California State University San Marcos • NEW COURSE • FORM C

ORIGINATOR'S SECTION:

1. College:

☐ CHABSS ☒ CoBA
☐ CoEHHS ☐ CSM

Desired Term and Year of Implementation (e.g., Fall 2008):

Spring 2017

2.Course is to be considered for G.E.? (If yes, also fill out appropriate GE form*) ☐ Yes ☒ No

3. Course will be a variable-topics (generic) course? ☐ Yes ☒ No
("generic" is a placeholder for topics)

4. Course abbreviation and Number:* WTRM 425

5. Title: ***(Titles using jargon, slang, copyrighted names, trade names, or any non-essential punctuation may not be used.)***

Core Concepts of Water Science, Engineering, & Technology for Water Managers

6. Abbreviated Title for PeopleSoft:
(no more than 25 characters, including spaces)
Water Sci Eng Tech

7. Number of Units: 2

8. Catalog Description: ***(Not to exceed 80 words; language should conform to catalog copy. Please consult the catalog for models of style and format; include all necessary information regarding consent for enrollment, pre- and/or corequisites, repeated enrollment, crosslisting, as detailed below. Such information does <u>not</u> count toward the 80-word limit.)***

Examines water science and engineering technology from the molecular level through the macro treatment and distribution scale of a functioning water treatment system. Examines the properties of a water molecule, where water supplies come from, how it becomes contaminated and how the polluted water is treated and distributed to the end user. The issues and key concepts that guide professional scientists and engineers in water/wastewater system operation.

Covers

then

Prereq: WTRM 401

9. Why is this course being proposed?

This course will be a required course for the Certificate of Water Resources Management & Leadership for intermediate managers in the water industry. Knowledge of water science, engineering and technology are integral to the role of a manager in the water industry.

10. Mode of Instruction*

For definitions of the Course Classification Numbers:
<u>http://www.csusm.edu/academic_programs/curriculumscheduling/catalogcurricula/DOCUMENTS/Curricular_Forms_Tab/Instructional%20Mode%20Conventions.pdf</u>

Type of Instruction	Number of Credit Units	Instructional Mode (Course Classification Number)
Lecture	2	02
Activity		
Lab		

11. Grading Method:*
☒ Normal (N) *(Allows Letter Grade +/-, and Credit/No Credit)*
☐ Normal Plus Report-in-Progress (NP) *(Allows Letter Grade +/-, Credit/No Credit, and Report-in-Progress)*
☐ Credit/No Credit Only (C)
☐ Credit/No Credit or Report-in-Progress Only (CP)

12. If the (NP) or (CP) grading system was selected, please explain the need for this grade option.

13. Course Requires Consent for Enrollment? ☒ Yes ☐ No

☐ Faculty ☐ Credential Analyst ☐ Dean ☒ Program/Department - Director/Chair

14. Course Can be Taken for Credit More than Once? ☐ Yes ☒ No
If yes, how many times? (including first offering)

15. Is Course Crosslisted: ☐ Yes ☒ No

If yes, indicate which course and check "yes" in item #22 below.

* If Originator is uncertain of this entry, please consult with Program/Department Director/Chair.

16. Prerequisite(s): ☒ Yes ☐ No

MGMT 482/WTRM 401 – Survey of Water Management Fundamentals and Practice in California

17. Corequisite(s): ☐ Yes ☒ No

18. Documentation attached:
☒ Syllabus ☐ Detailed Course Outline

19. If this course has been offered as a topic, please enter topic abbreviation, number, and suffix:*

20. How often will this course be offered once established?* Once every academic year

PROGRAM DIRECTOR/CHAIR - COLLEGE CURRICULUM COMMITTEE SECTION:
(Mandatory information – all items in this section must be completed.)

21. Does this course fulfill a requirement for any major (i.e., core course or elective for a major, majors in other departments, minors in other departments)? Yes ☒ No

If yes, please specify:

22. Does this course impact other discipline(s)? (*If there is any uncertainty as to whether a particular discipline is affected, check "yes" and obtain signature.*) ☒ Yes ☐ No

If yes, obtain signature(s). Any objections should be stated in writing and attached to this form.

