



# California State University

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# SAN MARCOS

Proposal to develop the:

## **Professional Certificate in Water Leadership and Management**

Submitted to:

THE CSU COMMISSION ON THE EXTENDED UNIVERSITY

2015-2016

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## Project Abstract

The acquisition, storage, purification, sustainability, and management of water resources continue to be fundamental challenges for the state of California. In November 2014, California voters approved Proposition 1, which allocated a bond measure of \$7.5B for a comprehensive water management plan for California<sup>1</sup>. The industry is losing a significant number of water resource professionals to retirement in the coming few years. The need for more trained water management professionals emerges as the number of industry professionals dwindles, at the same time that water resources reach crisis levels and become increasingly scarce and valuable. California State University, San Marcos (CSUSM) currently offers a non-credit Certificate in Water Management and Leadership through Extended Learning. The College of Business Administration proposes expanding the number of certificates offered in a manner that will form the foundation for water-related B.S. and M.S. degrees, which aims to meet the following objectives from the Commission on the Extended University:

- Meet California's economic and workforce development needs
- Increase access to educational opportunities by serving broader constituencies
- Creatively develop new programs
- Provide personal and lifelong learning opportunities

<sup>1</sup> For additional information, see <http://tinyurl.com/q8cag3f>

## **Project Description**

The acquisition, storage, purification, sustainability, and management of water resources continue to be fundamental challenges for the state of California. In November 2014, California voters approved Proposition 1, which allocated a bond measure of \$7.5B for a comprehensive water management plan for California<sup>1</sup>. The industry is losing a significant number of water resource professionals to retirement in the coming few years. The need for more trained water management professionals emerges as the number of industry professionals dwindles, at the same time that water resources reach crisis levels and become increasingly scarce and valuable. CSUSM currently offers a non-credit Certificate in Water Management and Leadership through Extended Learning. The College of Business Administration proposes expanding the number of certificates offered in a manner that will form the foundation for water-related B.S. and M.S. degrees.

### ***Alignment with CSU Commission Objectives***

The Certificate in Water Management and Leadership Program will meet the following objectives from the Commission on the Extended University:

- Meet California's economic and workforce development needs
- Increase access to educational opportunities by serving broader constituencies
- Creatively develop new programs
- Provide personal and lifelong learning opportunities

### ***Portfolio of Certificates to Meet Industry's Needs***

The purpose of the grant is to fund further development of certificate programs that will serve as a foundation for future B.S. and M.S. degrees. Currently, the not-for-credit Certificate in Water Management and Leadership targets the leadership and management prospects that presently work in the water industry in some capacity. Additional certificates will include:

- An entry-level program to prepare individuals seeking employment in the water industry
- An executive-level program to prepare or further educate the current and next generations of industry executives

We see multiple entry points to the certificate program. The new certificates will provide access to a broader set of constituents. Local community colleges, including Palomar and Cuyamaca offer technical programs, such as Cuyamaca's Water and Wastewater Technology Program. The CSUSM certificate program (and ultimately degree programs) will provide a conduit for students in the technical programs to further their knowledge and expand their careers in the water industry. Similarly, individuals who have non-water-related undergraduate degrees will have a vehicle to improve their career standings when entering, transitioning, or growing within the water industry.

Ultimately, the goal will be to offer degrees such as a Bachelor and Master of Science in Water Management and Leadership. The degrees would be conferred from the combination of the entry-level certificate (to be developed), the management-level certificate (existing), and the executive-level certificate (to be developed), plus a practicum. The goal of the grant would be to design and create the certificate

program with an intent for the program to eventually become degree programs. This creation would include determining all entry points for:

- Undergraduate students starting at CSUSM
- Students coming from community college
- Individuals with a non-water bachelor's degree
- Individuals seeking a graduate degree within the water field

The program will aim to primarily serve water resource management students and industry professionals in San Diego, Riverside and Orange Counties. A new foundational certificate will recruit and educate business and science students to take advantage of opportunities in the management of water resources. An intermediate certificate will allow graduates of local community college water-related programs and the industry's many technicians to become managers in the water industry. An executive-level certificate will provide a forum for water industry executives to pass on their wealth of knowledge and experience to the next generation of water management leaders. Certificate courses will reflect the encompassing role that water management plays in the state; addressing economic, environmental, political, scientific, and societal issues. Provision of these courses will provide opportunities for synergy with the forthcoming B.S. in Environmental Science with an option in Wildfire Management, the forthcoming M.S. in Wildfire Science, as well as with existing and planned programs for the wine and beer industries.

