Science 2008-09 Initiative: Developing the Water Conservation Technician Training AAS program

Summary:

This initiative provides curriculum development, equipment, software, instructional design and materials and supplies to support developing the Water Conservation Technician Training AAS program. A portion of the career-technical training program will be disseminated via distributed learning modalities leveraging Lane's technology resources. The AAS program prepares technicians to create, implement and evaluate water conservation programs. These skills are integral to local, regional and global sustainability.

Description:

As a leader in sustainability, Lane relies on development of training programs and technology to maintain competitive advantage. Concurrently the workforce is faced with a growing shortage of water conservation training and professional certification. Perkins funding will meet both needs to create five degree classes. Classes developed in 2008 include outdoor, commercial/industrial and agriculture water conservation as well as water economics and policy (WATR courses: 107, 210, 208, 150 and 261 respectively). Training teaches how to evaluate water use patterns at urban, residential through commercial sites; make analysis-based recommendations; design, implement, and evaluate water conservation programs; and perform public outreach. Perkins resources also provide associated field and demonstration equipment; software (resource tracking, use and analysis); instructional design for two distributed learning (DL) classes; materials and supplies. The first three degree classes have been developed and applications have been submitted for EPA, Meyer Fund and U.S. Green Building Council funds. The remaining four degree classes will be developed with other funding sources, potentially including Perkins 2009.

Although lead faculty participate in all activities, several adjuncts will share responsibility and resources. Funding leverages Lane Distributed Learning technology resources by providing instructional design for two classes: outdoor and commercial/industrial water conservation. This will bolster access to training, professional development and enhance college sustainability in academics and operations. To optimize DL resources, traditional curriculum development is augmented through skilled instructional design services to ensure high-quality effective DL modalities. Trainings will then be available for distribution to partner community colleges or through the campus network (i.e. League of Innovation's Project SAIL).

Perkins funding will ensure that the nation's first national community college degree in water conservation is established and successful. The innovative, flexible and collaborative technician program was developed by practitioners to meet workforce needs to smooth the first peak wave of retirees. Program will also provide ideal careers for K-12 students. This program will bolster nontraditional participation in a growing, high-pay

field. This program will tangibly advance Lane's sustainability core value. Two required courses (Introduction to Sustainability; Fostering Sustainable Behavior) directly teach sustainability principles, while the entire program is girded by sustainability, collaboration and pluralism themes as well as community-based learning concepts. After graduation with the AAS degree, graduates can follow pathways to careers in broader water industry or energy management and sustainability.

Program benefits to students include: access to degree, professional development and certification; additional choices; enhanced success; and high-pay jobs. This initiative provides Lane added FTE, stronger partnerships and additional sustainability grist through rigorous technical instruction. It will help position Lane as a vital partner empowering the workforce and meeting basic needs in these changing times. Anticipated outcomes include: deepened sustainability and resource conservation knowledge, skills and attitudes; increased access to water efficient products, services and best management practices; measurable decrease in water use at multiple campuses; and increased availability of high-quality targeted training and certification.

Strategic Direction

- Achieve and sustain fiscal stability.
- Build organizational capacity and systems to support student success and effective operations.
- Commit to a culture of assessment of programs, services and learning.
- Foster the personal, professional, and intellectual growth of learners by providing exemplary and innovative teaching and learning experiences and student support services.
- Position Lane as a vital community partner by empowering a learning workforce in a changing economy.

Learning Plan Goals

- Commit additional resources to the creation, development, and implementation of distance learning courses and degree programs.
- Create innovative, flexible and collaborative programs that are responsive to current and emerging needs of students and employers.
- Curriculum enhancement.

Student Affairs Plan Goals

- Create innovative, flexible, and collaborative programs that are responsive to the needs of students and employers and facilitate a smooth transition from college to the workplace.
- Enhance Recruitment Efforts.

• Strengthen relationships with high schools, transfer institutions, community partners, and employers to enhance the student's preparation for and success in college, career, civic engagement, and community involvement.

