## Instructional Equipment

This section will be filled out by faculty and reviewed by the Department Chair, the Area Dean, the Instructional Equipment Committee, IPC and Budget.

Please enter items that will be used over a period of semesters BY STUDENTS. (Note: These should be NEW items that you are requesting one time only - not ongoing or consumable. Ongoing and consumable requests go under "Other Instructional Equipment". Technology-related requests should go under "Technology Requests".

Select whether the item is less than or more than $200 each. If you are a large discipline with several areas, please include which area this item is for. Include Tax, Shipping and Handling in the total cost for each item.

Importance:
- 'A' means that your discipline cannot teach your course(s) without the requested equipment.
- 'B' means that your course(s) would be greatly enhanced with the requested equipment.
- 'C' means that you would like this piece of equipment for your course(s) but can wait for a future academic year.

In addition, how many times have you requested this item, but you have not received it?

### I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support</th>
<th>Category</th>
<th>Discipline Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>01</td>
<td>Annually:</td>
<td>Over</td>
<td>500 Students Each</td>
</tr>
</tbody>
</table>

**Description and part number for ordering:**

Build A Bay storage cabinets

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Unit Cost:</th>
<th>Tax:</th>
<th>Shipping:</th>
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<tbody>
<tr>
<td>8</td>
<td>$1,200.00</td>
<td>$900.00</td>
<td>$400.00</td>
<td>$10,900.00</td>
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**One-time expenses:** (e.g. construction, electrical, installation)

None

**On-going Expenses:** (e.g. maintenance, repairs, staffing, and/or upgrades)

None

**Item to be shared with the following Department/Program:** (Include any shared expenses)

No

**Do you have space for this equipment?**

Yes

**Justification for Item (See Rating Rubric)**

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)

Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

No

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

These cabinets are necessary for the proper storage and handling of ACRT tools, equipment and materials.
These cabinets are necessary for the proper storage and handling of ACRT tools, equipment and materials. This type of storage was overlooked in the modernization process. The facility currently has inadequate storage for tools and equipment. Safety is an issue due to the inadequate storage in the ACRT lab.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

All students in the program will benefit. Students will have more work space available to them because tools and equipment will not be left in undesignated areas. Storage is an issue in the ACRT lab. Tools and equipment need to be properly stored.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

Students will learn the necessity of keeping a clean, properly functioning "shop". Various people have commented that materials and tools are not stored properly at this time.

5. Additional Justification for this item:

Designers miscalculated the amount of tools and material we have to store. Storage needs to be addressed.

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I. Instructional Equipment/Materials Requirements

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<th>Priority</th>
<th>To Support Annually:</th>
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<tbody>
<tr>
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<table>
<thead>
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<th>Area</th>
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- ACRT

Description and part number for ordering:

Anvil

<table>
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<th>Qty.</th>
<th>Unit Cost:</th>
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<tbody>
<tr>
<td>1</td>
<td>$1,500.00</td>
</tr>
</tbody>
</table>

One-time expenses: (e.g. construction, electrical, installation)

- none

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

- none

Item to be shared with the following Department/Program: (Include any shared expenses)

- no

Do you have space for this equipment?  

- Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)

- no

Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

- no
2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

Students in the Metal Fabrication class need to be able to shape metal. An anvil is one of the basic tools used in metal fabrication.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

All students will be able to use the anvil to properly shape their metals. It is required for existing students and will attract new students. This will also add an additional work station in the metal fabrication area of the ACRT lab.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

Students will be able to work metal to a higher level of expertise. An anvil is one of the basic tools in metal fabrication and it is important we have this tool to teach theory and practice of metal fabrication. Students will be able to form metal to a high degree of accuracy.

5. Additional Justification for this item:

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually:</th>
<th>Category</th>
<th>Discipline Area</th>
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<td>03</td>
<td>500 Classes</td>
<td></td>
<td>ACRT</td>
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Description and part number for ordering:
Stake Table and Stakes

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<td>$400.00</td>
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One-time expenses: (e.g. construction, electrical, installation)

none

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

none

Item to be shared with the following Department/Program: (Include any shared expenses)

no

Do you have space for this equipment?  Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

no

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

A stake table is needed to form sheet metal into curved surfaces. This is part of metal fabrication. Use of a stake table is one of the basic tools used in metal fabrication. Students will be able to form compound angles using this tool.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

This will provide an additional work station in the metal fabrication area of the ACRT lab. Students need to be able to demonstrate their ability to use this tool safely and properly. The addition of this table will allow another work station allowing more students to work at one time. This will allow more students to work simultaneously in the ACRT lab thus attracting new students.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

The more skills students acquire while taking classes in the ACRT program increases their opportunity for employment. ACRT technicians need to have a wide range of metal fabrication skills. Having various pieces of equipment for them to learn on will make them more successful in the workforce.

5. Additional Justification for this item:

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually</th>
<th>Category</th>
<th>Discipline Area</th>
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<td>04</td>
<td>Over $200</td>
<td>500 Students Each</td>
<td>ACRT</td>
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Description and part number for ordering:

Plenteousing Hammer

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<td>$200.00 $4,340.00</td>
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One-time expenses: (e.g. construction, electrical, installation)

none

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

none

Item to be shared with the following Department/Program: (Include any shared expenses)

none
Do you have space for this equipment?  

Yes

**Justification for Item (See Rating Rubric)**

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
   Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)
   
   no

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?
   
   Students will be able to form metals to irregular shape with the use of a plenteousing hammer. Most fabrication shops will have this type of tool. It is important for students to understand and be able to use this tool properly and safely.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?
   
   This will add an additional work station to the metal fabrication area of the ACRT lab. This hammer is necessary for students in the ACRT class to fabricate floor panels and other curved surfaces. It will attract new students.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?
   
   Metal stretching and forming is one of the goals of the Metal Fabrication class. By using a plenteousing hammer, students can fabricate irregularly shaped sheet metal parts for use in auto restoration and collision repair.

5. Additional Justification for this item:
Instructional Equipment

This section will be filled out by faculty and reviewed by the Department Chair, the ARea Dean, the Instructional Equipment Committee, IPC and Budget.

Please enter items that will be used over a period of semesters BY STUDENTS. (Note: These should be NEW items that you are requesting one time only - not ongoing or consumable. Ongoing and consumable requests go under "Other Instructional Equipment". Technology-related requests should go under "Technology Requests".

Select whether the item is less than or more than $200 each. If you are a large discipline with several areas, please include which area this item is for. Include Tax, Shipping and Handling in the total cost for each item.

Importance:
- ‘A’ means that your discipline cannot teach your course(s) without the requested equipment.
- ‘B’ means that your course(s) would be greatly enhanced with the requested equipment.
- ‘C’ means that you would like this piece of equipment for your course(s) but can wait for a future academic year.

In addition, how many times have you requested this item, but you have not received it?

I. Instructional Equipment/Materials Requirements

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<th>Priority</th>
<th>Category</th>
<th>Discipline</th>
<th>Area</th>
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<td>B</td>
<td>03</td>
<td>Photography</td>
<td>photography</td>
<td>6 Classes Each</td>
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Description and part number for ordering:
Beseler 23CIII-XL Condenser Enlarger with Baseboard

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<td>$4,495.00</td>
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</table>

One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

We are applying for funding for regular support staffing in Photography

Item to be shared with the following Department/Program: (Include any shared expenses)

Do you have space for this equipment?

Justification for Item (See Rating Rubric)
1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

My vision for program review is to eventually replace all the 30+ year old enlargers with current enlargers. They are Industry standard equipment and are much less expensive than computers and they last 30 years! So they are cost effective as far as a long term investment in our department is concerned.

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?
This is the equipment used in the fundamentals course-Art 190 and used thru Art 191, 192, 290.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

When students see the lab they will know we care enough to keep our equipment in good condition.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

Art 190
- Examine and classify the basic properties of black and white materials including film and paper.
- Demonstrate an understanding of basic exposure components such as shutter-speed, f/stop & film speed relationships.
- Integrate basic composition skills including 2-d design.
- Differentiate and demonstrate qualities of available light throughout the day.
- Compose within a specific frame/format to create a unified image.
- Summarize the primary differences between digital photography and traditional photography.
- Differentiate between the styles and personal ethics, which attract you as a Photographer.

191
- Discuss the works of other photographers using a structure or criteria.
- Communicate and apply an increased awareness of different qualities of natural light and ways to use light to your conceptual advantage.
- Control film developing to create expansion of the range of tonality.
- Demonstrate an understanding of various concepts including, for example, the use of large-scale grid using a group photographic images.
- Select artists which have a strong personal impact and which can be used to inspire and instruct other students in their own artistic development.
- Classify photographic (Fine Art) resources available within the Bay Area as well as national and international circles.

192
- Inform a developed sense of creative openness in relation to possibility on every level.
- Demonstrate an understanding of various concepts including, for example, the use of symbolism in photographic images.
- Demonstrate the development of compositional skills.
- Integrate basic composition skills including 2-d design.
- Practice an increased awareness of different qualities of light.
- Understand the historical context of major works.
- Select artists which have a strong personal impact and which can be used to inspire and instruct other students in their own artistic development.
- Professional presentation skills
- Professional presentation skills
- Create photography projects relevant to the topics outlined within the context of the discipline.
- Increase their range and depth of understanding and technical skill through guided exercises, which build upon one another.

5. Additional Justification for this item:

Requested three times prior. A long term project in line with our stated vision for traditional Photography. Also just for your information, Traditional Photography was not part of the new fine arts building so we are trying to update our facility piece by piece.

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

To Support Annually: Category Area

Over

Description and part number for ordering:
Water temperature gauge built into faucets # 65010

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Unit Cost:</th>
<th>Tax:</th>
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<tbody>
<tr>
<td>3</td>
<td>$100.00</td>
<td>$0.00</td>
<td>$0.00</td>
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</table>

One-time expenses: (e.g. construction, electrical, installation)
installation by plumber

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

Item to be shared with the following Department/Program: (Include any shared expenses)

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
   Installlation of a water temperature control - safety related

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?
   Water temperature II with heavy duty chrome. Lab tested and plumbed. After initial calibration provided on/off water temp control at a specific temperature which is required for Photography labs. Fits most faucets. Re-calibration screw. Includes 200 Micron in-line stainless basket strainer. Five year warranty

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?
   Provides students with a professional standardized photography lab. Our existing temp. control no longer functions.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?
   Control film developing to create expansion of the range of tonality.
   Examine and classify the basic properties of black and white materials including film and paper.
   Demonstrate an understanding of basic exposure components such as shutter-speed, f/stop & film speed relationships.

5. Additional Justification for this item:
   This is such a basic requirement for a lab to function professionally and to train our students industry standard technical expectations.
   We have applied 2 times prior.
Instructional Equipment

Auto-2011

This section will be filled out by faculty and reviewed by the Department Chair, the Area Dean, the Instructional Equipment Committee, IPC and Budget.

