of the Mississippi, is located in the Shreveport-Bossier City metropolitan area, the third largest metropolitan area in Louisiana. The majority of our approximately 850 undergraduate students come from Louisiana, but within our ranks, we have students from 34 states and 13 countries. The range of ACT scores for the middle 50% of the 2008 entering class was 23-28.

Centenary College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (SACS) and is a member of the Associated Colleges of the South. The College was recently named by *The Princeton Review* as one the “Best 368 Colleges” and is regularly ranked as a top institution nationwide by *U.S. News and World Report*, *Newsweek*, and similar publications.

Consistent with the College’s mission to encourage students to build lives of integrity by exploring the unfamiliar, inventing new approaches to understanding, and connecting their work and lives to the world at large, the Psychology Department strives to motivate students to engage in intellectual development especially as it pertains to the science of human and nonhuman action, thinking, and emotion. The terrain of their own mind is both familiar and mysterious to students. By examining research findings and the diversity of human experience, we help students to understand how elements of their own experience are both universal and unique and provide tools to allow them to explore the current research and apply it to their own lives.

The courses of the Psychology Department are extremely popular. The department offers both a major and a minor in psychology; our growing department has approximately 70 majors as of the fall of 2008, up from approximately 40 in fall of 2001 (currently the fourth largest major on campus). In addition to the students of our own department, many of our courses serve as required supportive courses to other majors on campus—biology, education, health and exercise science, neuroscience, and sociology. The psychology department also plays a significant role in serving our institutional core (general education) curriculum. All courses we offer in this category (as well as many others) fill to capacity each term.

As a result of the need across all campus departments for psychology courses, they tend to be among the larger classes on a campus with a student-to-faculty ratio of 12:1. The median class size for the last 5 years has ranged from 21-25 students. These classes reach a large proportion of our total student body. Approximately 70% of all our students have taken Introduction to Psychology; approximately 30% have taken Human Growth and Development.

Teaching effectively to our larger classes can present many challenges, particularly when students’ other classes are typically much smaller and able to be more interactive. While we currently use some pedagogical techniques to enhance this experience, we believe we could be doing more by taking advantage of new technologies.

### **1b. Rational for Project**

We propose to update the principal learning environment for these larger psychology courses to enhance our multimedia capabilities and introduce proven new technologies to expand our pedagogical repertoire.

The current A/V technology in the classroom is outdated and ill-configured for efficient and effective use by faculty. The current computer and multimedia equipment is located at the back of a tiered classroom. When faculty wish to switch between technologies (e.g., from PowerPoint presentation to a DVD or other on-line application), they must walk to the back of the class, manually make this change, and typically use the equipment from the back of the room. This often necessitates instructing from behind the students while using this equipment. In addition, sound from both the computer and video projection is broadcast through the speaker on the LCD projector; the sound quality is very poor.

Updating this equipment and moving it to a secure cabinet in the front of the room will encourage faculty to make even greater use of the very useful tools of video and on-line demonstrations to improve student engagement.

We also wish to expand into new technologies to create a more interactive learning environment for our students. We currently take full advantage of PowerPoint technology to create classroom lectures which are colorful and visual, incorporating multimedia presentations and scholarly material from the Internet where possible. However, our assessment of student skills remains fixed in the pre-computer era.

Current computer technology allows real-time, in-class assessment of student learning. Student response systems ('clickers') provide for immediate assessment of student understanding of new concepts, allowing faculty to better gauge comprehension and therefore modify the speed of the lecture as class progresses. Because the response systems allow the responses of individual students to be recorded and analyzed after class, these systems allow graded assignments to be built directly into the lecture material. Inclusion of interactive white board technology will further increase the faculty's ability to adjust material and presentation in real time. This increasingly dynamic classroom can only lead to more engaged students.

Both the enhancement of the multimedia capabilities and the introduction of new classroom technologies will improve student engagement with material, increasing learning for all students and benefitting the department directly by drawing more majors to our program and better preparing those majors for the upper level classes to come.

### **1c. Impact on Existing Resources**

The existing classroom, located in the Gold Dome, wasn't initially designed as a classroom, but has been jury rigged over time to suit that purpose. The Gold Dome is our primary indoor intercollegiate athletic facility housing our Athletics Department administrative and coaching offices, and is the home basketball and volleyball venue and gymnastics arena. The Gold Dome classroom is used by the Athletics Department for team meetings, reviewing video, and press events. Because these activities do not

occur during typical classroom hours and there are few rooms on campus able to accommodate these larger classes, the Athletics Department shares this resource with the Psychology Department.

Over time as the number of classes has grown, we have added functionality to this space including a DVD player and sound capability, but the current technology is at its limit. We use the current technology to the full extent of its capacity; although that capacity is limited (our Information Technology department currently makes repairs to these systems at least once a month). Lectures are enhanced by graphics and multimedia presentations, but the limitations of the technology hold us back.

The Psychology Department has a committed and innovative faculty interested in pedagogical innovation. This project will have the following impacts on Centenary College:

- Psychology faculty will have an enhanced ability to incorporate video/DVD material into classroom instruction
- Psychology faculty will have reliable technology allowing for the most effective use of best-practices pedagogy such as peer instruction, interteaching, and use of student response systems
- Students will regularly gain important immediate feedback about their own understanding of classroom material

## **2. THE ENHANCEMENT PLAN**

### **2a. Project Goals and Objectives**

The goal of this project is to improve the quality of the larger, introductory-level lecture courses offered in the Psychology Department through the use of improved multimedia and interactive technologies. We seek to increase the use of interactive technology in the classroom, specifically increasing the use of video and on-line applications and introducing student response and interactive whiteboard technologies to make our larger lecture courses more dynamic, interactive, and engaging.

### **2b. Work Plan of Proposed Project**

The Psychology Department (the PI and two co-PIs) will be responsible for ensuring the development and implementation of the necessary training with the improved facilities. Some of the specific ways that we intend to use these technologies are well-supported by existing pedagogical research.

We already use, when we can, multimedia presentations which research<sup>1-2</sup> suggests are beneficial to learners. This project will improve the quality of the visual and auditory experience for students. The relocation of the technology to the front of the room and improved control systems will encourage faculty to use it even more often.

