

Geotech Certificate Advisory Board Meeting Minutes April 5th, 2019. Present: Dave Mrofka, Becca Walker, Greg Acosta, Dafna Golden, Juan Guerrero, Frank Jordan, Joe Kingsbury, Marty McLeod, Shant Minas, David Perry, Matt Robles, Brian Scott, Rick Small and two others.

Brief Introductions: 13 of the 19 advisory board members were present. Becca, I and all 13 introduced themselves

Certificate Rationale: Dave spent some time discussing “why” the ESA department was creating the certificate (students love the geosciences but not ready for transfer, don’t want to pursue a 4yr degree, get bogged down with physics/chemistry/math, lots of jobs coming in the pipeline, strong need for employees with post-secondary training).

Survey Results on Courses for Certificate: there was a discussion about results of the survey question on required courses.

Structure of the certificate: looked at the chronology of coursework in the course inventory

Survey Results on Skills in the Certificate: there was a discussion about results of the survey question on required courses.

Discussion: Shant Minas discussed the merit of the certificate. There is one sort of similar at PCC for construction, but past time something like this was put together; he will send people to earn it and also his company would have internships.

Vote to Proceed with submitting the certificate: Unanimous consent that the certificate will help students compete for a number of highly paying entry-level Geotech jobs and it should be submitted to stage 2 in WebCMS.

Discussion about further challenges:

- 1) Externships: Becca and Dave will be requesting externships to learn skills
- 2) Finish Curriculum: modification of geol31 & 33 to incorporate key skills
- 3) Equipment: possible to ask companies for old equipment to donate?
- 4) Internships: looking for first internships Fall 2021
- 5) More advisors: need more advisors; Dave-especially water or environmental
- 6) Dave Perry: might be able to assist in an externship at Wood. He will talk with some of our Managers
- 7) Brian Scott: asked if there will be an application process...Dave and Becca will look into this but it may violate students rights?
- 8) Frank Jordan: suggests Anna Garcia, Principal Hydrogeologist with the Mojave Water Agency may be a good fit for the group. agarcia@mojavewater.org or 760/946-7063

Final Discussion:

Dafna-interested in participating in externships

Greg-cleared up that externships are for Dave and Becca not students...concerned about situations with waste or contaminants and liability

Shant: exams for deputy grading inspector City of LA are through “ICC” (international code council)

Greg: water cert at Mt SAC is more for a water systems operator, maybe not so helpful for certificate?

Rick: what sort of water advisors...operator or tech people? Discussion about what was needed

(attached below are advisory committee meeting slides)

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DEVELOPMENT OF A GEOTECH CERTIFICATE PROGRAM FOR COMMUNITY COLLEGE STUDENTS

First Meeting of the Advisory Committee: April 5th, 2019

Agenda:

- Brief Introductions
- Why this Certificate
- Survey Results on Coursework
- Structure of Certificate
- Survey Results on Skills
- Vote and Challenges Ahead

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Committee Members (so far...let's find more!)

- Aaron Sappenfeld
- Brian Scott
- Dafna Golden
- David Perry
- Emilio Alvarez
- Frank Jordan
- Greg Acosta
- Jeff Fitzsimmons
- Jeff Ziegenbein
- Joe Kingsbury
- Juan Guerrero
- Kerry Cato
- Mark Doerschlag
- Marty McLeod
- Matt Robles
- Rick Small
- Shant Minas
- Shelley Regalado
- Todd Heibel

Introductions... please take 5 seconds to tell us your name, mention where you work and maybe what sector of geotechnical work you're in (engineering geology, hydrology, environmental, utility, etc.)

Mt. SAC People

Dave Mrofka	Professor of Geology Mt. SAC
Becca Walker	Professor of Geology Mt. SAC
Matt Judd	Dean of Natural Sciences Mt. SAC
John Vitullo	Associate Dean of Natural Sciences Mt. SAC

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Why are we doing this?

- Many students become interested in the geosciences, but are not ready to transfer
- Many geoscience students are not interested in transfer
- Many interested students take so long to prepare for transfer, they exhaust all our courses while leaving critical core courses until the end
- In addition...
- By 2024, the geoscience workforce is anticipated to experience a shortfall of 90,000 full-time equivalents. (American Geosciences Institute, 2016)

Strong Workforce Project-funding agency for all community college CTE (career and technical education) programs - ~\$250 million/yr
"65% of all job openings will require some post-secondary training..."