Please enter items that will be used over a period of semesters by students. (Note: These should be NEW items that you are requesting one time only - not ongoing or consumable. Ongoing and consumable requests go under "Other Instructional Equipment". Technology-related requests should go under "Technology Requests".

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I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually:</th>
<th>Discipline Category</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>01</td>
<td>All Classes</td>
<td>AUTO</td>
<td></td>
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Description and part number for ordering:
Reconfigure the Small Components Lab/Classroom as shown on the building modernization plans.

<table>
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<tr>
<th>Qty.</th>
<th>Unit Cost:</th>
<th>Tax:</th>
<th>Shipping: Total:</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>$15,000.00</td>
<td>$1,200.00</td>
<td>$0.00</td>
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One-time expenses: (e.g. construction, electrical, installation)
see above

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)
none

Item to be shared with the following Department/Program: (Include any shared expenses)
none

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)

Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

The approved plans called for a well planned smart classroom. What was constructed is a disaster. The only white board is on a side wall that does not have access when students are seated. There is no space to use an overhead projector. There is no computer. What is now the back wall with two windows was planned as the front of the room with sixteen feet of white board.

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?
The students are receiving a sub-standard lecture experience they cannot see all the information presented. Correcting the classroom design problems will improve the quality of instruction.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

Access will be improved by providing a classroom where various presentation media are available. The classroom could be used by up to 420 students. The classroom upgrade is required by the existing students and would attract new students by providing a quality learning environment.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

One of the Student Learning Outcomes states that a student will be able to demonstrate the use of current technology used in the Automotive Service and Repair Industry. This upgraded lab/classroom will enhance the students access to the use of current technology.

5. Additional Justification for this item:

The plans that the faculty signed off on were not followed. I was never contacted about the changes or ever provided a reason for the changes.

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I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>Description and part number for ordering:</th>
</tr>
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<tbody>
<tr>
<td>A</td>
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<td>Reconfigure the Small Components Lab/Classroom as shown on the building modernization plans.</td>
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<table>
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<th>Qty.</th>
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<td>1</td>
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<td>$1,200.00</td>
<td>$0.00</td>
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One-time expenses: (e.g. construction, electrical, installation)

see above

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

none

Item to be shared with the following Department/Program: (Include any shared expenses)

none

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
2. Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)
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5. Additional Justification for this item:

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I. Instructional Equipment/Materials Requirements

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<tr>
<th>Importance</th>
<th>Priority</th>
<th>Description and part number for ordering</th>
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<tr>
<td>A</td>
<td>01</td>
<td>Qty.</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
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One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

Item to be shared with the following Department/Program: (Include any shared expenses)

Do you have space for this equipment?

Justification for Item (See Rating Rubric)
1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

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5. Additional Justification for this item:

I. Instructional Equipment/Materials Requirements

<table>
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<th>Importance:</th>
<th>Priority:</th>
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<tbody>
<tr>
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| Description and part number for ordering: | OTC Pegisy Wireless Diagnostic System |

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<th>Qty.</th>
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<table>
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<th>To Support</th>
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<th>Discipline</th>
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<tbody>
<tr>
<td>Annually:</td>
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</tr>
<tr>
<td>Class</td>
<td>Each</td>
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<td>AUTO</td>
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<table>
<thead>
<tr>
<th>One-time expenses:</th>
<th>(e.g. construction, electrical, installation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>On-going Expenses:</th>
<th>(e.g. maintenance, repairs, staffing, and/or upgrades)</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td></td>
</tr>
</tbody>
</table>

| Item to be shared with the following Department/Program: | (Include any shared expenses) |
|========================================================|-------------------------------|
| none                                                   |

| Do you have space for this equipment? | Yes |

Justification for Item (See Rating Rubric)
1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)
This scan tool was funded through the modernization project for the Transportation Technologies Complex. I was told that I did not have to prioritize my list of equipment if I stayed under the allocated dollar amount. They ordered from the top of the list working down until 85% of the budget was spent. They would order the last 15% after the first group was received in case there were any unexpected expenses. After everything was received they cut the last 15%. Had I known this I would have prioritized the equipment as this is a very important tool. It is the newest scan tool from OTC Diagnostics and represents the industry move from stand-alone scan tools to PC based scan tools. Without learning this new technology our graduates will not be prepared to enter the workforce with the required industry standard technological skills.

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

It is the industry standard technology scan tool from OTC Diagnostics and represents the industry move from stand-alone scan tools to PC based scan tools. Without learning this new technology our graduates will not be prepared for the job.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

This type of technology will be used by almost every student in every class. Vehicles all now use a Communication Area Network (CAN) where all the vehicles systems communicate on a single bus. Replacing a brake light bulb with a bulb with a different wattage could cause a vehicle to not start. Students need to be knowledgeable in use of these types of scan tools to be able to perform even the simplest tasks.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

One of the Student Learning Outcomes states that a student will be able to demonstrate the use of current technology used in the Automotive Service and Repair Industry. This is the technology used today.

5. Additional Justification for this item:

This scan tool was funded through the modernization project for the Transportation Technologies Complex. I was told that I did not have to prioritize my list of equipment if I stayed under the allocated dollar amount. They ordered from the top of the list working down until 85% of the budget was spent. They would order the last 15% after the first group was received in case there were any unexpected expenses. After everything was received they cut the last 15%. Had I known this I would have prioritized the equipment as this is a very important tool.
I. Instructional Equipment/Materials Requirements

Importance: Priority: To Support Annually: Category Area

A 02

Description and part number for ordering:
ELMO Document Camera

<table>
<thead>
<tr>
<th>Category</th>
<th>Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>AUTO</td>
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</table>

<table>
<thead>
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<td>$845.00</td>
<td>$67.60</td>
<td>$30.00</td>
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One-time expenses: (e.g. construction, electrical, installation)
none

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)
none

Item to be shared with the following Department/Program: (Include any shared expenses)
none

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
   Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

"B"

This camera was funded through the modernization project for the Transportation Technologies Complex. I was told that I did not have to prioritize my list of equipment if I stayed under the allocated dollar amount. They ordered from the top of the list working down until 85% of the budget was spent. They would order the last 15% after the first group was received in case there were any unexpected expenses. After everything was received they cut the last 15%. Had I known this I would have prioritized the equipment as this is a very important tool.

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

Demonstrating hand-held meters and digital storage oscilloscopes and scan tools is worthless when presenting to a large group. The most productive way to make this type of presentation is to project the images on to a large screen. The document camera make this very easy to do.
3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

One of the Student Learning Outcomes states that a student will be able to demonstrate the use of current technology used in the Automotive Service and Repair Industry. This camera will enhance the students access to the use of current technology.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

Students are required to show competence in the use of equipment both on manipulative and written tests.

5. Additional Justification for this item:

This camera was funded through the modernization project for the Transportation Technologies Complex. I was told that I did not have to prioritize my list of equipment if I stayed under the allocated dollar amount. They ordered from the top of the list working down until 85% of the budget was spent. They would order the last 15% after the first group was received in case there were any unexpected expenses. After everything was received they cut the last 15%. Had I known this I would have prioritized the equipment as this is a very important tool.

---

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually:</th>
<th>Discipline Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>03</td>
<td>Over $200</td>
<td>AUTO</td>
</tr>
</tbody>
</table>

10 Classes Each

Description and part number for ordering:
MODIS Elite 9.2 MODIS CF Kit MODIS Elite 9.2 MODIS CF Kit MODIS Elite 9.2 MODIS CF Kit VERUS ELITE Service Cart

<table>
<thead>
<tr>
<th>Qty.</th>
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<td>$828.58</td>
<td>$0.00</td>
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</table>

One-time expenses: (e.g. construction, electrical, installation)
none

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)
none

Item to be shared with the following Department/Program: (Include any shared expenses)
none
Do you have space for this equipment?  

Yes

**Justification for Item (See Rating Rubric)**

1. **Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)**

   Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

   This scan tool was funded through the modernization project for the Transportation Technologies Complex. I was told that I did not have to prioritize my list of equipment if I stayed under the allocated dollar amount. They ordered from the top of the list working down until 85% of the budget was spent. They would order the last 15% after the first group was received in case there were any unexpected expenses. After everything was received they cut the last 15%. Had I known this I would have prioritized the equipment as this is a very important tool. It is the newest scan tool from Snap-On Diagnostics. Without learning this new technology our graduates will not be prepared for the job.

2. **How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?**

   It is the newest scan tool from Snap-On Diagnostics. Without learning this new technology our graduates will not be prepared for the job.

3. **How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?**

   This type of technology will be used by almost every student in every class. Vehicles all now use a Communication Area Network (CAN) where all the vehicles systems communicate on a single bus. Replacing a brake light bulb with a bulb with a different wattage could cause a vehicle to not start. Students need to be knowledgeable in use of these types of scan tools to be able to perform even the simplest tasks.

4. **What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?**

   One of the Student Learning Outcomes states that a student will be able to demonstrate the use of current technology used in the Automotive Service and Repair Industry. This is the technology used today.

   Students are required to show competence in the use of equipment both on manipulative and written tests.

5. **Additional Justification for this item:**

   This scan tool was funded through the modernization project for the Transportation Technologies Complex. I was told that I did not have to prioritize my list of equipment if I stayed under the allocated dollar amount. They ordered from the top of the list working down until 85% of the budget was spent. They would order the last 15% after the first group was received in case there were any unexpected expenses. After everything was received they cut the last 15%. Had I known this I would have prioritized the equipment as this is a very important tool.
### Instructional Equipment

**BIOL-2011**

This section will be filled out by faculty and reviewed by the Department Chair, the Area Dean, the Instructional Equipment Committee, IPC and Budget.

Please enter items that will be used over a period of semesters BY STUDENTS. (Note: These should be NEW items that you are requesting one time only - not ongoing or consumable. Ongoing and consumable requests go under "Other Instructional Equipment". Technology-related requests should go under "Technology Requests".

Select whether the item is less than or more than $200 each. If you are a large discipline with several areas, please include which area this item is for. Include Tax, Shipping and Handling in the total cost for each item.

**Importance:**
- **A** means that your discipline cannot teach your course(s) without the requested equipment.
- **B** means that your course(s) would be greatly enhanced with the requested equipment.
- **C** means that you would like this piece of equipment for your course(s) but can wait for a future academic year.

In addition, how many times have you requested this item, but you have not received it?