Not only can these technologies be used to provide multimedia presentation of psychological phenomena, but they can be used in classes to demonstrate the phenomena at work in the students themselves in real time.<sup>3</sup> For example, a lesson



about false memory is made far more powerful when students display the phenomena themselves and in large numbers. In this example, students are shown a list of words—*bed, rest, awake, tired, dream*—and a few minutes later asked to identify which words they just saw. Approximately 67% will report having seen the word *sleep*, even though it wasn't originally presented.

Student response systems benefit learning in multiple ways. Research suggests that the kind of immediate feedback provided by student response systems is especially useful in learning new material.<sup>4-5</sup> Other recent findings<sup>6</sup> indicate that interpolating testing into studying helps students to learn concepts more effectively than studying alone. Given that frequent paper and pencil testing is often cumbersome and time consuming, student response systems provide a means to gain some of the benefits of frequent testing without these downsides.

Student response systems can be used in conjunction with other pedagogical methods like peer instruction<sup>7</sup> and interteaching<sup>8</sup> to improve their efficiency. By knowing which concepts are not well understood immediately, peer instruction can be more directed. By being able to survey during the peer instruction time, faculty can better know when students have 'got it' or when they may be getting further off course and need more faculty-directed intervention.

The student response system will also be able to serve as an additional tool for research and data collection. Students in our Research Methods course and students conducting independent research projects may now consider the student response system as a viable means of data collection.

To date, little research has evaluated the use of interactive white board technology in college classrooms, however, this technology allows for faculty flexibility in creating examples, diagrams, or writing out terms on an as-needed basis. The current Gold Dome classroom has conventional white boards which can be used for this purpose, but lack the functionality of saving these impromptu notes for upload to class websites and later student review.

In sum, these technologies have a demonstrated pedagogical impact and we seek to include these advantages into our classes in as many ways as possible.

### **Timeline**

June-August, 2009: The new equipment will be purchased and installed by the College's Information Technology department in conjunction with an outside consultant, Curtis Stout Audio Visual. The PI will assist where possible and be trained by the installation team.

mid-August, 2009: Psychology faculty will meet prior to the start of the academic year for an in-service meeting to share ideas, techniques, and relevant pedagogical research and resources. This meeting will also ensure that Psychology faculty understand the capabilities of the new equipment and their proper use.

Fall, 2009: Psychology faculty will integrate multimedia, student response, and interactive whiteboard technology into Introduction to Psychology and Human Growth & Development. At departmental meetings during the term, time will be taken to share success and challenge stories from using these new technologies.

November, 2009: The PI organizes a campus-wide roundtable of faculty from across disciplines who are using these technologies to share ideas, projects, and challenges. (Our natural sciences division has used these technologies for several years.)

December, 2009: The PI will gather and analyze data from Fall semester sections of Introduction to Psychology and Human Growth & Development for analysis, suggesting areas for improvement as the data warrants.

Spring, 2010: Psychology faculty will continue, and update as data warrants, the integration of multimedia, student response, and interactive whiteboard technology into Introduction to Psychology and Human Growth & Development.

May-June, 2010: The PI will gather and analyze data from the Spring semester sections of Introduction to Psychology and Human Growth & Development for analysis and final report to the Board of Regents.

### **Evaluation & Objectives**

Faculty teaching Introduction to Psychology and Human Growth & Development will note the frequency and manner with which they use these new technologies at each class meeting. The project will be deemed successful if multimedia, student response, and interactive whiteboard technology are used at least twice/week in the first semester. In subsequent semesters as faculty gain greater facility and comfort with the technology, success will be measured by the use of these technologies at least four times/week.

Information from students will be gathered via student course evaluations and institutional course assessment. Students complete course evaluations at the end of each term. Additionally, Introduction to Psychology and Human Growth & Development are evaluated in the College's regular assessment of core (general education) courses; they were last evaluated in Spring 2008 and will again be evaluated in Fall 2009. The program will be considered successful if (1) core course assessment benchmarks are met at a greater rate, and (2) students express greater satisfaction with course content after the implementation of the project.

## **2c. Evidence of Potential to Achieve Recognized Eminence at the Regional, National, or International Level Commensurate with Degree Offerings and/or Functions**

Centenary College is focused on providing an outstanding education to undergraduate students. A three-member Psychology Department at a small liberal arts college cannot realistically hope to have the research prominence of an R1 institution, but we can be and are recognized for the superior academic preparation we give our students.

In 2006, co-PI, Dr. Matthew Weeks, received a BoRSF grant to enhance our behavioral sciences statistical and research methods classroom. Those advances have allowed us to make great strides in our students' training in conducting, interpreting, and analyzing research. The current project would allow us to improve the ways that we teach more content-driven elements of psychology, particularly to those students taking introductory-level courses.

Because of the Psychology Department's broad service to the college in supporting other majors and the core curriculum, we touch the lives of a large number of students. Part of our mission is to encourage students to better understand their own values, beliefs, and behaviors by understanding the beliefs and behaviors of others. We seek not merely to create degree holders, but citizens and community members who will engage with their communities with intelligence and compassion and real understanding of the science that allows us to understand why humans behave the way they do. Our students are challenged to think, read, and speak critically, and to become more facile in approaching and absorbing quantitative and qualitative information. The lessons they learn here will, we hope, last for a lifetime.

Our students leave Centenary and pursue a variety of career goals in the region and across the nation. Some of the more common are graduate training in psychology (particularly in the counseling field), graduate training in psychobiology, medical school, veterinary school, graduate school in allied-health disciplines (speech/language pathology, occupational therapy, etc.), law school, and the business world. Recent graduates are pursuing advanced degrees and/or working in Portland, OR, Houston, TX, Baton Rouge, and here at home in Shreveport.

With these improved resources, we will greatly enhance the learning of students not only in the psychology major, but for students across many majors who go on to pursue a variety careers and graduate training and make their mark on the world.

## **2d. Impact on Curriculum and Instruction**

As a primarily undergraduate institution, Centenary College seeks to produce graduates of the highest quality, ensuring their admittance into graduate and professional schools and/or acquisition of gainful employment. The improved facilities of this project will result in students who better understand how elements of their own experience relate to the world they see around them and to the findings of behavioral science.

The impact to the variety of our curricular offerings is limited. This project will not likely change the courses that we offer, however, it will affect the courses which are routinely taught in the Gold Dome classroom which include Introduction to Psychology, Human Growth & Development, Psychopharmacology, Learning & Memory, and History & Systems of Psychology. As these technologies become the standard to which our faculty are accustomed, more courses, even those which could be taught in our more intimate classrooms, may move to this room to take advantage of the technology.