BIOLOGY Discipline	Signature	12/7/16 Date	X Support	____ Oppose
CHEM Discipline	see email Signature	4/12/16 Date	✓ Support	____ Oppose
PHYS	see emails	4/20/16	✓ Sup	

SIGNATURES : (COLLEGE LEVEL)

1. Alan K Styles 12-17-15 Date

2. Program Director/Chair 12-17-15 Date

3. College Curriculum Committee 12-21-15 Date

4. College Dean (or Designee) Date

(UNIVERSITY LEVEL)

5. UCC Committee Chair 4/21/16 Date

6. Vice President for Academic Affairs (or Designee) Date

7. President (or Designee) Date

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BY: A.P

Office of Academic Programs Banner: Catalog Revised 3/28/2007

* If Originator is uncertain of this entry, please consult with Program/Department Director/Chair.

College of Business Administration and Extended Learning
California State University - San Marcos
Summer 2017

MODULE 4 ~ Core Concepts of Water Science, Engineering, & Technology for Water Managers

Course Leaders: John Adriany and Charlie Wyatt
Class Room: TBA
Class Meeting Time: Wednesday, 6:00pm – 8:50pm, 8JUN2017 to 10AUG2017
Office: Markstein Hall, Room 435
Office Hours: Thurs 5:30 pm to 6:00 pm, and by appointment
Phone: (760) 859.6668
E-mail: cwyattpgh1965@gmail.com; john.adriany@yahoo.com; lbrown@csusm.edu

COURSE DESCRIPTION:

Module 4 Core Concepts of Water Science Engineering, & Technology for Water Managers
Water resource management is, by its very nature, a complex enterprise driven by scientific and engineering principles. No one manager could be familiar with the frontier of hydrology, geohydrology research, numerical modeling for flood control, and distributions systems analysis, or technology involved in plant operations and water quality protection. What Module 4 does do, however, is to select the key foundational concepts used in modern water science and engineering; and discuss their bearing on technology and water system logic with certificate participants. This courses draws heavily on experts in these fields and may involved field trips.

COURSE STUDENT LEARNING OBJECTIVES:

General:
This general survey will require the student to demonstrate understanding of water science and engineering technology from the molecular level through the macro treatment and distribution scale of a functioning water treatment system. The student will demonstrate understanding of the defining and unique properties of a water molecule, where water supplies comes from, how it becomes contaminated and how the polluted water is treated and distributed to the end user. The student will understand and define the issues and key concepts that guide professional scientists and engineers in water / wastewater system operation.

Specific:

- Learn the fundamental molecular property of water and its structure, angle between atoms, and how the structure subsequently defines water pollution issues and treatment options / effectiveness.
- Identify and state the differences between chemical, biological and physical contaminants in water as well as define the difference between point source and non-point sources of pollution.
- Understand and discuss the sources of and threats to California's water supply including ground and surface water, river and ocean.
- Understand the basic scientific concepts of hydrology, fluid dynamics, and electricity and how engineers are guided and bound by these fundamental laws when designing and managing a system.
- Identify and discuss the components of a water supply distribution system and a waste water treatment system.
- Identify the different treatment / flirtation alternatives as well as major types of components (tanks, pumps, mixers etc.) used in water treatment technology and define how they are dependent on the chemical / physical contaminants and treatment targets.
- Understand and discuss the power water nexus: how power/energy issues affect supply and distribution construction and operation.

- Survey various modeling and information system software available to engineers for predictive and estimation purposes. Review the prominence and use of real time system control and data acquisition systems (SCADA).
- Define the agency engineering staff core competency (design, program management, maintenance, etc.) and compare and contrast that to the roles of outside consulting companies.
- Discuss and evaluate emergent trends in water reuse, future contaminants of concern and profile technology trends and how to conduct benefit analysis.

COURSE MATERIALS AND OTHER REQUIRED MATERIALS:
Required:
TBD

Additional Required Resources:
The instructor will post class materials and grades on the Cougar Courses site for the course accessible ONLY to students enrolled in this course. You are expected to access this website on a regular basis. ***You MUST have access to a reliable Internet connection and computer for this course.***

Additional Readings:
The course instructor may post articles from professional journals or other material to the Cougar Courses site that will be referred to during this course.

PREREQUISITES:
Enrollment within the Certificate of Water Resources Management & Leadership Program or permission of instructor.

STUDENTS WITH DISABILITIES:
Students with disabilities who require academic accommodations must be approved for services by providing appropriate and recent documentation to the Office of Disabled Student Services (DSS). This office is located in Craven Hall 4300, and can be contacted by phone at (760) 750-4905, or TDD (760) 750-4909. Students authorized by DSS to receive accommodations should meet with me during my office hours or in a more private setting in order to ensure your confidentiality.