Integral to all the courses will be instruction by teams of water management leaders and CSU San Marcos faculty experienced in developing industry-focused programs. Classes in the Certificate Program will be conducted using a combination of traditional face-to-face and online teaching approaches. Instructors will be encouraged to use internet- and video-based delivery systems (online course management systems such as Moodle and video-conferencing) to provide students convenient access to guest lectures, class materials, supplemental readings and submission of assignments. This combination of practitioner and academic experts using flexible delivery mechanisms, will allow the program's curriculum to reflect current trends and developments in water management. After considering various candidates, leaders of the local water industry identified and approached CSU San Marcos as a partner in the development of educational programs to transfer their extensive knowledge and experience in water management to a new generation. A small team of individuals from two local water districts, the College of Business of Administration, and Extended Learning, worked with industry leaders to develop the curriculum and launch the intermediate/management level certificate. The program is funded using money donated by the local water industry and tuition generated by the program. The award of a CSU Commission grant is pivotal to further development of water management education in the region. A significant investment from the CSU, would facilitate funding by CSU San Marcos Extended Learning and act as a catalyst for a campaign for donations from the many individuals and organizations in the regional water industry. Passage of Proposition 1 will allow the state of California to build the necessary water supply infrastructure and protect drinking water; a CSU Commission grant will allow CSU San Marcos and its local water industry to educate those that will manage the state's future investment in water management infrastructure.

## **Goals**

In order to accomplish the goal of providing additional certificates, we have outlined the following project objectives:

1. To plan, design, and develop program curricula and course offerings for the entry-level and executive-level certificates. (Measures: Process – finalized curricula and list of course offerings.)
2. To develop new course offerings for the two certificates. (Measures: Process – syllabi completed and all course materials developed.)
3. To submit for campus approval all required curricular forms, including the initial proposal forms and new certificate program forms, with all related accompanying forms. (Measures: Process – Completed approval forms.)
4. To develop marketing plans for the new certificates and begin the recruitment process regionally. (Measures: Process – completed marketing plans; Outcome – enumerated inquiries and registrations.)

## **Schedule of Activities**

Work would commence concurrently on development of two additional certificates. The general activities and timeframe are as follows:

<b>Objective / Action</b>	<b>Timeframe</b>
Submission of Proposal to the CSU Commission on the Extended University	February 2015
Consultation between Program Director, faculty, local experts, and industry leadership to identify curricula and certificate requirements	March – July 2015
Finalize course listing for certificate programs	July 2015
Curriculum development for courses	July – December 2015
Submission of Certificate programs for CSUSM approvals	December 2015
Apply for and secure curricular approvals in College of Business Administration (CoBA) and CSUSM	November 2015 – May 2016
Development of program website and marketing materials	January – March 2016
Marketing implementation	March – July 2016
Offer new courses	Spring 2016

## **Implementation Plan**

As with the existing water management certificate, the future certificates and corresponding curricula will be developed in conjunction with industry experts. Dr. Alan Styles and the outreach/program coordinator will facilitate consultation with local professionals to further identify economic and workforce needs. Consultation will include focus groups and surveys of members of the water industry and related parties. They will also conduct a comprehensive review of existing in-state and out-of-state programs. Lastly, the research would include interaction with regional

community college representatives to ensure alignment with technical water programs for smooth transition into the certificate programs.

During 2015, Dr. Styles and participating faculty will identify the requisite courses and best program structure in order for the program to function as a foundation for future degrees. The curricula will be developed jointly between industry experts and academics, building on the existing model used to create the currently offered certificate.

By definition, water districts are geographically dispersed, which provides a challenge for delivery of education. Consequently, development of this program will include investigation of how to best facilitate distance-learning for the most effective program delivery.

Development of the program's curriculum, will include delivery of student learning objectives, expected learning outcomes, course syllabi, proposed textbooks/materials, distance-learning requirements, and the program website content. Examples of technology enhancements would be digital recording and/or delivery of classes, digital student presentations, guest speaker presentations using video/internet conferencing, and student assessment feedback available online. Participating faculty will work with CSUSM's Academic Technology Support as needed to secure any necessary training to accomplish these objectives.

The reason for seeking this grant is to fund identification and development of the respective certificate curricula. But, for illustrative purposes, the current thinking is that the entry-level certificate would comprise six 3-unit courses touching on subjects such as:

- Leadership in Organizations
- Preparatory Chemistry
- Biology for Non-Science Majors
- Foundations of Business Environments
- Foundations of Water Management

Further, for illustrative purposes, the executive-level certificate is envisioned as six 3-unit courses comprising of such subjects as:

- Finance & Accounting for the Water Industry
- Managing Complex Organizations
- Leadership and Management
- Border Water Conflicts
- Business and Regulatory Law

Once the program is approved, CSUSM will begin to promote it and recruit students during 2015 and Spring 2016. Dr. Alan Styles, in conjunction with Extending Learning personnel, will coordinate the promotion and recruitment activities. Extending Learning's marketing staff will use a combination of print materials, public relations, advertising methods and a program Website to promote the program. A significant factor to success will be dedicated outreach. As a result, the budget will include funds for a person dedicated to outreach on a part-time basis.