The primary impact of this project will be in the quality of our offerings and instruction and in our ability to enhance our instructional repertoire. We can implement what pedagogical research is showing—these technologies make a difference in the classroom. As outlined above in Section 2b, we intend to use these technologies to enhance and extend our multimedia capabilities, demonstrate psychological phenomena at work in students in the classroom, and provide students (and faculty) with immediate feedback on real time student understanding in an effort to create more engaging, flexible, and dynamic lectures.

## **2e. Impact on Quality of Students**

Recruiting high-quality students is necessary for the success of small liberal arts colleges like Centenary. Many students cite their campus visit as an important factor in their decision-making process and our admissions office typically arranges for students to sit in on an introductory-level class as part of that visit. Students frequently visit Introduction to Psychology or Human Growth & Development as part of their campus visits. Unfortunately, our behavioral sciences program lacks the impressive instrumentation of our natural science division to show on a campus tour. However, the use of these technologies in introductory classes and the accompanying student engagement will be a major draw to prospective students. These technologies will also assist in student retention by improving understanding and making the learning experience more enjoyable.

In addition, because this equipment will also be used and showcased by the Athletics Department, it will improve their recruiting ability, assisting our institution in attracting and retaining only the best student-athletes.

## **2f. Impact on Faculty Development**

By adopting a more interactive environment in larger introductory lectures, faculty will have the opportunity to rethink their delivery of lecture material. These technologies allow for rethinking delivery not only on the semester-long scale, but on the moment-to-moment scale. By taking advantage of immediate student feedback and understanding, faculty can adapt 'on the fly' to create the best learning experience for each individual class.

The project includes a campus-wide roundtable of faculty from across disciplines who are using these technologies. It is expected that this event will improve faculty pedagogical practices across disciplines and divisions resulting from the sharing of ideas and techniques.

## **2g. Performance Measures**

As outlined above in Section 2b, both faculty use of the technology and student evaluation and learning measures before and after implementation of the project will be measured and reported to the Board of Regents in the final report due by June 30, 2010. Evaluative data collected after the final report is filed will be made available to the Board of Regents upon their request.

# **3. EQUIPMENT**

## **3a. Equipment Request**

The equipment requested can be thought of as several components which will integrate to form the entire project. The general role of and justification for each of these components is outlined below. The detailed role and justification for each element is detailed in the Budget Narrative portion of this proposal. All prices reflect 4.25% sales tax.

### **Secure, Relocated Work Station**

The current computer and A/V control station is located at the back of the room in an unsecured cabinet. The current core of this station, the computer, is more than 5 years old and cannot reliably and effectively run all desired technology simultaneously (PowerPoint, CD-ROM, internet video). The instructor control station needs to be relocated to the front of the room and housed in a secure workstation. The proposed multimedia lectern will hold all the components described in the proposal and is fully lockable.

Dell Optiplex Computer	\$1,255
Sound-Craft Multimedia Lectern w/Options listed below	\$3,332
WSFDS, CCB, RM 16-MML (Document Camera Shelf, Cable Well w/Lid, & 16 Space Rack)	\$719
Chief Height-Adjustable Monitor Mount for IP17 Interactive Panel	\$210
2 Middle Atlantic Clamping Rack Shelves for DVD/VCR & HD Cable Receiver	\$52
<b>TOTAL</b>	<b>\$5,568</b>

### **Enhanced Video Projection**

The current video projection system is barely adequate. The pull-down screen frequently becomes stuck in either the up or down position, necessitating a visit from our maintenance department. The LCD projector is dim for the space, resulting in image quality substantially less robust than the originals. The proposed equipment provides for a new electric screen (the new standard established by our Information Technology department), a new LCD projector more appropriate for the size of the room, a document camera allowing for presentation of non-digital print material, transparencies, or artifacts, and installation materials for this equipment. It will incorporate an existing DVD/VCR player and DH cable receiver.

Da-Lite High Contrast Matte White Ceiling Recessed Projection Screen 60" x 80"	\$1,783
Eiki 5000Lumens 3L CD XGA Projector w/Power Zoom	\$4,570
Eiki 5000Lumens 3L CD XGA Projector spare bulb	\$350
Premier Mounts Projector Mount Bundle w/Cable Lock	\$239
Wolfvision Document Camera Native SXGA 1280 x 960 30FPS	\$3,469
Existing DVD/VCR combo player	\$0
Existing HD Cable Receiver	\$0
<b>TOTAL</b>	<b>\$10,411</b>

### **Enhanced Sound Production**

The current sound production system is inadequate. Sound for the DVD and computer systems projects through a single, inches-wide speaker located in the LCD projection system; the sound quality is very poor. There is no voice amplification for speakers at the front of the room. While our faculty are skilled at projecting to a large room without amplification, many of the classes which use this room require student presentations and students are often less able to project adequately. The Human Growth & Development class has visitors several times each term who are not

accustomed to projecting to a room full of students and amplification for these speakers is necessary. The proposed equipment provides for speakers for the video system described above and for a wireless microphone system to amplify individual speakers.

2 JBL Surface Mounted Speakers 8-Ohm	\$337
Crown Audio Power Amplifier 8-Ohm	\$274
Shure Wireless Microphone System w/Cardioid Lavalier Microphone	\$677
9 JBL In-Ceiling Speakers 70V Tapped @ 12.5W W/ELV (dB):2.0	\$981
Crown Audio Power Amplifier 70V	\$608
Furman Merit Series Power Conditioner w/RFI/EMI Protection	\$46
Furman Power/Voltage Regulator	\$503
<b>TOTAL</b>	<b>\$3,426</b>

#### **Interactive White Board System**

The introduction of a state-of-the-art interactive white board system will increase faculty flexibility in presentation. The proposed equipment has greater capabilities than traditional interactive white board technology. The Polyvision Walk-and-Talk interactive panel serves as the monitor for the computer and also as the input source for the interactive screen technology. This panel provides for even greater flexibility as it comes with a remote that allows for movement between slides, but also for annotations, screen capture, etc. to be done from any location in the room.