### I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually:</th>
<th>Discipline Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Over $200 Each</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>01</td>
<td>125 Students</td>
<td>Biology</td>
</tr>
</tbody>
</table>

**Description and part number for ordering:**

Equipment for teaching labs in Environmental Science, Ecology, Soils, etc. - 2 Gravity convection ovens; 4 electronic scales w/power supplies;

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Unit Cost:</th>
<th>Tax:</th>
<th>Shipping: Total:</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>$2,200.00</td>
<td>$0.00</td>
<td>$2,200.00</td>
</tr>
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</table>

**One-time expenses:** (e.g. construction, electrical, installation)

**On-going Expenses:** (e.g. maintenance, repairs, staffing, and/or upgrades)

**Item to be shared with the following Department/Program:** (Include any shared expenses)

To be shared with General Biology and Environmental Science

**Do you have space for this equipment?** Yes

**Justification for Item (See Rating Rubric)**

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)

Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

This equipment supports five classes: General Ecology, Soils; Ecology and Management, Environmental Science, and Biology for Majors 112B. To achieve SLO’s of the classes, students conduct laboratory exercises to assess: Primary productivity of plants; Soil water retention capability; and Determine variation of environmental parameters in field experiments.
3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

This equipment serves multiple classes and allows for conducting important labs necessary to achieve course SLOs.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

See course outlines. This equipment is necessary to run the labs that address the course SLOs.

5. Additional Justification for this item:

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I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support</th>
<th>Category</th>
<th>Discipline Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Annually:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>01</td>
<td>&gt;4200 Students</td>
<td>Each</td>
<td>All Life and Earth Science, Physical Science, Mathematics, and more</td>
</tr>
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</table>

Description and part number for ordering:

Updated computers for the Science Center Computer Lab - OptiPlex 390, w/ 4 GB RAM and 19 inch monitor x 50 seats

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Unit Cost</th>
<th>Tax</th>
<th>Shipping</th>
<th>Total</th>
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<td>$8.00</td>
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<td>$42,508.53</td>
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</table>

One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

Item to be shared with the following Department/Program: (Include any shared expenses)

All Life and Earth Science, Physical Science, Mathematics, and more

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

Our new science center will have fifty seats. We currently have 30 outdated machines to populate that lab. It is necessary to have an adequate quantity and quality of computers if the lab to be a useful resource for our students.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?
Students will be able to use the computers to work on their assignment and class work. Many classes and students utilize the Science Center Computer lab. In fall semester, there are 7 regularly scheduled classes: COMP 130, COMP 135, COMP 160, COMP 220, GEOG 125, ENGG/COMP 111, ENGG 125; several intermittent classes: Geog 101 labs, Biol 224 labs, Chem 131 for Excel; and Comm Ed on weekends. In spring semester, there are 6 regularly scheduled classes: COMP/MATH 117, COMP 130, COMP 232, COMP 235, ENGG/COMP 150, GEOG 127; several intermittent classes: Biol 224 labs, Chem various for excel; and Comm Ed on weekends. The lab is also serving approximately 3,600 walk-in students from various disciplines, including outside the Math/Science departments, per semester.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

Students will have a viable computer lab to support their learning. This is also provides social equity and allows computer access for all our students whether or not they can afford the hardware and/or software needed to succeed in their studies.

5. Additional Justification for this item:

Note: We have heard that the college is planning to purchase new computers and this lab is at the top of the list. If this goes through, we may have these machines by mid-semester. If not, these computers will still be a very high priority.

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance:</th>
<th>Priority:</th>
<th>To Support Annually:</th>
<th>Category</th>
<th>Discipline Area</th>
</tr>
</thead>
<tbody>
<tr>
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<td>$4200</td>
<td>Over</td>
<td>&gt;$200</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>$200</td>
<td>Science, Mathematics</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$982.58</td>
<td></td>
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</tbody>
</table>

Description and part number for ordering:
Heavy Duty Printer for the Science Center Computer Lab - HP LJ P3015DN 42PPM B&W laser printer w/ 4 yr warranty

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Unit Cost:</th>
<th>Tax:</th>
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<tr>
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<td>$19.99</td>
</tr>
</tbody>
</table>

One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

The price includes a four year warranty. In addition, the Computer Lab tech will perform general maintenance.

Item to be shared with the following Department/Program: (Include any shared expenses)

Biology, Geology, Geography, Chemistry, Physics, Mathematics, etc.

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in
a series of courses?

Students often need to print their assignments, work, papers, spreadsheets, graphs, etc. while working in the computer lab. Our current printer in that lab is currently failing and will not last much longer given the heavy use it sees.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

Many classes and students utilize the Science Center Computer lab. In fall semester, there are 7 regularly scheduled classes: COMP 130, COMP 135, COMP 160, COMP 220, GEOG 125, ENGG/COMP 111, ENGG 125; several intermittent classes: Geog 101 labs, Biol 224 labs, Chem 131 for excel; and Comm Ed on weekends. In spring semester, there are 6 regularly scheduled classes: COMP/MATH 117, COMP 130, COMP 232, COMP 235, ENGG/COMP 150, GEOG 127; several intermittent classes: Biol 224 labs, Chem various for excel; and Comm Ed on weekends. The lab is also serving approximately 3,600 walk-in students from various disciplines, including outside the Math/Science departments, per semester. All these students use the printer and will benefit from a reliable printer at their disposal.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

We expect students to be able to print their assignments. Many classes require hardcopy printouts of papers, charts, etc. that students that must turn in for evaluation.

5. Additional Justification for this item:

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually</th>
<th>Discipline Area</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>01</td>
<td>Over $200 Each</td>
<td>Biology</td>
</tr>
</tbody>
</table>

Description and part number for ordering:

Microbiology Equipment to replace old, failing equipment. Includes: 1 Shaking Water Bath; 4 Basic Stirring Hot Plates (11x11cm); 2 Basic Stirring Hot Plates (18x18cm); 2 GasPak 150 Systems; 2 Laboratory Blenders; Case of 48 Dilution Bottles.

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<tr>
<th>Qty.</th>
<th>Unit Cost:</th>
<th>Tax:</th>
<th>Shipping: Total:</th>
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<td>$9,400.00</td>
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</table>

One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

These items will be maintained by our Microbiology Lab Technician.

Item to be shared with the following Department/Program: (Include any shared expenses)

Sharing will occur with the Allied Health and Natural History Programs.

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)

2. Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite Code)

These items are necessary to teach to set up and run our microbiology labs and have students achieve student learning outcomes as per the course outlines.

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

Our current equipment to run our microbiology labs is over 30 years old and failing. We are reaching the point where we can’t keep our current equipment running any longer and we won’t be able to run our microbiology labs without replacing it.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

See above. Again, we won’t be able to run our microbiology labs without replacing our currently failing equipment.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

These items are necessary to teach to set up and run our microbiology labs and have students achieve student learning outcomes as per the course outlines.

5. Additional Justification for this item:

Microbiology is a required class for students applying to nursing and is an impacted class with high enrollments and waitlists. It would reflect poorly on the college and results in a strong negative student reaction if we lost the ability to continue offering these classes due to lack of functioning equipment.

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually</th>
<th>Disciplines</th>
<th>Description and part number for ordering</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>01</td>
<td>4 Classes</td>
<td>Biology</td>
<td>Microscopes for our Majors Biology Classes: Leica DM750 Student Microscope with 4x Brightfield, 10x 40x 100x Oil Phase Contrast Objectives with Phase Turret Condensor. Includes delivery, setup and installation.</td>
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</table>

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One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

Day to day maintenance will be taken care of by our biology lab technician. Annual or biennial maintenance covered in contract services.

Item to be shared with the following Department/Program: (Include any shared expenses)

Sharing will occur with the Allied Health and Natural History Programs.
Do you have space for this equipment?  

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
   Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

   These scopes are necessary to teach the material well and have students achieve student learning outcomes as per the course outlines.

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

   The Cell and Molecular Biology classes at COM are currently using outdated and poorly functioning microscopes that date back to the 1960’s. Students cannot make basic adjustments for proper illumination. The objective lenses are damaged, limiting clarity, and use is limited to brightfield microscopy. As a significant portion of the lab requires the use of compound microscopes, superior technology is needed. Students would be able to use techniques such as phase contrast and darkfield rather than simply being exposed to textbook images generated by these techniques. The lab experience could be greatly enriched by new microscopes and students would have superior tools for studying cells and cell structure.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

   Over the past ten years, we have slowly been upgrading our microscopes in biology - so far in Anatomy and in Microbiology. The results have been dramatic in terms of improved student experience. In anatomy and microbiology, our students now have tools that facilitate their exploration of the microscopic world and excite them rather than discourage them as they currently struggle to achieve subpar images and get discouraged as they try to cover course material. Not only will it help existing students, but will increase the attractiveness of our major’s biology courses if students have access to quality instruments to learn the material.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

   See above. We have seen dramatically improved student experience in anatomy and microbiology with upgraded microscopes as our students now have tools that facilitate their exploration of the microscopic world and excite them rather than discourage them as they struggle to achieve subpar images and get discouraged as they try to cover course material.

5. Additional Justification for this item:

   To summarize: our Majors biology course in cell and molecular biology are currently using microscopes from the 1960’s that do not allow the students to achieve the images necessary to cover the material in the course outlines, resulting in discouraged and frustrated students as well as instructors. This is particularly troublesome given that this is in our flagship majors biology sequence here at COM. Note: due to volume discounts, the price for 24 microscopes will be a total of $66,428, whereas if we bought half that amount, 12 microscopes would still be $51,300 so it makes sense to buy the full amount all at once.

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually</th>
<th>Discipline Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>01</td>
<td>250 Students</td>
<td>Biology</td>
</tr>
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Description and part number for ordering:
Prepared Microscope Slide Specimens for Human Anatomy, Microbiology and Majors' Biology

<table>
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<th>Qty.</th>
<th>Unit Cost:</th>
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<td>$3,305.00</td>
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</table>
One-time expenses: (e.g. construction, electrical, installation)
none

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)
none

Item to be shared with the following Department/Program: (Include any shared expenses)
Sharing will occur with the Allied Health and Natural History Programs.

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)
1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)
Many old slides have jagged glass edges which could cut students’ hands

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?
Students will benefit from being able to see the tissues that they need to study. This is not the case with the old sets where many are broken or have shattered coverslips. If they do not see anything, they cannot study it.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?
Many students become discouraged when they cannot see anything in the old slides now in use, some of which date from 1950 and have been in use ever since. This could lower our rates for student success.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?
Ability to identify cells and tissues is a key student learning outcome of all of these courses. Each course has laboratory practical exams to test mastery of this skill.

5. Additional Justification for this item:
These courses are critical to student success in achieving goals of transfer and certificate completion.

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance:</th>
<th>Priority:</th>
<th>Category</th>
<th>Discipline Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>02</td>
<td>Over</td>
<td>biology, enviromental science</td>
</tr>
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</table>

To Support Annually: 3 Classes

Description and part number for ordering:
Data Logger - from EME Systems. Customized to record temperature, humidity, wind, solar energy, etc.

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One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

Item to be shared with the following Department/Program: (Include any shared expenses)

Do you have space for this equipment?