CONDUCT OF CLASS:
This class will utilize a mixture of lecture, in-class discussions, online formats and guest speakers for coverage of topics. Success in this class will require active learning by students and professors. Keeping current with assigned reading and class participation are required components of this course. Participation extends beyond class attendance to include asking questions (in and out of class), involvement in class discussions and identifying current examples relevant to the course subject matter.

Students are expected to act in a professional manner at all times during class. You are expected to be familiar with the University Code of Conduct (http://www.csusm.edu/academic_programs/catalog/).

ALL CELL/DIGITAL PHONES, PAGERS, PDA'S, LAPTOPS OR OTHER ELECTRONIC EQUIPMENT MUST BE TURNED OFF BEFORE ENTERING THE CLASSROOM. If your phone, pager or PDA rings or vibrates during class you will be asked to leave the classroom and we reserve the right not to allow you to return for the remainder of the class.

No recording of the class (or broadcast in any form) allowed without prior written permission of the instructors.

No food should be eaten during class.

GRADING:

Your final grade in this course will be determined based on the following:

Final Examination	30%
Midterm Examination	25%
Assignments and homework	25%
Quizzes	20%
Total	100%

Grade of

A	90-100%
B+	86-89%
B	80-85%
C+	76-79%
C	70-75%
D	60-69%
F	< 60%

ASSIGNMENTS:
Students will complete a 300-500 word paper for each assignment on a selected topic covered in the class. Each paper will require students to illustrate their understanding of the topics.

REPORTING OF GRADES:
Students can access their personal grade during the course at the Cougar Courses site for this course. We will not provide scores for any assignment, exam, or quiz via the telephone or e-mail. Please present all questions regarding grading of an assignment or examination in writing for our review no later than two weeks after the assignment/examination was due.

ACADEMIC DISHONESTY:
All students are expected to be academically honest. Reasonable efforts will be taken to discourage cheating. Please refer to the University Code of Conduct and Code of Academic Honesty. Any student violating the Code of Conduct and/or Code of Academic Honesty will be reported to the Office of the Dean of Students and the instructor will request the most severe sanctions available to the Dean of Students. Pay particular attention to plagiarism and unauthorized co-operation with other students when completing class assignments. It is your responsibility to be aware of the Code of Conduct and Code of Academic Honesty and understand clearly what constitutes violations such as plagiarism – ignorance is not an excuse! If you have any questions on academic honesty issues in this course, do not hesitate to contact me.

TENTATIVE CLASS SCHEDULE:

Class	Topic	Reading	Assignment
June 8	Discuss the fundamental molecular structure of water. Explore water's fundamental properties and how it is unique in nature. Review what pollution is and define toxicity and how pollution impacts terrestrial and aquatic life.	Selected material on Cougar Website	Write a 250 to 500 word report relating to a fundamental water pollution issue in California.
June 15	Discuss chemical, biological, and physical water pollution. Learn the differences between these pollution types. Identify sources of anthropogenic and natural contaminants. Discuss point source and non-point source pollution. Identify the primary treatment technologies (adsorbtion, chemical, filtration, etc.) for water pollution and fundamental process involved in removing pollution from water and wastewater.	Selected material on Cougar Website	Use last week's topic and write a 250 to 500 paper to define the type of pollution and typical treatment alternatives.
June 22	Identify sources of California's groundwater and surface water supply and associated pollution threats. Discuss water quality standards established by regulatory agencies and the science of establishing toxicity standards in human and terrestrial populations.	Selected material on Cougar Website	Write a 250-500 word paper on a water pollutant and identify the pollution standard and typical treatment alternatives for removing the pollutant from drinking water.
June 29	Survey fundamental engineering principles behind water flow; gravity, continuity, energy and momentum. Define Darcy's Law and Bernoulli's Principle and what it means to water flow. Discuss how water is moved to where it is needed inclusive of both gravity and pumped systems. Basics of pumps, types, principles, selection process, power requirements.	Selected material on Cougar Website	Write a 250-500 word paper on a component in a water or waste water treatment system.
July 6	Identify and discuss the individual components of both a water treatment and a wastewater treatment facility, the purpose of each component, considerations for selection of types of treatment options.	Selected material on Cougar Website	Midterm Exam
July 13	Review engineering tools used for running and maintaining water treatment and delivery systems. Engineering evaluation modeling software, predictive software, operation and maintenance programs, real time system control and data acquisition systems (SCADA), life-cycle analysis,	Selected material on Cougar Website	Write a 250-500 word paper on a modeling software or engineering tool (GIS, CAD, etc) used by a local water authority.
July 20	Review engineering department structure and characteristics and core competencies required for rural and urban agencies, water purveyors, and distribution companies. Discuss strategic differences for engineering department in these agencies and how they operate. Discuss use and considerations for use of outside	Selected material on Cougar Website	Write a 1-page paper on a local water or wastewater agency and describe their engineering department focus and core competency.