Polyvision Walk-and-Talk Interactive Panel	\$2,476
<b>TOTAL</b>	<b>\$2,476</b>

#### **Student Response System**

The introduction of a student response system is crucial in creating new interactive opportunities in the classroom. The TurningPoint software is the best choice for Centenary because it integrates seamlessly with PowerPoint, is already in regular use in the department, and the associated software does not require a license for use. In addition, this system is in wide use in our natural science division so students will use a single system across campus.

ResponseCard RF Receiver (2.4 version)	\$2,092
<b>TOTAL</b>	<b>\$2,092</b>

#### **Control Systems Equipment**

Our A/V consultant, Curtis Stout Audio-Visual, has assessed our overall project needs and indicated the proposed video management control system components which are necessary to ensure that the previously described elements of the various systems will work together seamlessly. These electrical and control elements will allow for instructors to manipulate the equipment and transition between media with little fumbling with equipment.

Crestron Compact Control System w/Ethernet	\$8,100
<b>TOTAL</b>	<b>\$8,100</b>

### **3b. Equipment on Hand for Project**

Much of the current Gold Dome classroom equipment is outdated or inadequate for the teaching we would like to be doing. There are two existing in-use equipment elements which will become part of the project—a recently acquired DVD/VCR combo and HD cable receiver that will be moved to the new control systems. One distinct advantage of the Gold Dome classroom is that it is one of the few tiered rooms on campus. As such, it is particularly able to use these technologies to best advantage.

### **3c. Equipment Housing and Maintenance**

The Gold Dome classroom is located on the first floor of our primary indoor intercollegiate athletic facility. This classroom is used by the Athletics Department for team meetings, reviewing video, and press events. Because these activities do not occur during typical classroom hours, the Athletics Department shares this resource with the Psychology Department. It is readily available to faculty for teaching purposes. This classroom is open much of the time for its many functions, but the proposed equipment will be secured in a locked cabinet. The budget of the Psychology, Athletics, and Information Technology departments are adequate to maintain and repair the equipment as necessary.

## **4. FACULTY AND STAFF EXPERTISE**

### **Project Director, Amy Hammond**

The project director is Dr. Amy Hammond, a developmental psychologist by training with a deep interest in pedagogy and pedagogical research. Dr. Hammond earned an M.A. from Rice University in 1996 in human factors psychology and her Ph.D. from the University of Chicago in 2005 in developmental psychology. She was an Instructor at Oregon State University, Cascades Campus for two years before coming to Centenary College in Fall 2006.

In addition to her scholarly interests in cognitive and language development, Dr. Hammond has done research and presented on pedagogy topics and is currently involved in two pedagogical projects at Centenary with undergraduate research assistants. She has also received extensive pedagogical training as outline in the Biographical Sketch.

#### **Pedagogical Scholarship**

Hammond, A. J. (2006, March). *Evaluation of testing feedback methods: Peer-, self-, and instructor-graded exams*. Poster presented at the 2006 Society for Research in Child Development Teaching Institute, Boston, MA.

Hammond, A. J., Browne, N., & Dollar, N. (2005, November). *The dialogue of diversity in the classroom*. Workshop presented at the 2005 Oregon Diversity Institute Conference, Bend, OR.

As a member of the Society for the Teaching of Psychology, she participates in the moderated discussion list PsychTeacher which serves as a source of inspiration and idea-sharing for secondary and collegiate psychology teachers.

At Centenary, she is the principal instructor of Human Growth & Development and uses multimedia presentations—DVD, VHS, on-line demonstrations, CD-ROM—extensively in this course to provide examples of textbook-described behavior. She has introduced innovative experiential components to this course, inviting new mothers and their infants, and elders from the community to come into the classroom and share their experiences, bringing the textbook material alive, quite literally.

In the last year, Dr. Hammond has been involved in a campus-wide self study that has made extensive use of student response technologies in a series of student town hall meetings to assess student satisfaction. She is currently teaching in an interactive white board-equipped room and using that equipment with success.

Dr. Hammond will work closely with the installation team over the summer of 2009 to ensure that the project will work as intended by the proposal and receive training from the installation team which she will pass along to colleagues in-house, so that the full capabilities of the system can be exploited.

#### **Project Co-Director, Matthew Weeks**

Dr. Matthew Weeks came to Centenary College in Fall of 2002. He earned his Ph.D. in 2001 from The University of Memphis in social psychology, and served as a teaching fellow at The University of Memphis for one year. During his graduate training, he gained extensive teaching experience as an adjunct instructor to several local colleges. Dr. Weeks is the principal instructor for our Statistics for the Behavioral Sciences course and labs. His 2006 BoRSF grant, allowed him to develop innovative, interactive learning experiences for that course using new computer technology and statistical software. Dr. Weeks also teaches Introduction to Psychology, Social Psychology, and Cognitive Psychology. The two latter courses are not currently taught in the Gold Dome classroom, but are popular courses which could migrate to that room to take advantage of these new technologies. He currently uses multimedia presentations in the Gold Dome classroom and has already suggested ways that his courses might take advantage of these technologies.

#### **Project Co-Director, David Stafford**

Dr. David Stafford came to Centenary College in the fall semester of 2001 at which time he was the sole member of the faculty. He earned his Ph.D. in 1996 from the University of Florida, and then came to Shreveport to do research in the Pharmacology Department of the Louisiana State University Health Sciences Center in Shreveport. His primary work was to better understand the neurobiological basis of drug addiction. Upon joining the faculty of Centenary College, Dr. Stafford reconfigured the Psychology Department curriculum and has been a leader on campus in creating innovative learning experiences in his very popular classes, including Introduction to Psychology, Psychopharmacology, Learning & Memory, and History & Systems of Psychology. He currently uses paper-and-pencil versions of in-class assessment in most of his courses and would be able to implement student response system technology immediately.



#### Additional Faculty Resources

All faculty in the Biology, Chemistry, and Physics departments are skilled in the use of student response technology. Faculty in the Education department have expertise in interactive white board technology. These colleagues will be available for consultation should the need arise.

### **5. ECONOMIC AND/OR CULTURAL DEVELOPMENT AND IMPACT**

#### **5a. Relationships with Industrial/Institutional Sponsors**

The Psychology Department has relationships with several local groups and agencies including Chimp Haven (a chimpanzee sanctuary in Keithville, LA), the local Alzheimer's Association chapter (Shreveport, LA), and Louisiana State University Health Sciences Center in Shreveport (LSUHSC-S). These relationships are forged through research, service, and internship experiences in which our students participate. The better prepared we can make our students, the more able they are to contribute to these agencies in the roles they fill.