Justification for Item (See Rating Rubric)
1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?
This equipment supports classes such as General Ecology and Environmental Science and will allow students conduct laboratories that determine variations of environmental parameters in field experiments that are part of a rigorous ecology curriculum.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?
This equipment supports classes such as General Ecology and Environmental Science and will allow students conduct laboratories that determine variations of environmental parameters in field experiments.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?
Students will be able to conduct experiments that are part of a rigorous ecology and environmental science curriculum.

5. Additional Justification for this item:

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually</th>
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<td>20 Classes</td>
<td>Over $200 Each</td>
<td>Biology</td>
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Description and part number for ordering:
Gooseneck Microscope Illuminators - Leica KL200 LED fiber optic light source With universal power supply with LED Adapter for stand, base plates and swan neck light guides.

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One-time expenses: (e.g. construction, electrical, installation)
On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

Item to be shared with the following Department/Program: (Include any shared expenses)

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)
1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
   Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?
   Observation under the dissection scope is an integral part of our Introduction to Biology Labs. Our current illuminators are over fifty years old and in varying states of disrepair. Quite a number are currently beyond repair.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?
   We are currently offering twenty sections of Bio 110L Intro to Biology Lab every year. This is the initial class that leads into most of our other biology courses, as well as serving as a general science class. It is important that we are able to upgrade essential equipment to continue to run these labs.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?
   SLOs as per the course outline require the ability to achieve good images under the dissection scope.

5. Additional Justification for this item:
### Instructional Equipment

#### CHEM-2011

This section will be filled out by faculty and reviewed by the Department Chair, the ARea Dean, the Instructional Equipment Committee, IPC, and Budget.

Please enter items that will be used over a period of semesters by students. (Note: These should be NEW items that you are requesting one time only - not ongoing or consumable. Ongoing and consumable requests go under "Other Instructional Equipment". Technology-related requests should go under "Technology Requests".

Select whether the item is less than or more than $200 each. If you are a large discipline with several areas, please include which area this item is for. Include Tax, Shipping, and Handling in the total cost for each item.

Importance:
- ‘A’ means that your discipline cannot teach your course(s) without the requested equipment.
- ‘B’ means that your course(s) would be greatly enhanced with the requested equipment.
- ‘C’ means that you would like this piece of equipment for your course(s) but can wait for a future academic year.

In addition, how many times have you requested this item, but you have not received it?

---

### I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually:</th>
<th>Discipline Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>01</td>
<td>Over $200</td>
<td>650 Students Each</td>
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**Description and part number for ordering:**
MS Series Analytical and Precision Balances, METTLER TOLEDO 420g Precision balance VWR catalog # 97035-628

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**One-time expenses:** (e.g. construction, electrical, installation)

**On-going Expenses:** (e.g. maintenance, repairs, staffing, and/or upgrades)

**Item to be shared with the following Department/Program:** (Include any shared expenses)

**Do you have space for this equipment?** Yes

**Justification for Item (See Rating Rubric)**

1. **Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)**
   Students in chemistry use the balances every day from the second week of class to the 16th week of class.

2. **Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)**
   Balances are the most used item in the chemistry lab beside common glassware such as beakers etc. Balances get spilled on. A Lot. We try to keep them clean, we service them regularly, and many of our balances are 15 or more years old. But eventually they stop working. We are down to a critical number of balances. We can still function, but in a few short years the line of students waiting for a working balance will continue to grow. Since these can be funded by the bond it might be a good idea to get them now.

**Bond Fundable.**

---

succeed in a series of courses?

They can weight things. That is useful in chemistry!

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

5. Additional Justification for this item:

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
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<th>Discipline Area</th>
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Description and part number for ordering:

VWR Ceramic Top Hot Plate Stirrer with Temperature Control Package VWR catalog # 33993-904

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One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

Item to be shared with the following Department/Program: (Include any shared expenses)

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
2. Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

In chemistry many of the experiments we perform are synthetic transformations/chemical reactions. Many of these require energy in order to initiate the reaction. Countless, seriously COUNTLESS experiments have been destroyed, especially in the organic chemistry sequence of classes, by cooking the experiment resulting it a nice batch of charcoal, or under heating resulting in no reaction at all. These temperature controlled hotplate stirrers have been used for years in graduate level and industry and are now are finding widespread use in undergraduate labs. Addition of these will be a huge advancement in efficiency in the laboratory. We will begin asking for 10 for the organic chemistry lab (which will accommodate 20 students).

Bond Fundable
2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

Students will be able to carry out cutting edge and classic organic chemistry synthesis experiments leading to a far greater understanding of hands on chemistry.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

Given that we have no temperature controlled hotplates all students will benefit. These will be used mostly in the organic labs, but can be shared throughout the discipline. Over time we would like to build the inventory of these useful devises.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

Understanding of synthetic laboratory protocol. Assimilation of classroom lecture, structure function and mechanism training with hands on experimentation.

5. Additional Justification for this item:

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually:</th>
<th>Category</th>
<th>Discipline</th>
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Description and part number for ordering:

TI 84 graphing calculators

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One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

na

Item to be shared with the following Department/Program: (Include any shared expenses)

Could be used with biology.

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)

To this equipment required to meet Title 5 and/or Ed Code? How? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

We have a number of vernier data acquisition probes that can be coupled with certain Texas Instrument graphing calculators. However we only have 9 of these calculators so students must share. For college chemistry classes this is not in the best interests of student learning as acquiring data is one of the fundamental skills of a scientist.

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

See above.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

We serve about 650 students per year. About 2/3rds of them will benefit from the purchase if these calculators.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

Performing laboratory experiments, gathering relevant data, analyzing data. Scientists of been gathering and analyzing data for millennia, these calculators are just one of the tools we use to teach this fundamental skill.

5. Additional Justification for this item:

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually:</th>
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Category: Disciplines Area

<table>
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<th>Description and part number for ordering:</th>
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<tbody>
<tr>
<td>Education Series EL20 Benchtop pH/ORP/Temperature Meter, METTLER TOLEDO* VWR catalog # 97002-294</td>
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One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

Item to be shared with the following Department/Program: (Include any shared expenses)

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)
Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

Currently we only have 2 benchtop pH meters. We do numerous experiments each term which require students to take an accurate pH of a solution. In a lab of 24 the line gets LONG. When two labs are running concurrently so that each lab only has one meter, the lines get REALLY LONG.

Bond Fundable

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

Students can actually do chemistry instead of wait in line for the pH meter.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

It is just a useful lab item. It is shameful that we only have two. The outcome is that they get to use one of the most fundamental pieces of equipment in all of chemistry.

5. Additional Justification for this item:

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>Category</th>
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<td>A</td>
<td>02</td>
<td>Over</td>
<td>$200</td>
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<tr>
<td></td>
<td></td>
<td>650 Students Each</td>
<td>Chemistry</td>
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Description and part number for ordering:
VWR Ceramic Hot Plate Stirrers VWR catalog #: 82026-778

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One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

Item to be shared with the following Department/Program: (Include any shared expenses)

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
   Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

In chemistry many of the experiments we perform are synthetic transformations/chemical reactions. Many of these require energy in order to initiate the reaction. Countless, seriously COUNTLESS experiments have been destroyed, especially in the organic chemistry sequence of classes, by cooking the experiment resulting it a nice batch of charcoal, or under heating resulting in no reaction at all. Our current set of hotplates are very old and there is never enough for the students. Often three students have to share a hotplate. These hotplates can be upgraded at a later date to temperature controlled hotplates by addition of the temperature accessory package.

Bond Fundable.

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

Students will be able to carry out cutting edge and classic chemistry experiments leading to a far greater understanding of hands on chemistry. More individuals and groups of two can do experiments simultaneously as opposed to groups of 3 or 4.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

More students will actually have hands on experience which is fundamental to the teaching lab.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

Knowledge of and ability to perform experiments, collect data and analyze results will be enhanced greatly by allowing more students to actually do the experiments.

5. Additional Justification for this item:

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance:</th>
<th>Priority:</th>
<th>To Support Annually:</th>
<th>Category</th>
<th>Discipline Area</th>
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</thead>
</table>

Description and part number for ordering:
Pyrex melting point tube, Corning VWR catalog # 89091-274

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One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

Item to be shared with the following Department/Program: (Include any shared expenses)

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)
1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

Characterization of organic compounds is done through a variety of techniques. One of the fundamental techniques required by every peer reviewed journal in organic synthesis is the melting point of any isolated natural product or synthesized compound. Digital melting point apparatus are prohibitively expensive for the undergrad lab (a common melting point devise that can do 3 samples at a time costs between $5000 and $7000). Because of this we use Theil tubes, r melting point tubes. Currently all organic chemistry students have to share Theil tubes. Since temperature can go as high as 200 degrees C often times students can not finish their experiments in the 3 hours allotted for a lab period because they are waiting for a tube to become cool enough to handle. Addition of the above requested item will help to solve this problem.

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

Students can do the fundamental process of taking accurate melting points of organic compounds as required in the course outline and by the American Chemical Society.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

5. Additional Justification for this item:
I. Instructional Equipment/Materials Requirements

Importance: Priority: To Support Annually: Discipline Area

A 04 Under $200 650 Students Each

Description and part number for ordering:
Vernier pH sensor Order Code PH-BTA

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One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

Item to be shared with the following Department/Program: (Include any shared expenses)

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

These sensors are used with our Vernier data collection devises. pH sensors are fairly sensitive items and over the years they do get damaged. If we in fact receive the data collection calculators requested above, the 10 additional pH sensors will allow a full advanced chemistry class to monitor reaction or environmental pH without having to wait for a meter to be freed up. It will significantly improve what we can do inside and outside of the laboratory environment.

Bond Fundable

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

Yes. Yes.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

More students will have hands on experience with a very common and essential piece of lab equipment, the pH meter, instead of just watching someone else do it.
You can not learn to ride the bike by watching. Eventually you have to get on the thing.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

5. Additional Justification for this item:
I. Instructional Equipment/Materials Requirements

Importance: A
Priority: 05

To Support Annually: Category Area
Over $200 250 Students Each Chemistry

Description and part number for ordering:
Corning 476086 temperature compensation pH Meter electrodes

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One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

Item to be shared with the following Department/Program: (Include any shared expenses)

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
   Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

   For the college level chemistry classes (as opposed to pre-nursing and intro classes) these specialized pH electrodes compensate for temperature variations in the sample. We used to have these and have designed labs around their use but after years of wear and tear and no budget for equipment replacement or maintenance they are no longer functioning. Replacement with these newer, more rugged probes would greatly enhance the learning experience of the students in general college chemistry.

   Bond fundable

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

   yes/ yes/

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

5. Additional Justification for this item:
Instructional Equipment

This section will be filled out by faculty and reviewed by the Department Chair, the ARea Dean, the Instructional Equipment Committee, IPC and Budget.
Please enter items that will be used over a period of semesters BY STUDENTS. (Note: These should be NEW items that you are requesting one time only - not ongoing or consumable. Ongoing and consumable requests go under "Other Instructional Equipment". Technology-related requests should go under "Technology Requests").
Select whether the item is less than or more than $200 each. If you are a large discipline with several areas, please include which area this item is for. Include Tax, Shipping and Handling in the total cost for each item.