College Council Priorities

- 1.b. Enrollment Management: Recruitment and Retention
- 1.c. Enrollment Management: Workforce Development
- 1.e. Enrollment Management: Increase Credit Enrollment Level
- 3. Efficiencies
- 4.1 Responding to unit plans/council plans: Innovation
- 4.2 Responding to unit plans/council plans: Curriculum Development
- 5.2 Instructional Redesign: Leveraging Technology
- 5.3 Instructional Redesign: External Revenue Generation
- 5.4 Instructional Redesign: Grants

Questions and Answers

How is the initiative linked to the Unit Plans most recently submitted?

- 1. How does it continue the achievement of those goals?
- 2. If this is a continuation of an initiative started last year, make sure that relationship is clear.

How is this initiative linked to the efficiencies and productivities plans you had last year?

- 1. How does it continue the achievement of these plans?
- 2. If this is a continuation of an efficiency or productivity plan started last year, make sure that relationship is clear.

The Energy Management program, housed in the Science Division, has been at the forefront of Lane's vision for sustainability education. The new Water Conservation Technician AAS degree is an outgrowth of Energy Management's strong connections to industry practitioners in all areas of energy and conservation. In the Science FY09 Unit Plan, the Energy Management Summary states:

"Critical Needs for 08-09-The program has an opportunity to significantly grow into extremely active energy efficiency, renewable energy, and water efficiency industries. The program has only one full-time faculty and it is becoming increasingly more difficult to retain competent adjunct faculty. The critical need for school year 08-09:

- Fulltime renewable energy faculty
- Fulltime water conservation faculty
- Fulltime energy management faculty

• Fulltime administrative support"

This initiative only partially meets these needs, by funding support for curriculum development, instructional design, and other program costs associated with growth.

In the Division's Unit Plan for FY08, Science proposed (and received funding for) a sustainability curricular project to identify sustainability courses throughout the Science Division. The planned AAS degree dovetails with our efforts on the transfer/AAOT side of the curriculum.

Describe the resources needed:

EQUIPMENT \$2000

Field & demonstration equipment to help students accomplish instructional goals. For example:

- Water auditing equipment (stop watches, measuring devices, temperature gauges, etc.)
- Demonstration equipment (hardware of: toilet flushing devices, viewable faucets, etc.)
- Data logging equipment
- Metering equipment
- Models

Request: Carl Perkins, \$2000

COMPUTER SOFTWARE \$1000

Software such as:

- Programs for resource tracking, use & analysis
- Data logging compatibility software
- WaterAide, WATERGY, or other

Request: Carl Perkins: \$1000

MATERIALS & SUPPLIES \$1000

- Industry-specific instructor and student resources such as media, handbooks, literature, how-to guides, etc.
- Marketing materials such as high-quality brochures
- Instructional aids, supplies and equipment

Request: Carl Perkins: \$1000

CURRICULUM DEVELOPMENT (Hours) 500 hours Curriculum development funds will create 5 training classes including:

- WATR 107 Water Conservation: Outdoor (4 credits: 2 lecture, 2 lecture/lab) (72 contact hrs)
- WATR 210 Water Conservation: Industrial, Commercial (4 credits: 2 lecture, 2 lecture/lab) (72 contact hrs)
- WATR 208 Water Conservation: Agricultural (4 credits: 2 lecture, 2 lecture/lab) (72 contact hrs)
- WATR 150 Water Resource Economics (4 credits: 3 lecture, 1 lecture/lab) (60 contact hrs)
- WATR 261 Regional Water Policy (3 credits: 2 lecture, 1 lecture/lab) (48 contact hrs)

Development of these training classes augments the planned two-year AAS Water Conservation Technician degree accepting students fall term 2008. Degree classes already developed are: Intro to Sustainability; Intro to Water Resources; and Water Conservation Residential.

Request: Carl Perkins, 500 hours

TIMESHEET STAFF \$6000 (may be paid via personal contract rather than timesheet) Instructional Design Consultant: 100 hrs for each of two classes (\$45.00/hour + OPE @ 34.5% [a very conservative hourly rate , \$50/hr is standard]).

An Instructional Designer works with faculty to create interactive exercises that optimize effectiveness in distributed learning environments. Instructional design does not include a distance learning technician who translates exercises into DL delivery modalities.

Request: Carl Perkins, \$6000

What specific measurable program outcomes do you expect to achieve with this initiative? The outcomes should be specific enough to be measurable. Also, outline the method that will be used to determine the results.