There are plans to dramatically increase our community involvement in the coming years. The proposed project, by facilitating more interactive teaching and better learning outcomes, will result in students who are better prepared for these experiences. As part of an upcoming initiative to improve our institutional service learning program, courses in the Psychology Department, initially Human Growth & Development to be followed in the future by others, will engage in partnership with local service learning partners like the Alzheimer's Association, Community Renewal International, and The Glen Retirement System. The Psychology Department is also working with the Office of Career Services to increase the internship opportunities for students in our department. Both these initiatives will increase our involvement with professional and non-profit agencies in our community. A better educated, more engaged, more enthusiastic student body only serves these community partners better.

#### **5b. Promotion of Economic Development and/or Cultural Resources**

The enhanced multimedia and interactive technologies requested in this proposal will enhance our potential to contribute to both regional and statewide economic growth predominantly by producing more and better educated and engaged students. Studies performed for Centenary of graduating high school students continue to indicate that students are looking for high levels of interaction in classroom settings. "Net-Gen" students are not content to sit and absorb information. They wish to interact with instructors, help set the pace of lectures, ask questions, and, when the course allows, set the direction of the discussion. In short, they want the classroom to be "fun." While this is often impossible, keeping them engaged in the lecture material makes them far more likely to learn from the material. When students get a better education, they ultimately become smarter citizens. Smarter citizens are more productive and ultimately are able to contribute more to their local communities through both economic and cultural involvement.

The plans described in Section 5a to improve our service learning and internship programs will more closely link classroom content to students' involvement in our

larger community. By realizing that the knowledge they gain in the classroom has real economic value, students will begin to develop life-long career paths which build on these early experiences and increase the value they place on learning. These early experiences will plant the seeds to allow students to imagine careers and entrepreneurial opportunities which don't yet exist. Additionally, by introducing these community connections early, students are more likely to establish long-term connections to these agencies and to remain in our local communities, keeping their educations and their families in the state of Louisiana.

Secondarily, by equipping the Gold Dome classroom with the technology we propose, the facility becomes useful for reaching out to and hosting community-oriented education events. More specifically, we can envision hosting meetings in which this equipment plays a pivotal role in allowing speakers to communicate with their audiences in dynamic new ways. These events could enhance Centenary's role as an educator to the community resulting in a better educated citizenry across the board.

## **6. ADDITIONAL FUNDING SOURCES**

The Athletics Department has committed \$3,038 in-cash resources for this proposal. The Information Technology department has committed \$2,000 in-kind resources for installation. The Psychology Department has committed \$500 in-kind for training. This results in a total institutional contribution of \$5,538.

## **7. PREVIOUS BoR SUPPORT FUND AWARDS**

Previous BoRSF Awards to Project Director, Dr. Amy Hammond  
Not applicable

Previous BoRSF Awards to co-Project Director, Dr. Matthew Weeks  
*Enhancing Behavioral Science Research Instruction*  
PI: Matthew Weeks, \$75,000 (2006-2007)

This project enhanced the principal learning environments for behavioral research and statistics instruction at Centenary College, including both classroom and computer lab space. This enhancement included updating hardware and software in a computer lab and classroom and providing new research software for performing a range of research activities. A new DVD/VHS player and an electronic whiteboard were installed in the classroom to facilitate active learning. In the computer lab, 25 state-of-the-art Dell computers with updated statistics software, special research software for class instruction and research purposes, and projection equipment were installed.

Prior to the project, students in the statistics lab course routinely dealt more with working around hardware limitations than learning statistics. They no longer have to deal with these issues, and the updated hardware is easier for our Information Technology department to maintain. In summary, project personnel succeeded in expanding the functionality of these classrooms as full-service locations for statistical

and methodological instruction and data collection, providing better opportunities for learning and faculty/student collaboration.

Students continue to benefit greatly from this project. Our Research Methods course recently added a lab component which takes full advantage of this equipment and would likely have never been proposed without this resource. Of the current 12 projects being pursued by student research teams in this class, four are doing projects which would be impossible without this equipment. The current proposal seeks to build on this history of benefit from state-of-art pedagogical tools to improve student learning. While the faculty already have many plans for how we might use this new equipment, students themselves, as evidenced by the Research Methods course, find innovative ways to use these resources that faculty have not yet imagined.

Previous BoRSF Awards to co-Project Director, Dr. David Stafford

*Enhancing Behavioral Science Research Instruction*

PI: Matthew Weeks, \$75,000 (2006-2007)

see above

### References Cited

1. ChanLin, L. (1998). Animation to teach students of different knowledge levels. *Journal of Instructional Psychology*, 25, 166-175.
2. DiGiacinto, D. (2007). Using multimedia effectively in the teaching-learning process. *Journal of Allied Health*, 36, 176-179.
3. Cleary, A. M. (2008). Using wireless response systems to replicate behavioral research findings in the classroom. *Teaching of Psychology*, 35, 42-44.
4. Wampler, P. J., (October, 2006). *Clickers in the classroom: Rewards and regrets of using student response systems in a large enrollment geology course*. Poster session presented at the meeting of the Geological Society of America, Philadelphia, PA.
5. Morling, B., McAuliffe, M., Cohen, L., & DiLorenzo, T. M. (2008). Efficacy of personal response systems ('clickers') in large, introductory psychology classes. *Teaching of Psychology*, 35, 45-50.
6. Szpunar, K. K., McDermott, K. B., & Roediger, H. L. (2008). Testing during study insulates against the buildup of proactive interference. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 34, 1392-1399.
7. Casteel, M. A. (2003). Teaching students to evaluate Web information as they learn about psychological disorders. *Teaching of Psychology*, 30, 258-260.
8. Saville, B. K., Zinn, T. E., & Elliott, M. P. (2005). Interteaching versus traditional methods of instruction: A preliminary analysis. *Teaching of Psychology*, 32, 161-163.

## BIOGRAPHICAL SKETCH

Provide the following information for the project director, co-project director, and other key personnel/consultants. Begin with the principal investigator/program director. Photocopy this page for each person.