Importance:
• 'A' means that your discipline cannot teach your course(s) without the requested equipment.
• 'B' means that your course(s) would be greatly enhanced with the requested equipment.
• 'C' means that you would like this piece of equipment for your course(s) but can wait for a future academic year.
In addition, how many times have you requested this item, but you have not received it?

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>01</td>
<td>Under $200</td>
</tr>
</tbody>
</table>

Category: Credit
Area: ESL

250 Students Each

Description and part number for ordering:

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Unit Cost:</th>
<th>Tax:</th>
<th>Shipping: Total:</th>
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</thead>
<tbody>
<tr>
<td>15</td>
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<td>$0.00</td>
<td>$0.00 $450.00</td>
</tr>
</tbody>
</table>

One-time expenses: (e.g. construction, electrical, installation)
none

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)
none

Item to be shared with the following Department/Program: (Include any shared expenses)
Noncredit ESL

Do you have space for this equipment?

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?
Succeed in a Series of Courses?

These dictionaries are to replace those that have been damaged. They are used by all the Credit ESL reading classes, approximately 16 sections annually, and by a number of Noncredit ESL classes.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

These dictionaries will be used by more than 250 students annually. They are required to accommodate our existing students.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

In order to read and learn vocabulary, students need to use a dictionary. Dictionary skills are taught in our reading courses where these dictionaries are put to use.

5. Additional Justification for this item:

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually:</th>
<th>Category</th>
<th>Discipline Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>02</td>
<td>Under $200</td>
<td>250 Students Each</td>
<td></td>
</tr>
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</table>

Description and part number for ordering:

Kindle Touch

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Unit Cost:</th>
<th>Tax:</th>
<th>Shipping: Total:</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>$100.00</td>
<td>$0.00</td>
<td>$400.00</td>
</tr>
</tbody>
</table>

One-time expenses: (e.g. construction, electrical, installation)

none

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

none

Item to be shared with the following Department/Program: (Include any shared expenses)

Noncredit ESL and English Skills

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)

Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)
2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

As digital books become more common, the Credit ESL discipline would like to order four Kindles to test with our ESL students. We would like to determine whether these devices actually enhance language learning.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

Initially, we would use these four Kindles with a small group to determine their efficacy. If, indeed, they are as useful as we believe, it could change how we teach our students.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

We hope to discover whether the dictionary component is useful for students. Also, students can have the Kindle read sections aloud. We would like to test that portion of the device to determine if comprehension is increased.

5. Additional Justification for this item:

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I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance:</th>
<th>Priority:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>02</td>
</tr>
</tbody>
</table>

Description and part number for ordering:
Kindle Touch/WiFi4

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Unit Cost:</th>
<th>Tax:</th>
<th>Shipping: Total:</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>$99.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

$396.00

One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

Item to be shared with the following Department/Program: (Include any shared expenses)

These Kindles may be shared with English Skills

Do you have space for this equipment?

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

No

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

We would like to pilot the use of a Kindle in our reading classes. These Kindles have dictionaries that are readily available and can also read passages aloud. We would like to use these devices to see if they would aid students in their reading.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

Access: The Kindles will be available in the ESL Lab for all ESL students to use.
Number of students: Over 200 annually
It is not required.
We believe that helping our students to access modern technology will also attract students to our program.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

We are interested with this pilot to see if there is greater acquisition of vocabulary. Also, we intend to collect data to determine whether students prefer it to the more traditional paper book. For example, will they miss their ability to mark up a book? Based on the data that is collected, the faculty will determine whether electronic readers, specifically Kindles, are beneficial to language acquisition.

5. Additional Justification for this item:

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually:</th>
<th>Category</th>
<th>Discipline Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>02</td>
<td>Under $200</td>
<td>Credit</td>
<td>ESL</td>
</tr>
</tbody>
</table>

Description and part number for ordering:
Books especially selected for the ESL Lab lending library available to support the reading classes.

Qty.  Unit Cost:  Tax:  Shipping: Total:
50  $10.00  $0.00  $0.00  $500.00

One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

Item to be shared with the following Department/Program: (Include any shared expenses)

These books can be shared with English Skills.
Do you have space for this equipment?  Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

There are books presently in our collection, but there is a need to update and replace the number of books available to our students. Yearly approximately 50 books must be replaced due to wear and loss, both signs of passionate readers.

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

The more students read the greater their improvement is. These specially adapted books are not readily available in public libraries or book stores.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

The ESL lending library serves about 350 students annually. Part of the ESL reading course requirements includes reading a certain number of books from our collection, so it is required for existing students. More reading material that is adapted for ESL students results in better access to reading materials for all our students.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

As students read more, their reading speed and comprehension improve. Reading is critical to any student's academic success.

We look at the number of books students are reading each semester. This number has been increasing. a certain amount of wear and tear occurs each year, so there is a need to replace some books.

5. Additional Justification for this item:
## Instructional Equipment

### DANC-2011

This section will be filled out by faculty and reviewed by the Department Chair, the Area Dean, the Instructional Equipment Committee, IPC and Budget.

Please enter items that will be used over a period of semesters BY STUDENTS. (Note: These should be NEW items that you are requesting one time only – not ongoing or consumable. Ongoing and consumable requests go under "Other Instructional Equipment". Technology-related requests should go under "Technology Requests".)

Select whether the item is less than or more than $200 each. If you are a large discipline with several areas, please include which area this item is for. Include Tax, Shipping and Handling in the total cost for each item.

**Importance:**
- 'A' means that your discipline cannot teach your course(s) without the requested equipment.
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In addition, how many times have you requested this item, but you have not received it?

### I. Instructional Equipment/Materials Requirements

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<th>Category</th>
<th>Discipline Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>01</td>
<td>300 Students</td>
<td>Under $200 Each</td>
<td>dance</td>
</tr>
</tbody>
</table>

### Description and part number for ordering:

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Unit Cost</th>
<th>Tax</th>
<th>Shipping</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

**One-time expenses: (e.g. construction, electrical, installation)**

- Maximum Heavy-Gold Thera-Bands 6 yard box 36.95 each x 3 = 110.85
- Special Heavy-Black Thera-Bands 2 50 yard boxes 114.95 each x 2=229.90
- PB Elite Molded foamrollers 22.95 x 20 = 459.00
- Gymnic Stability Ball Plus 75cm 39.95 x 3 = 119.85
- Gymnic Stability Ball Plus 65cm 34.95 x 2 = 69.90

Total from Performbetter.com is $1387.20 - Shipping?

**On-going Expenses:** (e.g. maintenance, repairs, staffing, and/or upgrades)

None needed

**Item to be shared with the following Department/Program: (Include any shared expenses)**

NA

**Do you have space for this equipment?**

Yes

**Justification for Item (See Rating Rubric)**

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

   Having physical therapy equipment for all of our students will not only improve student learning but will ensure that our students can stay healthy and competitive. Students will first learn to use the equipment with faculty supervision. Since the new dance facility will have a small second studio, the students will have space to practice, rehearse and condition. These beneficial life practices have been proven to reduce injuries and extend the life of dancers.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

   Using physical therapy equipment will aid in flexibility and strength so that the all of our dance students can address incorrect habits and weaknesses in their technique.

   In the spring, we will be offering a new course, Body Conditioning for Dance Technique, that will hopefully become an AA requirement as it is in other community colleges. This class will require the use of physical therapy gags. If we required the students to purchase these items, they would have great difficulty in transporting them.

   In our new main studio 30 ft by 60 ft, the students who are too ill or injured to take class can come observe and still have space to use the equipment while they receive credit for watching class.
This equipment will attract new students because our entire image and professional approach to healthy training will be apparent.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

The following are COM AA degree SLOs for dance:
Two degree slos are tied to dance conditioning that would require gags like stability balls, yoga straps, therabands and foam rollers.

1. Demonstrate and perform with intermediate to advanced technical skills in at least two of the following techniques, (modern, jazz and ballet.)
2. Identify and correct dangerous and incorrect alignment and technique.

For each of our technique courses, the most heavily weighted SLO is 'to be able to demonstrate the required movement for beginning ballet, beginning modern etc. It would be very easy to measure through observation, the effects of proper conditioning on the dancer.

Conditioning equipment and knowledge of how to use it is becoming common dance curriculum.

Through observation and various classroom assignments, the dance faculty has found that our students are out of shape and do not know much if anything about their bodies as athletes.

Proof:
This semester, I gave each ballet student in levels II,III and IV a blank drawing of the anterior and posterior view of the human body. I then asked them, in regards to their own bodies, to label any parts of the body that might be tight or weak.
Only one student could fill out the entire drawing. The remaining students did either very poorly or below average.

We can easily continue to use the same exercise year to year to see if the conditioning and equipment increase student learning.

5. Additional Justification for this item:
This equipment will help bring our discipline up to date with the rest of the 2 year dance programs, aid in flexibility and strength and will ultimately lead to better body care and maintenance.

In the past few years, dance has not asked for any instructional equipment. The last thing we asked for was a stereo, without which we could not hold any of our classes, yet it was still denied.

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually:</th>
<th>Category</th>
<th>Discipline Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>02</td>
<td>400 Students</td>
<td>Over $200 Each</td>
<td>Performing Arts</td>
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Description and part number for ordering:

<table>
<thead>
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<tbody>
<tr>
<td>1</td>
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</table>

One-time expenses: [e.g. construction, electrical, installation]

On-going Expenses: [e.g. maintenance, repairs, staffing, and/or upgrades]

none required

Item to be shared with the following Department/Program: (Include any shared expenses)

Drama, Music and any theater rentals

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

The Performing Arts students need a new cd player with pitch control, (variable speeds), to be kept in the main theater. This cd player would be used to play all music for the dance concerts and any other rehearsal/performance needs for Dance, Music and Drama.
3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

This would be to accommodate app 400 students annually present and future.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

5. Additional Justification for this item:

These cd players last a very long time!
Instructional Equipment

DENT-2011

This section will be filled out by faculty and reviewed by the Department Chair, the ARea Dean, the Instructional Equipment Committee, IPC and Budget.

Please enter items that will be used over a period of semesters BY STUDENTS.. (Note: These should be NEW items that you are requesting one time only - not ongoing or consumable. Ongoing and consumable requests go under "Other Instructional Equipment". Technology-related requests should go under "Technology Requests".

Select whether the item is less than or more than $200 each. If you are a large discipline with several areas, please include which area this item is for. Include Tax, Shipping and Handling in the total cost for each item.

Importance:
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• ‘B’ means that your course(s) would be greatly enhanced with the requested equipment.
• ‘C’ means that you would like this piece of equipment for your course(s) but can wait for a future academic year.