	consultants/engineering firms. What should your engineer know?		
July 27	Electrical power and water movement and treatment. Efficient energy use. Power system considerations (AC vs DC), mode of operation. Control system application in energy efficiency. Power generation through water movement / waste treatment.	Selected material on Cougar Website	Write a 1-page paper discussing some aspect of how water and power issues are related in California.
Aug 3	Technological design of a non-potable water reuse system and salt water desalination systems Identification of system components, equipment types, required engineering studies, engineering cost analysis and other engineering considerations.	Selected material on Cougar Website	Write a 250 to 500 word paper on a technologic innovation implemented in the water or wastewater treatment/distribution globally.
Aug 10	Discuss how will emergent trends in water reuse, future chemical contaminants of concern, and climate change impact water/wastewater utilities in the future. How to build a resilient engineering team to address these future concerns.	Selected material on Cougar Website	Final

Virginia Mann CHEM support

From: Jose Mendoza
Sent: Tuesday, April 12, 2016 1:53 PM
To: Virginia Mann
Cc: Suzanne Moineau; Regina Eisenbach; Matthew Escobar
Subject: Re: CHEM sign-off - WTRM 425

Hello Virginia,

Chemistry has no concerns and supports the proposed course.

Jose

From: Virginia Mann
Sent: Tuesday, April 12, 2016 12:29 PM
To: Jose Mendoza
Cc: Suzanne Moineau; Regina Eisenbach; Matthew Escobar
Subject: CHEM sign-off - WTRM 425

Good morning Jose,

UCC is currently reviewing a new certificate program in Water Resources Management, and requests that CHEM review the course below and let us know if you have any comments or concerns. Thank you.
Virginia

WTRM 425 - Core Concepts of Water Science, Engineering & Technology C

Virginia Peters Mann
Curriculum Specialist
Academic Programs
CRA 5201-B
(760) 750-8887

Virginia Mann PHYS support

Subject: FW: Response to Concerns over WTRM 425 expressed by the Department of Physics

From: Edward Price
Sent: Wednesday, April 20, 2016 12:44 PM
To: Suzanne Moineau <smoineau@csusm.edu>
Cc: Alan Styles <astyles@csusm.edu>; Regina Eisenbach <regina@csusm.edu>; Virginia Mann <vmann@csusm.edu>; Michael Burin <mburin@csusm.edu>
Subject: Re: Response to Concerns over WTRM 425 expressed by the Department of Physics

Yes, we are supportive of the c form for WTRM425 and its inclusion in the P form.

Es

On Apr 20, 2016, at 12:11 PM, Suzanne Moineau <smoineau@csusm.edu> wrote:

> Great news! Thank you very much, Ed, for your time and consideration under the time constraints!
>
> Ed, might you just clarify then if you agree to it moving forward with WTRM 425 or would you like us to remove it for the EC/Senate reading?
>
> Best,
> sue
>
> *Suzanne Moineau, Ph.D., CCC/SLP*
> *Associate Professor*
>
> ---
>
> **From:** Edward Price <eprice@csusm.edu>
> **Date:** Wednesday, April 20, 2016 12:06 PM
> **To:** Alan Styles <astyles@csusm.edu>
> **Cc:** Regina Eisenbach <regina@csusm.edu>, Virginia Mann <vmann@csusm.edu>, IITS Administrator <smoineau@csusm.edu>, Michael Burin <mburin@csusm.edu>
> **Subject:** Re: Response to Concerns over WTRM 425 expressed by the Department of Physics
>
> Alan, thanks for the email and sorry I missed your calls. I appreciate your sincerity and willingness to work together on this. With the understanding that we will work together on how to offer this course, we support the proposal.
>
> I had another chance to talk with Michael Burin (I'm cc'ing him on this), and he is very interested to be involved in this discussion. In fact, I believe he and his collaborator at HRC had planned to meet with EL in the next week or so to discuss possibilities. I hope that you and he will be able to meet soon to discuss this.
>
> Ed
>
> > On Apr 20, 2016, at 11:23 AM, Alan Styles <astyles@csusm.edu> wrote:

Ed,

Please be assured that we are more than willing to cross-list the course (or as a physics course) if that is deemed the most appropriate listing after collaboration between the water management faculty and physics faculty. The collaboration I expect for this course would address all the issues you raise – listing of course, selection of instructor, working with EL, sharing in revenue and development of science related courses for future planned certificates. There is no intent on our part to steam-roll over participation with other departments. As I have stated before, our goal is to provide the courses most relevant to water managers and taught by the most appropriate faculty. These are all matters we can resolve in the coming weeks and months before the class is offered in summer 2017.

The approval process for the certificate program is reliant on a first reading today at Senate and a second reading with a vote on May 4 – the last Senate meeting of the academic year. Without the approval, the program will be in doubt and certainly delayed significantly. WTRM is 2 units of 12 unit program – the class will be the last class in the course sequence (http://www.csusm.edu/el/certificateprograms/bpdev/watermgmt/coursesequence.html).

I understand that the deadline is tight, but I see no reason we cannot address your department's concerns. Removal of your opposition does not represent a green-light for us to ignore your valid concerns, merely an opportunity for your department to become a team member in a certificate program of urgent need to the local water agencies and water industry in California. For example, a team of four industry leaders has worked with us to develop the program to address the growing retirement of water managers – since that initial contact, two of the team of four have announced their retirement this spring/summer.

I have attempted to call you to discuss this matter, but have received a voicemail. I believe a personal phone call would provide us a productive forum to further discuss the matter. Please feel free to call me at home (951-600-1775), cell (951-691-3763) or my office (760-750-4251). I teach today 2:30-3:45 and 5:30-6:45pm and will be traveling to campus soon, but if you available, I welcome a call to discuss further.

Thanks for keeping the conversation open,

Alan

Alan K. Styles, Ph.D.
Professor of Accounting

From: Edward Price
Sent: Wednesday, April 20, 2016 10:37 AM
To: Alan Styles <astyles@csusm.edu>
Cc: Suzanne Moineau <smoineau@csusm.edu>; Regina Eisenbach <regina@csusm.edu>; Virginia Mann <vmann@csusm.edu>
Subject: Re: Response to Concerns over WTRM 425 expressed by the Department of Physics

First, I do appreciate the time constraints you're under. I'm doing my best to be responsive, but only learned of this course a week ago. I followed up with Virginia shortly after our department meeting yesterday, wrote back early this morning, and was able to talk briefly with Michael Burin (our faculty member who works in fluids and is most closely collaborating with HRC) this morning before he had to teach. However, with unresolved concerns, I'm not comfortable signing off on the proposal just to meet a timeline.

Likely we could support the proposal if the course were cross-listed or co-offered with physics. However, I'm not sure we can figure out the details on that before 1pm. For instance, what role would each department have in selecting instructors, scheduling, working with EL, sharing in revenue, etc.

Alternatively, if the nature of the course is different that what we understood from the C form, maybe the course title, description, and learning objectives can be revised to more accurately reflect what is intended.

The idea of a faculty group on water is great. A month or so ago Michael was in touch with Nichol Roe in EL about technical/scientific content related to water management. She was going to check with you, but I'm not sure if that ever happened. So a more formal group focused on this, with diverse constituents, would be useful for coordinating these different interests.

Unfortunately, we continue to oppose this proposal until we can resolve these issues.

Ed

> On Apr 20, 2016, at 9:26 AM, Alan Styles <astyles@csusm.edu> wrote:
>
> Hi Ed
>
> I totally understand your concerns. The certificate program aims to provide the best faculty whichever department they call home. We were not aware of the interest in the field by your faculty, but now we know it is critical that faculty from physics become involved in the relationship between CSUSM and the water agencies. Our program has developed a strong relationship with the SD Water Authority and the general managers of the twenty-four managers water agencies that make up the SDWA.
>
> On reflection we could have explained better the nature of the course. After discussing with the course developers it became apparent to me that this course aims to provide an overview of the material, sufficient to allow the water managers to understand and communicate with the engineers, scientists and IT support; similar to my classes that teach accounting to PSM Biotech students – if they want to be accountants they need to take ACCT classes. At the moment this course is listed as WTRM 425, but when the program is approved we should consider jointly whether this course should be listed under an

alternative course code. Without the certificate program approved, we will be unable to effectively promote the certificate program to the local water industry and possibly not offer any courses.