Name Amy J. Hammond	Position Title Project Director		
EDUCATION (Begin with baccalaureate or other initial professional education and include postdoctoral training.			
INSTITUTION AND LOCATION	DEGREE	YEAR CONFERRED	FIELD OF STUDY
University of California, Irvine	BA	1991	Psychology
Rice University, Houston, TX	MA	1996	Psychology (Human Factors)
University of Chicago, IL	MA & PhD	2003 & 2005	Psychology (Developmental)

RESEARCH AND PROFESSIONAL EXPERIENCE: Starting with present position, list, in reverse chronological order, previous relevant employment, experience, and honors. Key personnel includes the principal investigator and any other individuals who participate in the development or execution of the project. Key personnel typically will include all individuals with doctoral or other professional degrees, but in some projects will include individuals at the masters or baccalaureate level provided they contribute in a substantive way to the development or execution of the project. Include present membership on any Federal Government public advisory committee. List, in reverse chronological order, the titles, all authors, and complete references to pertinent publications during the past five years and to representative earlier publications pertinent to this application.  
 DO NOT EXCEED TWO PAGES.

### Relevant Teaching Experience

2006-present Assistant Professor of Psychology, Centenary College of Louisiana, Shreveport, LA  
 2004-2006 Full-Time Instructor, Oregon State University, Cascades Campus, Bend, OR  
 Spring, 2004 Instructor (The Mind), University of Chicago, IL  
 Winter, 2004 Instructor (Non-Verbal Communication), University of Chicago, IL  
 Summer, 2002 Instructor (Developmental Psychology), University of Chicago, IL

### Pedagogical Scholarship

Hammond, A. J. (2006, March). *Evaluation of testing feedback methods: Peer-, self-, and instructor-graded exams*. Poster presented at the 2006 Society for Research in Child Development Teaching Institute, Boston, MA.  
 Hammond, A. J., Browne, N., & Dollar, N. (2005, November). *The dialogue of diversity in the classroom*. Workshop presented at the 2005 Oregon Diversity Institute Conference, Bend, OR.

### Recent Scholarly Publications

Sommerville, J. A. & Hammond, A. J. (2007). Treating another's actions as one's own: Children's memory of and learning from joint activity. *Developmental Psychology*, 43, 1003-1018.

### Pedagogical Assessment Training

Using and Assessing Virtual Labs™ in Research Methods and Developmental Psychology Courses. Presented by Gail Gottfried in Santa Monica, CA, June 6-9, 2007. Sponsored by NSF Division of Undergraduate Education.  
 Embedded Assessment in of Student Learning Outcomes in Regularly Scheduled Assignments Workshop. Presented by Larry H. Kelly in Bend, OR, October 14, 2005.

Course Design Workshop. Presented by University of Chicago Center for Teaching and Learning in Chicago, IL, November 19, 2002.

Workshop on Teaching in the College. Presented by University of Chicago Center for Teaching and Learning in Chicago, IL, September 24-25, 2002.

Syllabus Design Workshop. Presented by University of Chicago Center for Teaching and Learning in Chicago, IL, January 9, 2002.

Teaching to Diversity Workshop. Presented by University of Chicago Center for Teaching and Learning in Chicago, IL, May 11-12, 2001.

Teaching Across the Social Sciences. Presented by University of Chicago Center for Teaching and Learning in Chicago, IL, April 9, 2001.

#### Teaching Awards

University of Chicago, Psychology Department, John Dewey Prize Lectureship, 2003

University of Chicago, Writing Program, Kinahan Graduate Student Teaching Award, 2001

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## BIOGRAPHICAL SKETCH

Provide the following information for the project director, co-project director, and other key personnel/consultants. Begin with the principal investigator/program director. Photocopy this page for each person.

Name Matthew Weeks	Position Title Co-Project Director
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EDUCATION (Begin with baccalaureate or other initial professional education and include postdoctoral training.)

INSTITUTION AND LOCATION	DEGREE	YEAR CONFERRED	FIELD OF STUDY
Kentucky Wesleyan College, Owensboro, KY	BS	1996	Psychology
The University of Memphis, TN	MS & PhD	1998 & 2001	Psychology (Social)

RESEARCH AND PROFESSIONAL EXPERIENCE: Starting with present position, list, in reverse chronological order, previous relevant employment, experience, and honors. Key personnel includes the principal investigator and any other individuals who participate in the development or execution of the project. Key personnel typically will include all individuals with doctoral or other professional degrees, but in some projects will include individuals at the masters or baccalaureate level provided they contribute in a substantive way to the development or execution of the project. Include present membership on any Federal Government public advisory committee. List, in reverse chronological order, the titles, all authors, and complete references to pertinent publications during the past five years and to representative earlier publications pertinent to this application.

DO NOT EXCEED TWO PAGES.

### Relevant Teaching Experience

2007-present	Associate Professor of Psychology, Centenary College of Louisiana, Shreveport, LA
2003-2007	Assistant Professor of Psychology, Centenary College of Louisiana, Shreveport, LA
2002-2003	Visiting Assistant Professor of Psychology, Centenary College of Louisiana, Shreveport, LA
2001-2002	Post-Doctoral Teaching Fellow, The University of Memphis, TN
2001-2002	Part-time Assistant Professor, Rhodes College, Memphis, TN
Winter, 2001	Adjunct Faculty, Christian Brothers University, Memphis, TN
Spring, 2000	Adjunct Faculty, Southwest Tennessee Community College, Memphis, TN
Summer, 1999	Adjunct Faculty, Southwest Tennessee Community College, Memphis, TN

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### BIOGRAPHICAL SKETCH

Provide the following information for the project director, co-project director, and other key personnel/consultants. Begin with the principal investigator/program director. Photocopy this page for each person.

Name  
David Stafford

Position Title  
Co-Project Director

EDUCATION (Begin with baccalaureate or other initial professional education and include postdoctoral training.)

INSTITUTION AND LOCATION	DEGREE	YEAR CONFERRED	FIELD OF STUDY
West Virginia University, Morgantown, WV	BA	1991	Psychology
University of Florida, Gainesville	MA & PhD	1994 & 1996	Psychology (Behavioral)

RESEARCH AND PROFESSIONAL EXPERIENCE: Starting with present position, list, in reverse chronological order, previous relevant employment, experience, and honors. Key personnel includes the principal investigator and any other individuals who participate in the development or execution of the project. Key personnel typically will include all individuals with doctoral or other professional degrees, but in some projects will include individuals at the masters or baccalaureate level provided they contribute in a substantive way to the development or execution of the project. Include present membership on any Federal Government public advisory committee. List, in reverse chronological order, the titles, all authors, and complete references to pertinent publications during the past five years and to representative earlier publications pertinent to this application.