In addition, how many times have you requested this item, but you have not received it?

I. Instructional Equipment/Materials Requirements

<table>
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<tr>
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<th>Priority</th>
<th>To Support Annually:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>01</td>
<td>Category Area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Over $200 Each</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dental Assisting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 Classes</td>
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Description and part number for ordering:
Handpiece attachment for prophy angles and brushes.

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Unit Cost:</th>
<th>Tax:</th>
<th>Shipping: Total:</th>
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<tbody>
<tr>
<td>6</td>
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<td>$39.40</td>
<td>$20.00</td>
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</tbody>
</table>

One-time expenses: (e.g. construction, electrical, installation)

This would be a one time expense and it does not required installation.

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

There would not be any staffing expenses for the use of these handpiece attachments or on going expenses.

Item to be shared with the following Department/Program: (Include any shared expenses)

Since there are no other dental assisting programs or hygiene programs at the college, these attachments would not be shared by other departments

Do you have space for this equipment?
Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

This purchase would meet Title 5 by ensuring that there is workable and sterilizable equipment to prevent cross contamination between patients when performing the coronal polishing procedure.
2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

The purchase of new handpiece attachment are needed for the student to clinically perform the polishing procedure on live patients. These attachments must be in working order and not stall or create unnecessary heat to the tooth tissues which could cause irreversible damage These attachments are also sterilizable, an OSHA requirement.

It is necessary equipment for students to pass their certification of completion. Our program is approved by the Dental Board of California to offer these certificated courses and must have working equipment.

The quality of instruction would be improved expediently by not having students waiting for a working handpiece attachment. Currently the program has 3 old attachments that are not heat resistant for sterilization. There are 6 operatories in the dental clinic that could be operating simultaneously and would therefore be efficient use of the student's time.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

There would be 20-35 students in the day dental assisting program would be benefit from the purchase of these handpiece attachments. There would be 40-60 working dental assistants who would take the coronal polish certificate weekend course. Both the day and weekend students would benefit as this coronal polish certificate is a prerequisite to sit for the state licensing examination. Our program has received approval from the Dental Board of California to teach this course and meets all the objectives and equipment requirements as set forth by the state.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

SLOs include:

* student will be able to identify extrinsic stains that can be removed by the polishing handpiece attachment
* student will be able to demonstrate the polishing procedure on 3 patients without creating trauma to the patient's oral tissues
* students will successfully remove extrinsic stains from 3 patients
* students will be able to demonstrate the correct decontamination and sterilization of the handpiece attachments to prevent cross contamination.

Passing rates from both the day students and the weekend students would be evidence that the course was successful in preparing for the polishing procedure.

Post course surveys would also provide evidence that the students want modern and working handpiece attachments.

5. Additional Justification for this item:

The bond initiative provided for high speed handpieces, however, it was not allowed for low speed handpiece attachments.
I. Instructional Equipment/Materials Requirements

Importance: Priority:  
A 02

Description and part number for ordering:
X-ray sensor interface

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Unit Cost:</th>
<th>Tax:</th>
<th>Shipping:</th>
<th>Total:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$1,300.00</td>
<td>$130.00</td>
<td>$25.00</td>
<td>$1,455.00</td>
</tr>
</tbody>
</table>

One-time expenses:  (e.g. construction, electrical, installation)
This is a one time expense with no installation or construction requirments

On-going Expenses:  (e.g. maintenance, repairs, staffing, and/or upgrades)
There are no staffing expenses or maintenance on this piece of equipment

Item to be shared with the following Department/Program: (Include any shared expenses)
Item is not shared by other departments. However, it will be used for both the day dental assisting students and students in the community education for radiation certification.

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)
1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)
In preparing students for the newest technology used in the dental profession, the purchase of this x-ray digital interface will allow more students to expose dental radiographs. We see that in the next few years film based x-rays will be obsolete replaced with digital technology. The program has the a x-ray digital sensor but need this interface device so that it is compatible with the new equipment. It would meet education requirements in providing the latest technology training for students.

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?
The quality of instruction would be improved and help with student learning and success in that the students will have more hands on using digital x-rays.

   Currently the program is using film based dental x-rays for their outside live patients. We foresee in the immediate future that dentists and the accreditation board would require digital x-rays over film based. By purchasing this interface we utilize all our digital sensors, one for each operatory and can see more patients simultaneously.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?
Students would have access to all digital sensors at the 6 stations without waiting around for an available unit. This purchase would impact 25-40 students in the day program and 40 students in the community service weekend Radiation Certification course.
Having working digital equipment would attract more students into the program as the dental community becomes aware that such technology is available at College of Marin. Future Digital X-ray Troubleshooting classes could be offered under community education to attract more working dental assistants who want to hone and improve their digital x-ray taking skills.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

The student learning outcomes would include the following:

* Students will be able to hook up the digital sensor to an available dental unit.
* Students will be able to expose bitewings using digital sensors on teaching mannikins.
* Students will be able to expose periapical films using digital sensors on teaching mannikins.
* Students will be able to instantly view and evaluate their exposures on the monitor.
* Students will be able to correct their errors and view them instantaneously.
* Students will be able to expose digital images on human patients.

5. Additional Justification for this item:
Instructional Equipment
ELND-2011

This section will be filled out by faculty and reviewed by the Department Chair, the Area Dean, the Instructional Equipment Committee, IPC and Budget.

Please enter items that will be used over a period of semesters BY STUDENTS. (Note: These should be NEW items that you are requesting one time only - not ongoing or consumable. Ongoing and consumable requests go under "Other Instructional Equipment". Technology-related requests should go under "Technology Requests".)

Select whether the item is less than or more than $200 each. If you are a large discipline with several areas, please include which area this item is for. Include Tax, Shipping and Handling in the total cost for each item.

Importance:
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• ‘B’ means that your course(s) would be greatly enhanced with the requested equipment.
• ‘C’ means that you would like this piece of equipment for your course(s) but can wait for a future academic year. In addition, how many times have you requested this item, but you have not received it?

I. Instructional Equipment/Materials Requirements

Importance: Priority: To Support Annually: Category Over $200 Discipline Area
A 01

Description and part number for ordering:
Precision and Analytical balance

Qty. Unit Cost: Tax: Shipping: Total:
1 $1,130.00 $0.00 $100.00 $1,230.00

One-time expenses: (e.g. construction, electrical, installation)
N/A

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)
N/A

Item to be shared with the following Department/Program: (Include any shared expenses)
Biology. No expenses shared

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)
1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)
N/A

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?
Students who take the class ELND160: Soils: Ecology and Management must learn techniques for soil analysis. To teach those techniques I need this scale. This scale is crucial to achieve SLO’s for the soils class taught in the Department.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

If we consider that this scale could be used by students in other classes in the Landscaping Department such as Landscape Ecology, a total of 60 students will benefit per year.

Students who take good classes that have access to good laboratory and equipment are more likely to succeed, are satisfied with the class and the reputation of the class spreads. This will lead to more enrollment.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

This equipment will allow me to achieve two SLO’s for the soils class in the Landscaping program. One of them is: To learn to determine soil moisture; the second one is to learn how to assess primary productivity of ecosystems.

5. Additional Justification for this item:

If college of Marin wants to increase enrollment, attract good students and fulfill its mission, our laboratories must be well equipped to deliver the SLO’s of classes. Currently the soils laboratory does not have this equipment.

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually:</th>
<th>Category</th>
<th>Discipline Area</th>
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Description and part number for ordering:

Gravity convection oven

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One-time expenses: (e.g. construction, electrical, installation)

300.00

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

N/A

Item to be shared with the following Department/Program: (Include any shared expenses)

Biology

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
   Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)
   N/A

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?
   The ovens are requested are needed to deliver accomplish SLO’s for students who take classes such as ELND160: Soils: Ecology and Management and Landscape Ecology ELND120A and B. These SLO’s refer to determination of soil organic matter and soil moisture and determination of Primary Productivity of Ecosystems. Without these ovens these SLO’s can not be accomplished and the integrity of the classes and program is seriously affected.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?
   Considering that these ovens can be used by other classes in the Landscaping program, such as the irrigation class, and that the Biology Department could use the ovens for their classes, if scheduled at IVC, approximately 60 students will benefit annually by having this equipment.

   Is the equipment required to accommodate existing students?: yes.
   Is the equipment vital to attract new students: Yes.

   Students who have good instructors and access to good laboratories with good equipment are likely to succeed, take other classes in the program and also will promote the program and increase enrollment.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?
   What other SLO’s or other outcomes are expected:
   1. Students will develop critical thinking related to soils and Landscape Ecology
   2. Other expected outcomes: Increase enrollment in the program, higher retention rate of students and increased enrollment.

5. Additional Justification for this item:
   The educational goals of the soils class offered is seriously impacted by not having this equipment. The academic depth of the program is also negatively affected.

---

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance:</th>
<th>Priority:</th>
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<tbody>
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To Support Annually: Category Area

Over $200 Environmental
Description and part number for ordering:
Ohaus Electronic Balances

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One-time expenses: (e.g. construction, electrical, installation)

N/A

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

N/A

Item to be shared with the following Department/Program: (Include any shared expenses)

Could be shared with the Biology Department

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

N/A

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

This equipment will enable us to achieve SLO’s of some of the classes in the Department. For example in the class ELND160: Soil Ecology and Management students must learn how to determine moisture and organic matter content in the soil. These scales are necessary to achieve these SOLO’s. We have an inadequate number of scales and the class can not be properly taught.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

If we consider these scales could be used by other classes in the Department, for example, Landscape Ecology, Irrigation, about 50 students will benefit per year with this equipment.

Is the equipment required to accommodate existing students?: yes,

Is the equipment vital to attract new students?: yes.

Students pay attention to the quality of instructors, laboratories and supplies for them. Reputation of how classes spread and good classes attract more students.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?
What student learning or other outcomes are expected? Students will accomplish SLO's like the ones listed below:

A. Students should be able to measure organic matter content in soils.
B. Students should be able to measure water content in soils.
C. Students should be able to measure primary productivity of ecosystems and relationships with

Is it important to the achievement of student goals?: yes.

How will these outcomes be measured for future planning?:

When I teach the laboratories which require the equipment requested, I will determine how well students achieve the SLO's of the class. Based on this outcome I will determine if we need additional equipment.

What data or evidence supports your request?: Our soils class is well enrolled with around 25 students every time it is offered. This enrollment is significant in light of the average enrollment in the landscaping program (21).

5. Additional Justification for this item:

Other classes in the Program such as ELND 120A and ELND120B, Landscape Ecology have activities which require the use of electronic scales. These scales could also be shared with the Biology Department if there is more cooperation between the two Departments.