This initiative will result in:

- Development of five new WATR courses, that develop sustainability and resource conservation knowledge, skills and attitudes for water conservation technicians.
- Increased access to water efficient products, services and best management practices
- Increased FTE from students in the new program.
- 85% or better success, graduation and job placement rates among program completers.

Department Priority:

Unit Resources:

The AAS program will be housed in the Energy Management Program, which is a selfsupporting program. The college contributes space and facilities for the program.

Carl Perkins Funding Request

Is this a Career & Technical Education program approved by the state and offered through Lane for credit?

Yes

If not a Career & Technical Education program, does your request provide considerable support for students enrolled in these programs?

No

Do you have an advisory committee that meets 2-3 times per year?

Yes

If request is for personnel, will funds be used to replace an existing position?

No

How will funding this initiative increase or sustain the academic achievement and technical skills attainment (GPA of 2.0 or better) of Career and Technical Education students?

The Water Conservation Technician AAS program is industry-driven, and is specifically designed to increase students' access to careers. The program follows the successful cohort model developed by the Energy Management Program. Courses cover a broad range of technical skills, general education foundations, and practical applications. Students are well-prepared to enter the workforce.

How will funding this initiative increase or sustain the number of CTE students that graduate or receive a one year certificate from Lane and help prepare the students for employment?

This initiative will increase and/or sustain career and technical education (CTE) students by providing high-quality degree classes and professional development opportunities. Because the program was developed working closely with an industry advisory committee members, the curriculum reflects real-world on-the-job skills, knowledge and abilities. Moreover, students will have the opportunity to sit for the Pacific Northwest Section-American Water Works Association's professional certification in collaboration with Lane. Future growth of the program could take many avenues due to its strong foundation of sustainability. For example, students may also have access to training and certification in the nascent rainwater harvesting field.

This initiative directly supports the Perkins goals of increasing career and technical education in new and emerging careers.

EQUIPMENT \$

2000.00

COMPUTER HARDWARE \$

Question Not Answered

COMPUTER SOFTWARE \$

1000.00

MATERIALS & SUPPLIES \$

1000.00

CURRICULUM DEVELOPMENT (Hours)

500

PART-TIME FACULTY \$

Question Not Answered

TIMESHEET STAFF \$

6000.00

TRAVEL \$

Question Not Answered

Can this initiative be partially funded?

Yes

EQUIPMENT \$

1000

(E) Explanation of effect of partial funding:

Students will lose opportunities to experience the full range of industry equipment available. Vendor demonstrations may fill the gap.

COMPUTER HARDWARE \$

Question Not Answered

(CH) Explanation of effect of partial funding:

Question Not Answered

COMPUTER SOFTWARE \$

500

(CS) Explanation of effect of partial funding:

Students will lose opportunities to experience the full range of industry software available to do their jobs in the workplace. Free online software may fill the gap.

MATERIALS & SUPPLIES \$

500

(MS) Explanation of effect of partial funding:

Instructors will not have access to the tools to teach and/or develop these classes. Coordination with Library staff may offset the loss. Lack of funds for advertising may adversely affect enrollment.

CURRICULUM DEVELOPMENT (HOURS)

300

(CD) Explanation of effect of partial funding:

This reduced level of funding provides development of 3 classes listed below allowing the degree program to stay on track.

- WATR 107 Water Conservation Outdoor
- WATR 208 Water Conservation Agricultural
- WATR 210 Water Conservation Industrial, Commercial

Other classes may be able to be adapted to work for the Water Conservation Tech degree rather than developing the economics and policy classes. For example, the skills taught in Energy Investment Analysis (finance) and Intro to Environmental & Natural Resources Economics classes may suffice for the first. However, in that event curriculum revision funds would be necessary. A reduction of curriculum development funding from Perkins may delay the delivery of the AAS curriculum thereby delaying students in completing the program.

PART-TIME FACULTY \$

Question Not Answered

(PF) Explanation of effect of partial funding:

Question Not Answered

TIMESHEET STAFF \$

6000

(TS) Explanation of effect of partial funding:

Question Not Answered

TRAVEL \$

Question Not Answered

(T) Explanation of effect of partial funding:

Question Not Answered

Curriculum Development Funding Request

Technology Fee Funding Request