DO NOT EXCEED TWO PAGES.

#### Relevant Teaching Experience

2006-present Associate Professor of Psychology, James Chair of Psychology, Centenary College of Louisiana, Shreveport, LA

2001-2006 Assistant Professor of Psychology, James Chair of Psychology, Centenary College of Louisiana, Shreveport, LA

1996-2001 Post Doctoral Fellow, Instructor, & Research Associate, Pharmacology Department, Louisiana State University Health Sciences Center, Shreveport, LA

1993 Instructor, University of Florida, Gainesville

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## CURRENT AND PENDING SUPPORT

(From ALL sources, including Board of Regents Support Fund)

The following information MUST be provided for each investigator and other senior personnel. Use additional sheets as necessary.

**NAME OF INVESTIGATOR: Amy J. Hammond**

Status of Support: \_\_\_ Current    ☒ Pending    \_\_\_ Submission Planned in Near Future

Contract Number/Proposal Title: Enhancing the Multimedia Experience and Incorporating Interactive Technologies in Psychology Classes

Source of Support: Board of Regents Support Fund

Award Amount (or Annual Rate): \$ 42,676                      Period Covered: 07/01/2009 - 06/30/2010

Location of Activity: Centenary College of Louisiana

Person-Months or % of Effort Committed to the Project:     \_\_\_ Cal Yr    2 mos. Acad.    1 mo. Summer

**NAME OF CO-INVESTIGATOR: Matthew Weeks**

Status of Support: \_\_\_ Current    ☒ Pending    \_\_\_ Submission Planned in Near Future

Contract Number/Proposal Title: Enhancing the Multimedia Experience and Incorporating Interactive Technologies in Psychology Classes

Source of Support: Board of Regents Support Fund

Award Amount (or Annual Rate): \$ 42,676                      Period Covered: 07/01/2009 - 06/30/2010

Location of Activity: Centenary College of Louisiana

Person-Months or % of Effort Committed to the Project:     \_\_\_ Cal Yr    1 mo. Acad.    \_\_\_ Summer

**NAME OF CO-INVESTIGATOR: David Stafford**

Status of Support: \_\_\_ Current    ☒ Pending    \_\_\_ Submission Planned in Near Future

Contract Number/Proposal Title: Enhancing the Multimedia Experience and Incorporating Interactive Technologies in Psychology Classes

Source of Support: Board of Regents Support Fund

Award Amount (or Annual Rate): \$ 42,676                      Period Covered: 07/01/2009 - 06/30/2010

Location of Activity: Centenary College of Louisiana

Person-Months or % of Effort Committed to the Project:     \_\_\_ Cal Yr    1 mo. Acad.    \_\_\_ Summer



**BOARD OF REGENTS SUPPORT FUND  
TRADITIONAL AND UNDERGRADUATE ENHANCEMENT, FY 2008-09**

**Budget Pages**

**Year 1:**

	Support Fund Money Requested	Institutional Match <sup>1</sup>	Private/Other Match <sup>2</sup>
A. Equipment <sup>3</sup>	\$29035	\$3038	\$
B. Software	\$	\$	\$
C. Supplies	\$	\$	\$
D. Shipping/handling	\$430	\$	\$
E. Installation	\$13211	\$2000	\$
F. Personnel training	\$	\$500	\$
G. Other	\$	\$	\$
H. Indirect costs	Not allowed	\$	\$
I. Maintenance	Strongly discouraged	\$	\$
J. Total costs (A-I)	\$42676	\$5538	\$0

**Year 2(Only if the proposed duration is 2 years):**

	Support Fund Money Requested	Institutional Match <sup>1</sup>	Private/Other Match <sup>2</sup>
A. Equipment <sup>3</sup>	\$	\$	\$
B. Software	\$	\$	\$
C. Supplies	\$	\$	\$
D. Shipping/handling	\$	\$	\$
E. Installation	\$	\$	\$
F. Personnel training	\$	\$	\$
G. Other	\$	\$	\$
H. Indirect costs	Not allowed	\$	\$
I. Maintenance	Strongly discouraged	\$	\$
J. Total costs (A-I)	\$0	\$0	\$0

**1** Stipulate whether in-cash or in-kind. The Board strongly encourages the sharing of costs for proposed projects. Applicants and institutional officials should note, however, that the employing institution will be required to honor the commitments made in the original proposal before any awards are made. Discounts for equipment purchases are not allowable as institutional match.

**2** The budget page(s) must reflect and the budget justification pages must explain any external funds that are claimed in the proposal. External funds and their expenditure must be accounted for in the same manner as Support Fund money and institutional match.

**3** Equipment. If applicable, itemize and describe briefly the proposed equipment and its intended use in the project. Include the name, model number, and manufacturer(s).

**BOARD OF REGENTS SUPPORT FUND  
TRADITIONAL AND UNDERGRADUATE ENHANCEMENT, FY 2008-09  
Budget Pages**

**Composite Budget Page:**

	Total Support Fund Money Requested	Total Institutional Match <sup>1</sup>	Total Private/Other Match <sup>2</sup>
A. Equipment <sup>3</sup>	\$29035	\$3038	\$0
B. Software	\$0	\$0	\$0
C. Supplies	\$0	\$0	\$0
D. Shipping/handling	\$430	\$0	\$0
E. Installation	\$13211	\$2000	\$0
F. Personnel training	\$0	\$500	\$0
G. Other	\$0	\$0	\$0
H. Indirect costs	Not allowed	\$0	\$0
I. Maintenance	Strongly discouraged	\$0	\$0
J. Total costs (A-I)	\$42676	\$5538	\$0

## E. BUDGET NARRATIVE/JUSTIFICATION

The items described in Section 3a of the Proposal Narrative and the Budget Page are itemized below.

### **Budget Item A: Equipment, Support Fund Money Requested      \$29,035**

#### Secure, Relocated Work Station

The current computer and A/V control station is located at the back of the room in an unsecured cabinet. The current core of this station, the computer, is more than 5 years old and cannot reliably and effectively run all desired technology simultaneously (PowerPoint, CD-ROM, internet video). The instructor control station needs to be relocated to the front of the room and housed in a secure workstation. The proposed multimedia lectern will hold all the components described in the proposal and is fully lockable.