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support Annually:</th>
<th>Category</th>
<th>Discipline Area</th>
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<td>Landscaping</td>
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Description and part number for ordering:

Chaining pings (steel arrows)

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One-time expenses: (e.g. construction, electrical, installation)

N/A

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

N/A

Item to be shared with the following Department/Program: (Include any shared expenses)

Biology if we can cooperate sharing equipment
Do you have space for this equipment?  
Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)
N/A

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

The steel pins requested are required to accomplish SLO’s for students who take classes such as ELND160: Soils: Ecology and Management, ELND 190: Irrigation of Landscapes and Farms and ELND120A and B Landscape Ecology. The SLO’s refer to determination of soil slopes, biomass production per unit of land and design of irrigation systems and landscape plans. Without these pins the exercises to accomplish the SLO’s of the classes mentioned can not be completed and the integrity of the classes and program are seriously affected.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

How will access for students be improved? : N/A
How many students (annually) will benefit from this request? :

If we consider that these pins could be used for at least three classes per year, I anticipate that 60 students will be served.

Is it required to accommodate existing students? : yes

Would it be vital to attracting new students?:

Yes. If the classes we teach have the appropriate equipment to deliver their SLO’s students are more likely to take succeed in their classes and take other classes in the program. Also reputation of the program spreads and enrollment will increase.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

4. What student learning or other outcomes are expected?

Some SLO’s which will be achieved are:

A. Students will be able to determine size and shape of areas of land to design gardens and landscapes
B. Students will be able to mark in the field the layout of irrigation systems
C. Students will be able to mark areas of vegetation to determine Primary Productivity of ecosystems
D. Students will be able to map pieces of land for soil surveys
Is it important to the achievement of student goals?: Yes, see above

How will these outcomes be measured for future planning?

If we obtain the pins requested, I will determine how the laboratory practices that use these pins are conducted to determine if the number of pins requested is sufficient. If they are not sufficient, I will order more pins in the next Program Review.

What data or evidence supports your request?:

The soils class which would use these pins has a good enrollment (24); This is a good enrollment in light of the average enrollment in the landscaping classes (22)

5. Additional Justification for this item:

If we want to have a landscaping department known for the good quality of instruction, we need to have the equipment that allows us to deliver the SLO's of the classes offered. In this case, the classes are Soils, Landscape Ecology and Irrigation.
Instructional Equipment

This section will be filled out by faculty and reviewed by the Department Chair, the AREA Dean, the Instructional Equipment Committee, IPC, and Budget.

Please enter items that will be used over a period of semesters BY STUDENTS. (Note: These should be NEW items that you are requesting one time only—not ongoing or consumable. Ongoing and consumable requests go under “Other Instructional Equipment.” Technology-related requests should go under “Technology Requests.”)

Select whether the item is less than or more than $200 each. If you are a large discipline with several areas, please include which area this item is for. Include Tax, Shipping and Handling in the total cost for each item.

Importance:
• ‘A’ means that your discipline cannot teach your course(s) without the requested equipment.
• ‘B’ means that your course(s) would be greatly enhanced with the requested equipment.
• ‘C’ means that you would like this piece of equipment for your course(s) but can wait for a future academic year.

In addition, how many times have you requested this item, but you have not received it?

I. Instructional Equipment/Materials Requirements

<table>
<thead>
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<th>Importance</th>
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<th>Discipline</th>
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Description and part number for ordering:
CF 1100C 12x10x10” Muffle Furnaces w/Kanthal Heating Elements Across International, Item #: CF1100.12.10.10

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One-time expenses: (e.g. construction, electrical, installation)

N/A

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

N/A

Item to be shared with the following Department/Program: (Include any shared expenses)

N/A

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)
1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

If there are any codes that require us to protect students from serious injury or to prevent potential building fires, then they would apply.
There is currently only one reliable furnace (circa 1975-1980) for thermal treatment in the Materials Engineering lab; it is too small for the samples that must be placed in it, creating safety hazards for students. Additionally, the interior lining began to crack and decompose several years ago, posing additional hazards.

There are 2 other older furnaces (circa 1950s) that are occasionally used out of necessity, but the temperature control and measurement on these is unreliable, and they also have cracked linings and compartments that are too small for many of the samples that are treated.

Since these furnaces are typically operated at temperatures of 800-1100°C (1500-2000°F), the incorrect chamber size and cracked lining causes awkwardness for students that increases their risk for burns and other injuries. The cracked insulation lining also probably causes the outer portion of the furnace to operate above its design temperature, possibly increasing risk of fire.

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

This item is needed to replace antique, unreliable, and unsafe furnaces for thermal treatment of specimens in Materials Lab course. Thermal treatment of metals is a central component of the laboratory portion of the Materials Science course, which is a required transfer course for students in most disciplines of Engineering.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

Acquiring 3 new furnaces, in a range of sizes suitable for current experimental uses, would greatly improve the safety and educational experience for the materials students.

Required to accommodate approximately 8-10 existing students per year in the Engineering Materials course. New equipment in a new engineering lab may help to attract additional students to the program; dilapidated 1950s & 60s equipment in a new engineering lab may deter students.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

The two most relevant program SLOs are:

- design and conduct experiments, as well as to analyze and interpret data.
- use the techniques, skills, and modern engineering tools necessary for engineering practice.

More importantly, most Engineering majors are required to take the Materials course to transfer, and any articulated Materials course must have a lab, which must include heat treatment of metals as part of the lab curriculum.

5. Additional Justification for this item:
First started requesting this item in 2007-2008 Program Review.

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance:</th>
<th>Priority:</th>
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<tbody>
<tr>
<td>A</td>
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</table>

To Support Annually: Category Area

- Over $200
- 1 Classes Each
- Engineering

Description and part number for ordering:
CF 1100C 12x8x8" Muffle Furnaces w/ Kanthal Heating Elements Across International, Item #: CF1100.12.8.8

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One-time expenses: (e.g. construction, electrical, installation)

N/A

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

N/A

Item to be shared with the following Department/Program: (Include any shared expenses)

N/A

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
   Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

   See Justification for item #1

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

5. Additional Justification for this item:
I. Instructional Equipment/Materials Requirements

Importance: 
Priority: 

To Support Annually: Category Area
Over $200 
1 Classes Each Engineering

Description and part number for ordering:
Tinius-Olsen Model H50kS Materials Testing Machine

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</table>

One-time expenses: (e.g. construction, electrical, installation)
possible installation expense in new building (weighs approx 500 lbs)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)
none beyond current lab tech

Item to be shared with the following Department/Program: (Include any shared expenses)
May be shared occasionally with other engineering classes and with physics classes.

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)
1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

No

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

This instrument would be a primary piece of testing equipment in the Engineering Materials course, which is a transfer requirement for most engineering majors. Testing of material specimens is a core function within the lab portion of the course. At present, we use an older (1950s?) analog hydraulic testing machine, which although it is simple to operate and allows very high capacity testing (300kN), is not capable of performing many testing modalities that can be accomplished with modern digital electromechanical systems. As a result, students are not exposed to the full range of testing possibilities, nor do they get to experience the type of testing apparatus that they will encounter in any modern engineering lab (academic or industrial). All university and most community college engineering programs have modern testing machines.

Supplementing our older hydraulic machine with a newer mid-capacity testing machine would greatly enhance the educational experience for materials students. Because we are moving into a brand new engineering lab, this seems the most appropriate time to upgrade our equipment.
3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

Anywhere from 10-100 students per year, depending upon use by other physics/engineering classes.

If our aim is to grow the engineering program, this item would be essential to attracting new students.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

The two most relevant program SLOs are:

Design and conduct experiments, as well as to analyze and interpret data.

Use the techniques, skills, and modern engineering tools necessary for engineering practice.

5. Additional Justification for this item:

I. Instructional Equipment/Materials Requirements

<table>
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**Description and part number for ordering:**

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**One-time expenses:** (e.g. construction, electrical, installation)

N/A

**On-going Expenses:** (e.g. maintenance, repairs, staffing, and/or upgrades)

N/A

**Item to be shared with the following Department/Program:** (Include any shared expenses)

N/A

**Do you have space for this equipment?**

Yes

**Justification for Item (See Rating Rubric)**

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
   Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

   See Justification for item #1.

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

5. Additional Justification for this item:
Instructional Equipment

This section will be filled out by faculty and reviewed by the Department Chair, the ARea Dean, the Instructional Equipment Committee, IPC and Budget. Please enter items that will be used over a period of semesters BY STUDENTS.. (Note: These should be NEW items that you are requesting one time only - not ongoing or consumable. Ongoing and consumable requests go under "Other Instructional Equipment". Technology-related requests should go under "Technology Requests".

Select whether the item is less than or more than $200 each. If you are a large discipline with several areas, please include which area this item is for. Include Tax, Shipping and Handling in the total cost for each item.

Importance:
• ‘A’ means that your discipline cannot teach your course(s) without the requested equipment.
• ‘B’ means that your course(s) would be greatly enhanced with the requested equipment.
• ‘C’ means that you would like this piece of equipment for your course(s) but can wait for a future academic year.

In addition, how many times have you requested this item, but you have not received it?

I. Instructional Equipment/Materials Requirements

<table>
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<th>Importance</th>
<th>Priority</th>
<th>To Support Annually:</th>
<th>Discipline Area</th>
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Description and part number for ordering:
LCD Projector

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One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

Item to be shared with the following Department/Program: (Include any shared expenses)

Do you have space for this equipment?

Justification for Item (See Rating Rubric)
1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?
Used to project new CAD-CAM software set-up and operational instructions

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?
The CAD-CAM process is increasingly becoming the norm in the machining industries.

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

5. Additional Justification for this item:
Instructional Equipment

Physical-Education,-Health-&-Athletics-2011

This section will be filled out by faculty and reviewed by the Department Chair, the ARea Dean, the Instructional Equipment Committee, IPC and Budget.

Please enter items that will be used over a period of semesters BY STUDENTS. (Note: These should be NEW items that you are requesting one time only - not ongoing or consumable. Ongoing and consumable requests go under "Other Instructional Equipment"). Technology-related requests should go under "Technology Requests".

Select whether the item is less than or more than $200 each. If you are a large discipline with several areas, please include which area this item is for. Include Tax, Shipping and Handling in the total cost for each item.

Importance:
- 'A' means that your discipline cannot teach your course(s) without the requested equipment.
- 'B' means that your course(s) would be greatly enhanced with the requested equipment.
- 'C' means that you would like this piece of equipment for your course(s) but can wait for a future academic year.

In addition, how many times have you requested this item, but you have not received it?

I. Instructional Equipment/Materials Requirements

<table>
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<th>Priority</th>
<th>Category</th>
<th>Discipline Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>01</td>
<td>Over $200 Each</td>
<td>Physical Education and Athletics</td>
</tr>
</tbody>
</table>

Description and part number for ordering:
CLSC Upright Lifecycle - CLSC-0000R-01

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Unit Cost:</th>
<th>Tax:</th>
<th>Shipping: Total:</th>
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<tr>
<td>6</td>
<td>$2,140.00</td>
<td>$1,092.00</td>
<td>$620.00 $14,552.00</td>
</tr>
</tbody>
</table>

One-time expenses: (e.g. construction, electrical, installation)
N/A

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)
Gym doctors to upkeep the equipment is already in place.