## **Project Impact**

There are disproportionate numbers of water industry professionals retiring in the coming years. This “silver tsunami” is impacting the entire state. There are not programs in place in the state to address the issue and educate the next generations of water industry professionals. This program helps meet a need not sufficiently met within the state. Further, the program will provide a vehicle for:

- Entry-level participants who want to enter the water industry
- More experienced individuals who wish to transition into the water industry
- Existing water industry personnel who want to further develop their careers
- Enabling community college graduates with AA degrees, such as from Palomar or Cuyamaca, to progress into management
- Developing the next-generation water industry leaders
- Allowing retiring leaders to pass on knowledge

This program offers several advantages over more traditional programs:

- a. Allows employees to develop education and careers; that is, they may participate while continuing to work
- b. Allows employees to gain qualifications that have currency in the water-related industry
- c. Provides structured education path for new-entries to water management; today, students at best may be able to piece together disparate courses and offerings from multiple sources
- d. Established in conjunction with industry, resulting in content tailored to the needs of industry
- e. Funding of programs as a partnership between state and water industry and related industries

Particularly with the added focus on distance learning, this program provides a model for other CSUs to deliver similar programs throughout the state.

## **Dissemination Plan**

This project, its curriculum, and enrollment data will be made available to other CSU campuses via the CSUSM College of Business Administration and Extended Learning. Dr. Alan Styles will present his findings at regional and national water industry associations. Extended Learning staff will present program information at the CSU Counterparts meeting and at continuing higher education conferences. Potential articulation of the courses with local and regional graduate degree programs will also provide an opportunity for CSUSM and Extended Learning to disseminate the project’s design and results.

## Evaluation Plan

The project's outcomes will be evaluated on its ability to meet its stated objectives: (1) to meet economic and workforce development needs and (2) to increase access to educational opportunities. The primary outcome of the Certificate in Water Management and Leadership Program will be the number of participants enrolling and completing courses sufficient to meet the needs of the industry. To assess the ability of the program to meet the economic and workforce development needs we will conduct surveys of the graduating students and their employers. The student surveys will assess students' perception of the relevance of the courses to their professional development. The employer surveys will collect data on the employers' assessment of the student's professional development after completing courses in the Program.

Further, we will survey industry executives to determine whether the program succeeds at enabling the transfer of knowledge between generations and whether the program attracts new entrants to field of water management.

## Budget

	<b>CEE Grant Request (\$49,500)</b>	<b>Local Funds CSUSM Extended Learning (\$19,500)</b>	<b>Local Funds Industry Matching (\$36,000)</b>	<b>Project Total (\$105,000)</b>
<b>Salaries:</b>				
Dr. Alan Styles, Project Director (4 Unit Release)	\$4,500	\$1,440	\$3,060	<b>\$ 9,000</b>
Benefits	\$1,225	\$392	\$833	<b>\$2,450</b>
<b>Outreach/Program Development:</b>				
Part-time coordinator	\$12,375	\$3,960	\$8,415	<b>\$24,750</b>
Focus groups and industry surveys	\$3,375	\$1,080	\$2,295	<b>\$ 6,750</b>
<b>Faculty Stipends:</b>				
Faculty curriculum development (12 x 3-unit courses)	\$21,000	\$6,720	\$14,280	<b>\$42,000</b>
Benefits	\$3,000	\$960	\$2,040	<b>\$6,000</b>
<b>Other:</b>				
Marketing	\$2,525	\$4,468	\$4,057	<b>\$11,050</b>
Website development	\$1,500	\$480	\$1,020	<b>\$3,000</b>
<b>TOTAL:</b>	<b>\$49,500</b>	<b>\$19,500</b>	<b>\$36,000</b>	<b>\$105,000</b>



## **Budget Narrative**

### Project Director

Dr. Alan Styles, Director, Certificate in Leadership and Water Management program, will coordinate grant activities including consultation with local water industry executives and leadership, curricula development, and originator of request for curricula approval in the College and University. The 4-unit release will be taken based on coordination between the College of Business Administration and Extended Learning.

### Program Development & Outreach Coordinator

An individual with extensive experience and contacts in the water industry will work half-time as a liaison between the University and the water industry. This individual will coordinate focus groups, surveys and outreach activities with the water industry. As a program development coordinator, he/she will communicate program development and gather industry feedback.

### Faculty Stipends

12 faculty stipends of \$3,500 each will be paid to teams of CSUSM faculty and industry representatives for time developing courses for the Certificate Program. Payment of the stipend will be upon delivery of identified curricula, program development forms, and completed course management system.

### Other

Marketing activities will include development and printing of materials, content creation for digital delivery, outreach, information sessions, and advertising in target media. Further development of the program website is requisite.