Dell Optiplex Computer is part of institutional match (see below)

Sound-Craft Multimedia Lectern w/Options listed below.....\$3,332

New locking workstation to hold all proposed equipment

WSFDS, CCB, RM 16-MML (Document Camera Shelf, Cable

Well w/Lid, & 16 Space Rack).....\$719

Accessories for Multimedia Lectern to adequately shelve  
proposed equipment inside lectern

Chief Height-Adjustable Monitor Mount for IP17 Interactive Panel ....\$210

Accessories for Multimedia Lectern to hold Interactive Panel  
from interactive white board technology

2 Middle Atlantic Clamping Rack Shelves for DVD/VCR & HD

Cable Receiver.....\$52

Accessories for Multimedia Lectern to hold existing DVD/VCR  
and HD cable receiver

#### Enhanced Video Projection

The current video projection system is barely adequate. The pull-down screen frequently becomes stuck in either the up or down position, necessitating a visit from our maintenance department. The LCD projector is dim for the space, resulting in image quality substantially less robust than the originals. The proposed equipment provides for a new electric screen (the new standard established by our Information Technology department), a new LCD projector more appropriate for the size of the room, a document camera allowing for presentation of non-digital print material, transparencies, or artifacts, and installation materials for this equipment. It will incorporate an existing DVD/VCR player and DH cable receiver.

Da-Lite High Contrast Matte White Ceiling Recessed Projection

Screen 60" x 80" is part of institutional match (see below)

Eiki 5000Lumens 3L CD XGA Projector w/Power Zoom.....\$4,570

LCD projector appropriate for size of room

Eiki 5000Lumens 3L CD XGA Projector spare bulb .....\$350

Spare bulb for LCD projector

Premier Mounts Projector Mount Bundle w/Cable Lock .....\$239

Locking ceiling mount for LCD projector

Wolfvision Document Camera Native SXGA 1280 x 960 30FPS .....\$3,469  
Document camera for presentation of non-digital material

#### Enhanced Sound Production

The current sound production system is inadequate. Sound for the DVD and computer systems projects through a single, inches-wide speaker located in the LCD projection system; the sound quality is very poor. There is no voice amplification for speakers at the front of the room. While our faculty are skilled at projecting to a large room without amplification, many of the classes which use this room require student presentations and students are often less able to project adequately. The Human Growth & Development class has visitors several times each term who are not accustomed to projecting to a room full of students and amplification for these speakers is necessary. The proposed equipment provides for speakers for the video system described above and for a wireless microphone system to amplify individual speakers.

2 JBL Surface Mounted Speakers 8-Ohm .....\$337  
Speakers connected to the video projection system

Crown Audio Power Amplifier 8-Ohm .....\$274  
Amplifier for video projection system sound

Shure Wireless Microphone System w/Cardioid Lavalier  
Microphone.....\$677  
Wireless microphone system for speaker amplification

9 JBL In-Ceiling Speakers 70V Tapped @ 12.5W W/ELV (dB):2.0 ...\$981  
Speakers connected to the wireless microphone system

Crown Audio Power Amplifier 70V .....\$608  
Amplifier for wireless microphone system

Furman Merit Series Power Conditioner w/RFI/EMI Protection .....\$46  
Regulates power supply to sound equipment

Furman Power/Voltage Regulator .....\$503  
Regulates power supply to sound equipment

#### Interactive White Board System

The introduction of a state-of-the-art interactive white board system will increase faculty flexibility in presentation. The proposed equipment has greater capabilities than traditional interactive white board technology. The Polyvision Walk-and-Talk interactive panel acts as the monitor for the computer and also as the input source for the interactive screen technology. This panel provides for even greater flexibility as it comes with a remote that allows for movement between slides, annotations, screen capture, etc. to be done from any location in the room.

Polyvision Walk-and-Talk Interactive Panel .....\$2,476  
State-of-the-art interactive LCD mark up technology

#### Student Response System

The introduction of a student response system is crucial in creating new interactive opportunities in the classroom. The TurningPoint software is the best choice for Centenary because it integrates seamlessly with PowerPoint, is already in regular use in the department, and the associated software does not require a license for use. In

addition, this system is in wide use in our natural science division so students will use a single system across campus.

ResponseCard RF Receiver (2.4 version).....\$2,092  
TurningPoint student response system including 40 student  
'clickers', receiver, storage bag , and software

#### Control Systems Equipment

Our A/V consultant, Curtis Stout Audio-Visual, has assessed our overall project needs and indicated the proposed video management control system components which are necessary to ensure that the previously described elements of the various systems will work together seamlessly. These electrical and control elements will allow for instructors to manipulate the equipment and transition between media with little fumbling with equipment.

Crestron Compact Control System w/Ethernet.....\$8,100  
Video management control system

#### **Budget Item A.: Equipment, Institutional Match** **\$3,038**

Dell Optiplex Computer..... \$1,255 (in-cash)  
Component of the secure, relocated work station. The current computer cannot reliably run multiple media applications simultaneously.  
Da-Lite High Contrast Matte White Ceiling Recessed Projection  
Screen 60" x 80" ..... \$1,783 (in-cash)  
Component of the enhanced video projection system. Electronic screens are a new mandated institutional standard set by our Information Technology department.

#### **Budget Item D: Shipping, Support Fund Money Requested** **\$430**

Freight for equipment listed above .....\$430  
Cost to have equipment shipped to our location

#### **Budget Item E: Installation, Support Fund Money Requested** **\$13,211**

Programming costs.....\$12,426  
This project has multiple complex parts. Our Information Technology department lacks the expertise to install and program the various elements. Curtis Stout Audio-Visual has worked with the College on several other projects; they provide training to our staff and follow up when necessary. When possible, installation will be done in-house (see institutional match below), but much of this work requires this consultant's expertise.  
Network/Electrical .....\$785  
Installation of necessary network and electrical upgrades to support proposed technology

#### **Budget Item E: Installation, Institutional Match** **\$2,000**

Information Technology department installation..... \$2,000 (in-kind)  
In-kind installation of computer, student response system components

#### **Budget Item F: Personnel Training, Institutional Match** **\$500**

Psychology Department training of faculty ..... \$500 (in-kind)  
PI will train faculty as necessary and organize institutional round table to share interactive technology success stories and tips