Item to be shared with the following Department/Program: (Include any shared expenses)
To be shared with P.E., Athletics, Community Education.

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)
1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

This equipment is not required to meet Title 5 and or ED Code.

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?
This is not necessary for students to succeed in a series of courses.

3. **How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?**

Our bikes in our facility are old and need to be replaced.

Access will be improved for the entire department. New bikes will bring more students to the P.E. department.

Close to 880 students will be served by the upgrade of bikes.

This is vital to attracting new students; we compete on a daily basis with local health clubs getting new bikes would help us out tremendously.

4. **What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?**

Students will be able to compare and contrast various training programs to determine which is best for their individual goals.

With the addition of the new bikes students will be able to calculate heart rate percentages for weight loss, cardiovascular conditioning while on the bikes.

Students will have an understanding of being more fit.

Students will learn how and where to keep their hr during the exercise program in order to meet their goals.

These outcomes will be measured through final exams. Also through a pre and post test of fitness.

5. **Additional Justification for this item:**

We currently have bikes in the weight room but they have been there for a long time and need to be replaced.
Instructional Equipment

Physics-2011

This section will be filled out by faculty and reviewed by the Department Chair, the AREa Dean, the Instructional Equipment Committee, IPC and Budget.

Please enter items that will be used over a period of semesters BY STUDENTS. (Note: These should be NEW items that you are requesting one time only - not ongoing or consumable. Ongoing and consumable requests go under "Other Instructional Equipment". Technology-related requests should go under "Technology Requests").

Select whether the item is less than or more than $200 each. If you are a large discipline with several areas, please include which area this item is for. Include Tax, Shipping and Handling in the total cost for each item.

Importance:
- 'A' means that your discipline cannot teach your course(s) without the requested equipment.
- 'B' means that your course(s) would be greatly enhanced with the requested equipment.
- 'C' means that you would like this piece of equipment for your course(s) but can wait for a future academic year.

In addition, how many times have you requested this item, but you have not received it?

I. Instructional Equipment/Materials Requirements

<table>
<thead>
<tr>
<th>Importance</th>
<th>Priority</th>
<th>To Support</th>
<th>Category</th>
<th>Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>01</td>
<td>Annually:</td>
<td>160</td>
<td>Physics</td>
</tr>
</tbody>
</table>

Description and part number for ordering:
An excel file with a major request for new physics equipment has been sent to AS President Sara, McKinnon and Dean Jim Arnold. It will be attached as a hard copy to the printed version of this PR.

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Unit Cost:</th>
<th>Tax:</th>
<th>Shipping:</th>
<th>Total:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$85,797.40</td>
<td>$8,150.75</td>
<td>$0.00</td>
<td>$93,948.15</td>
</tr>
</tbody>
</table>

One-time expenses: (e.g. construction, electrical, installation)

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

Item to be shared with the following Department/Program: (Include any shared expenses)

Do you have space for this equipment?

Justification for Item (See Rating Rubric)
1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

An excel file with a major request for new physics equipment has been sent to AS President Sara, McKinnon and Dean Jim Arnold. It will be attached as a hard copy to the printed version of this PR.

There is significant peer reviewed literature showing the importance of carrying out lab experiments and guided inquiries in the sciences. This is of fundamental and utmost importance in physics. There is also significant research suggesting that students working in pairs help to facilitate each others learning experience. The literature does not in any way suggest that working in groups of 4 or 6 or sometimes 8 as we do in the College of Marin physics classes is good for the students. One needs only to walk into one of our physics labs and see two people closely looking at the experiment in progress while others of the group are further back for lack of access.

The physics discipline has been running on empty like this for as long as this department chair has been here and institutional memory suggest that the last massive revamp/purchase of physics equipment happened with the Austin Science Center was built in the early 70s. Also, since we are moving to a new building soon and hiring a new full time instructor we feel it is time to rebuild the labs sections. We have been slowly doing so over many years, so
We feel it is time to rebuild the labs sections. We have been doing so over many years, so the attached form will take a major swipe are much of what we need. Over the next few years we can continue to build upon what we receive from IE committee money and/or bond money.

We would like to highly and strongly request that if we are unable to get funding for all the items on the list that we be given a possible dollar amount that we can spend. If the IE committee and/or administration lets us know approximately what will be allocated to us we can come up with a detailed equipment list within a day or two.

What we really don’t want to have happen is the IE committee just pick and choose among our requested items. We realize this is what the ranking and priority system is for, but given that many of the items listed come as packages, or as interchangeable items that can be used for various lab experiments and across different courses, we would feel more comfortable sitting down as a group in our department and deciding what to do with any money allocated.

It should be noted that all of the items requests should be available for bond money allocation as they are all robust pieces of equipment that will be used in the new building.

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

5. Additional Justification for this item:
Instructional Equipment

Speech-2011

This section will be filled out by faculty and reviewed by the Department Chair, the Area Dean, the Instructional Equipment Committee, IPC and Budget.

Please enter items that will be used over a period of semesters BY STUDENTS.. (Note: These should be NEW items that you are requesting one time only - not ongoing or consumable. Ongoing and consumable requests go under "Other Instructional Equipment". Technology-related requests should go under "Technology Requests". Select whether the item is less than or more than $200 each. If you are a large discipline with several areas, please include which area this item is for. Include Tax, Shipping and Handling in the total cost for each item.

Importance:
• 'A' means that your discipline cannot teach your course(s) without the requested equipment.
• 'B' means that your course(s) would be greatly enhanced with the requested equipment.
• 'C' means that you would like this piece of equipment for your course(s) but can wait for a future academic year. In addition, how many times have you requested this item, but you have not received it?

I. Instructional Equipment/Materials Requirements

<table>
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<th>Importance</th>
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<th>To Support</th>
<th>Discipline</th>
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</thead>
<tbody>
<tr>
<td>B</td>
<td>01</td>
<td>Annually:</td>
<td>Category</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$200 Each</td>
<td>Area</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1080 Students Each</td>
<td>Speech/Comm</td>
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</table>

<table>
<thead>
<tr>
<th>Description and part number for ordering:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Encyclopedia of Communication Theory [Hardcover] Stephen Littlejohn (Editor), Karen A. Foss (Edit 2. Current DVDs for classes in Public Speaking, Interpersonal Communication, and Intercultural Communication</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Unit Cost:</th>
<th>Tax:</th>
<th>Shipping:</th>
<th>Total:</th>
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<tbody>
<tr>
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<td>$1,000.00</td>
<td>$90.00</td>
<td>$25.00</td>
<td>$1,115.00</td>
</tr>
</tbody>
</table>

One-time expenses: (e.g. construction, electrical, installation)

Can or spot lighting for two podium positions in HC-173 (one flaw in utilizing MS PowerPoint is the speaker frequently must stand in the dark in our current classroom configuration).

On-going Expenses: (e.g. maintenance, repairs, staffing, and/or upgrades)

Electrician to install the lighting system.

Item to be shared with the following Department/Program: (Include any shared expenses)

Anyone who uses HC-173 will no longer be speaking in "the dark."

Do you have space for this equipment? Yes

Justification for Item (See Rating Rubric)

1. Is this equipment required to meet Title 5 and/or Ed Code? If so, how? (Cite code)
   Is this equipment required to meet any local, state or federal Health and Safety Code? If so, how? (Cite code)

   N/A

2. How will the quality of instruction be improved for student learning and success? Is it necessary for students to succeed in a series of courses?
1. The Encyclopedia of Communication Theory (The ECT) will be used as a resource by both faculty and students to explore the spectrum of the field of communication.

2. The DVDs will help illustrate, exemplify and explain key theoretical perspectives being taught in the classroom.

3. The proper lighting (LGHT) will allow any speaker to be properly illuminated and to easily be able to see/read his/her notes.

3. How will access for students be improved? How many students (annually) will benefit from this request? Is it required to accommodate existing students? Would it be vital to attracting new students?

All students taking Speech courses will be able to benefit from all the above-cited resources and changes (1080 students).

4. What student learning or other outcomes are expected? Is it important to the achievement of student goals? How will these outcomes be measured for future planning? What data or evidence supports your request?

Listed below are the Student Learning Outcomes with a brief description of the measured effectiveness of implementing these new resources.

**Communication degree SLOs:**

**Oral Communication/Performance Skills:**

- Manage communication apprehension to build confidence while communicating with others.
  - The ECT explains and exemplifies different forms of communication apprehension.
  - The DVDs illustrate different forms of communication apprehension.
  - Select, prepare and deliver presentations that employ techniques specific to the context and occasion.
    - The DVDs illustrate outstanding examples of public speaking.
    - LGHT illuminates the room using best practices.

- Demonstrate critical listening skills in a variety of communication contexts.
  - Students can apply theory (ECT) to examples and illustrations (DVDs) across all courses offered in the discipline.

**Critical Thinking:**

- Demonstrate understanding of the relationship between culture and communication.
  - The ECT explains and exemplifies different forms of communication apprehension.
  - The DVDs illustrate the relationship between culture and communication.
  - Interpret
media messages to create meanings based on personal experience

- The ECT explains and exemplifies different forms of mediated messages.
- The DVDs illustrate the relationship between mediated messages and their audiences.

Describe
obstacles to competent intercultural communication, including prejudice, discrimination, stereotyping and ethnocentrism.

- The ECT provides numerous communication theories of the obstacles to competent intercultural communication, including prejudice, discrimination, stereotyping and ethnocentrism.
- The DVDs describe and illustrate the obstacles to competent intercultural communication, including prejudice, discrimination, stereotyping and ethnocentrism.

Problem Solving:

Recognize
the role of perception and perceptual barriers when communicating with others.

- The ECT provides numerous communication theories on the role of perception and perceptual barriers when communicating with others.
- The DVDs describe and illustrate the role of perception and perceptual barriers when communicating with others.

Identify
prominent Communication Theories and apply them to appropriate contexts.

- This is exactly what the two resources our Department is requesting will do!

Recognize
the semiotic rules and conventions of various face-to-face and/or mediated messages.

- The ECT provides current communication theory on semiotics.
- The DVDs exemplify and illustrate current communication theory on semiotics.

Information Literacy:

Use
evidence and rhetorical strategies to support a claim.

The ECT provides current rhetorical theory in communication.
The DVDs provide current examples and illustrations of rhetorical theory in communication.

Research historical and social influences in the development of cultures.
The DVDs will illustrate historical and social influences in the development of cultures.

5. Additional Justification for this item:
The ECT and DVDs explain and assist Student Learning of the core concepts of the field of Speech/Communication.
The LGHT is best practices for public presentations.