This situation is a learning experience for CSUSM – the need for coordination on water education programs/courses across the university. I have been involved with the water management program for a few years now and I am contacted by a number of organizations and individuals related to water. In many cases, I have referred them to Katherine Kantardjieff for further contact as there is a science angle to the inquiry. It would make sense to me that we form a more formal water faculty group at CSUSM so that we can resolve situations of overlap of courses/programs and coordinate our interests more effectively.

Any further questions, please do not hesitate to contact me.

Thanks

Alan

Alan K. Styles, Ph.D.
Professor of Accounting

From: Edward Price
Sent: Wednesday, April 20, 2016 8:36 AM
To: Alan Styles <astyles@csusm.edu>
Cc: Suzanne Moineau <smoineau@csusm.edu>; Regina Eisenbach <regina@csusm.edu>; Virginia Mann <vmann@csusm.edu>
Subject: Re: Response to Concerns over WTRM 425 expressed by the Department of Physics

Hi Alan,

Thank you for the detailed explanation - I appreciate the thought that went into the development process. Our concerns have less to do with the suitability of the topics for the audience or the qualifications of the instructors. Instead, our concern is more fundamental - which department(s) should offer courses with significant physical science content? In contrast, would CoBA faculty be supportive of the reverse, i.e., a hypothetical physics course proposal with significant content about product development, innovation, or other business concepts?

Maybe we've misunderstood the level of physical science content that the course includes. Our impression was based on "science, engineering, and technology" in the course title, "water science and technology from the molecular level through the macro" in the course description, and course learning objectives that include molecular properties of water, hydrology, fluid dynamics, and electricity.

Finally, while of course it's correct that we don't have a college of engineering, the department of physics offers a degree in applied physics and includes faculty with expertise in fluid dynamics, hydrology, and earth science. Those faculty have active collaborations with the Hydrologic Research Center, a La Jolla-based nonprofit research, technology transfer, and training organization. Together, they have had discussions with EL about possible certificate programs focused on the science component of water management, and which could complement the Water Resources Management and Leadership certificate. It would be great if this could be something we work together on.

Ed

P.S. I just included CSUSM folks on this since the concerns are internal.

> On Apr 19, 2016, at 8:31 PM, Alan Styles <astyles@csusm.edu> wrote:
>
> Hi Ed
>
> Thanks for expressing the concern of the physics department and suggestions for course offered through the Physics and/or Chemistry departments. For those new to the conversation, see below my email signature for the email chain so far.
>
> This course was determined as appropriate by our twelve member program advisory board and after consultation with general managers in the local water industry. As CSUSM does not yet have a College of Engineering we surveyed recommended experts in the field to help us with development of this course. The course developers have extensive experience in the water field and I am attaching their resumes to this email. They were given the task of developing a course that would provide water managers the necessary fundamental vocabulary of water science, engineering and technology to fulfil their roles in the water industry. As you will see each of them has extensive experience working with water managers in the industry.
>
> The Certificate program will use a pool of instructors/guest speakers for all the courses aimed at providing the students the most relevant concepts for their future roles in water management. Since receiving your comment, I have been able to reach two of the three course developers, Charlie Wyatt (a licensed PE in three states) and Dr. Lee Brown (Hydrologist). They are more than eager to discuss the

philosophy and curriculum behind this course; its reasoning and relevance to today's water managers. The first scheduled offering for this course is next year - summer session (10 weeks) in 2017 – so there is considerable time to develop an outstanding course.

I request you work with the course developers and, where necessary members of our advisory board to help us develop the most appropriate course possible for the role of future water managers. We have not selected faculty to teach this course and welcome the involvement of physics and chemistry faculty in the refinement and delivery of this course.

As the course will not be offered until summer 2017, we will have significant time to develop the course, its course materials, its delivery methods and identify the most appropriate instructor(s) and guest speakers.

I would appreciate your support for the course and look forward to working with your faculty.

Alan

From: Edward Price
Sent: Tuesday, April 19, 2016 2:12 PM
To: Virginia Mann <vmann@csusm.edu>
Subject: Re: PHYS Sign-off - WTRM 425

Hi Virginia,

The physics department has discussed the proposal. This seems like a useful course for water managers. However, we are concerned that, given the amount of physics and physical science material, the course as proposed would more appropriately be offered by or with the involvement of physics or chemistry.

Sincerely,
Ed