### I. Team Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Member Type</th>
<th>Email</th>
<th>Contact Phone</th>
<th>Responsible for what part</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>F. Agudelo-Silva</td>
<td>Primary Team Member</td>
<td><a href="mailto:fernando.agudelosilva@marin.edu">fernando.agudelosilva@marin.edu</a></td>
<td>415-457-8811 x 7397</td>
<td>whole review</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F. Agudelo-Silva</td>
<td>Primary Team Member</td>
<td><a href="mailto:fernando.agudelosilva@marin.edu">fernando.agudelosilva@marin.edu</a></td>
<td>415-457-8811 x 7397</td>
<td>Whole review</td>
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</tbody>
</table>

### II. Program Review Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Committee (Chairs)</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chris Schultz</td>
<td>Curriculum Committee Chair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blaze Woodlief</td>
<td>Educational Planning Committee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laura McCarty and Erik Dummire</td>
<td>Facilities Committee Co-Chairs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sara McKinnon</td>
<td>Planning and Resource Allocation Committee Co-Chair/Academic Senate President</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>Planning and Resource Allocation Committee Co-Chair/Instructional Equipment Committee Chair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sara McKinnon, Yolanda Bellissimo and Anne Gearhart</td>
<td>Program Review Committee Chair and SLO Coordinators</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>Student Access and Success Committee Chair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Michael Irvine</td>
<td>Tech Committee Chair</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### III. Vice President of Academic Affairs

<table>
<thead>
<tr>
<th>Name</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nick Chang</td>
<td></td>
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</tbody>
</table>

### IV. Board of Trustees President

<table>
<thead>
<tr>
<th>Name</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eva Long</td>
<td></td>
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</tbody>
</table>
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:
• ‘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>Category</th>
<th>Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>01</td>
<td>Over</td>
<td>Landscaping</td>
</tr>
</tbody>
</table>

Description and part number for ordering:
Precision and Analytical balance

<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>$1,130.00</td>
<td>$0.00</td>
<td>$100.00</td>
<td>$1,230.00</td>
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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. 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>
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<tbody>
<tr>
<td>A</td>
<td>02</td>
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</tbody>
</table>

To Support Annually: Category Discipline Area

- Over $200
- 2 Classes Each Landscaping

Description and part number for ordering:

Gravity convection oven

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Unit Cost:</th>
<th>Tax:</th>
<th>Shipping: Total:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>$500.00</td>
<td>$0.00</td>
<td>$100.00</td>
</tr>
</tbody>
</table>

$1,100.00

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>
<th>To Support Annually:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Category:</td>
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<tr>
<td></td>
<td></td>
<td>Area:</td>
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<tr>
<td>Over $200</td>
<td>Environmental</td>
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Description and part number for ordering:
Ohaus Electronic Balances

<table>
<thead>
<tr>
<th>Qty.</th>
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<tbody>
<tr>
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<td>$900.00</td>
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</table>

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>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>04</td>
<td>Category Under $200</td>
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<tr>
<td></td>
<td></td>
<td>2 Classes Each</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Discipline Area Landscaping</td>
</tr>
</tbody>
</table>

**Description and part number for ordering:**
Chaining pings (steel arrows)

**Qty.** | **Unit Cost:** | **Tax:** | **Shipping:** | **Total:**
4        | $25.00     | $0.00    | $10.00       | $110.00

**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 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 cannot 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.
Program Summary
ELND-2011

Instructions: after reviewing your data and reports from all other sections of your program review, use this form to briefly summarize all of the information you have provided by closing with your concluding remarks (e.g. an executive one-page summary) for your entire program review.

I. Assessment of Previous Program Reviews:

1. What resources have you been granted from your previous program reviews?
2. Please assess how these resources have been used to improve access, learning outcomes and student success in your program?
3. What changes have you implemented based on previous program reviews?
4. What results have you found?

GENERAL COMMENT: The landscaping program has special needs for equipment, laboratories, and greenhouses because its curriculum has two modalities: Organic and traditional approaches. Because of the nature of the organic certification standards, sharing equipment, tools and facilities, laboratories, greenhouse, for non-organic and organic practices is not possible. For example, if scales are used to measure non-organic fertilizers, they could be considered to be contaminated by not organic fertilizers and they could not be used for practices for the organic farm or organic farm practices. Thus, the landscaping program has special needs that require dedication of equipment, laboratories, greenhouses, tools for organic and conventional landscaping, gardening and farming.

1. What Resources have you been granted from your previous program reviews?:

A. Compound microscopes to improve the course ELND 150: Integrated Pest Management.

B. Electronic scales to support the class: ELND160: Soils Ecology and Management

2. Assess How these resources have been used to improve access, learning outcomes and students success in Landscaping:

Student Learning Outcomes: The microscopes and the scales have been critical to assist to accomplish the SLO’S for the class mentioned before. For example one of
the SLO's for ELND150 is to recognize different plant pathogens. The microscopes provided allowed me to reach that SLO's for that class.

I used the Electronic scales provided to reach are SLO's for the class ELND160. One of those SLO's is to determine water content in soils.

3. What changes have you implemented based on previous program reviews:

I developed new laboratory exercises for the students in the two classes for which the equipment was provided. These exercises related to plant pathogen identification and determination of soil moisture.

4. What results have you found:

I found that the students who took the two classes mentioned above, enjoyed the classes and felt the instruction delivered to them was practical and of good quality. I believe that led to promote the soils class. In fact based on current enrollment for this class for Spring 2012, the class is popular. As of today, December 16, 2011 more than 20 students have registered for the class. I anticipate have close to 30 students for that class. That is a very successful enrollment for a traditional class at the Landscaping Department.

II. Requests Summary:

1. Please summarize the main requests you have made in this program review in order of your priority starting with the most important one.
2. Summarize briefly why you want each one.
3. Summarize your overall rationale.

II. Requests Summary:
1. Please summarize the main requests you have made in this program review in order of your priority starting with the most important one:

A. **Ovens** to support teaching the class ELND160. Soils: Ecology and Management:

   A key SLO in this class is to teach students how to assess soil moisture and organic matter content. Without these ovens I can not deliver those SLO’s to the students. The academic integrity of the class and Program in seriously compromised; the class can not properly taught.

B. Electronic scales:

   A key SLO in this class is to teach students how to assess soil moisture and organic matter content. Without these scales I can not deliver those SLO’s to the students. The academic integrity of the class and Program in seriously compromised; the class can not properly taught.

C. Chain pins:

   A key SLO in this class is to teach students how to measure and describe land in the field to plan irrigation systems and landscape designs. Without these pins I can not deliver these SLO’s to the students. The academic integrity of the class and Program in seriously compromised; the class can not properly taught.

D. Analytica Scale:

   A key SLO in this class is to teach students how to assess Primary Productivity of land and organic matter content in the soil. Without this scale I can not deliver these SLO’s to the students. The academic integrity of the class and Program in seriously compromised; the class can not properly taught.

Summarize your whole rationale:

SLO's of classes which high technical content such as soils, irrigation and landscape ecology and design require good precision equipment to be properly taught. If we want to have a department that has good academic standing and is an attractive place for students to enroll we need to have the equipment I request.
III. Other concluding remarks.

I would appreciate receiving a written response to this Program Review and having a meeting with the people who review the Program Review, including the Dean and Chair of the Department to discuss their comments to the Program Review and responses to my requests and to make plans for the next Program Review.