"Some College" is the New Gateway Into The Workforce

THE LABOR MARKET IS INCREASINGLY DEMANDING A MORE SKILLED WORKFORCE.

28% of jobs require more than a high school education.	56% of jobs require more training.	65% of job openings in the U.S. will require some postsecondary education or training-though not necessarily a four-year degree.
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YOUR INPUT: Survey Results on Required Coursework...

Curriculum Advising: Yes, Recommend and No

This does not include the "Geotechnical Methods Classes"

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What the certificate looks like right now:

Requirements	Dept. Name/#	Name	Units	Sequence
Required Core: 33.5	GEOL4	Physical Geology	4.0	Yr. 1 Fall
1st Semester 13 units	GEOL5	Environmental Geology	3.0	Yr. 1 Fall
	GEOL9L	Environmental Geology Lab	1.0	Yr. 1 Fall
	MATH71	Intermediate Algebra	5.0	Yr. 1 Fall
	MATH71X	Practical Intermediate Algebra	5.0	Yr. 1 Fall
2nd Semester 10.5-13.5 units	CSIS15	Microcomputer Applications	3.5	Yr. 1 Spring
	CHM99	Chemistry of Everyday Life	3.0	Yr. 1 Spring
	CHM40	Introduction to General Chemistry	5.0	Yr. 1 Spring
	GEOL24/25	Field Studies of Central/Southern California	4.0	Yr. 1 Spring
	GEOL 29	Special Topics in Field Geology	3.0	Yr. 1 Spring
	GEOL31	Geotechnical Methods 1	1.0	Yr. 1 Spring
3rd Semester 14 units	AGOR50	Soil Science and Management	3.0	Yr. 2 Fall
	GEOL24/25	Field Studies of Central/Southern California	N/A	
	GEOL33	Geotechnical Methods 2	1.0	Yr. 2 Fall
	SPCH14	Public Speaking	4.0	Yr. 2 Fall
	AGOR71	Construction Fundamentals	3.0	Yr. 2 Fall
	GEOD19	Introduction to Geographic Information Systems	3.0	Yr. 2 Fall
4th Semester 1 unit	GEOL32	Work Experience in Geotechnical/Environmental Technician Skills	1.0	Yr. 2 Spring

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YOUR INPUT: Survey results on key skills...

Yes, Recommend and No

Biggest Challenge Immediately Ahead: How do we include those key skills above, in addition to all the types of skills and strengths below that you all brought up, into two 1-unit "Geotech Methods" classes? (WE DON'T...)

SAFETY AWARENESS, EASER TO LEARN, NETIQUETTE, EQUIP PROBLEMSHOOTING, SOIL CLASSIFICATION, CPT ANALYSIS, CLASSROOM ANALYSIS, COMPUTER SKILLS, REMOTE SENSING (AIR/DEM), PORE PRESSURE CALC, SOIL MOISTURE REL, COMPACTION DENSITY, USCS SOIL LOGGING, ASTM STDS FOR SOIL TESTS, ICC SOIL, INSPECTOR CERT, SPINNA, ABILITIES, PRODUCE DIGITAL MAP, FOCUS, BEST PRACTICE, SOIL CLASSIFICATION, 3D THINKING, MAP CAUSE, FALLING CONSTANT WT, FIELD PERCOLATION TESTS, LANDFILL LINER TESTING, MAXIMUM DENSITY CURVES, FIELD URAN SIZE DIST, PRO/FPO MONITOR EQUIP, EXPLOSIVE METER, OW SAMPLE, (MCD)PROBES, SWAYERS, PROFILES FOR SAMPLING, CHAIN OF CUSTODY, HAND HELD AIR QTY, DUST MONITORING, SOIL, SAMPLING READ MAPS, READING REG. UT, EQUIPMENT CALIBRATION/BASICS, CONSISTENT SOIL METHOD, WATER MATH (FLOW RATE, WEIGHT OF WATER, PPM, ETC), BOREHOLE LOGS, WATER SAMPLING TECHNIQUES, TURBIDITY METER, SOIL DENSITY TOOL, USE OFFICE SOFTWARE, OPERATION OF TRACTOR, HAZWOPER/OSHA, PROJECT MANAGEMENT, MEASURE WATER DEPTH IN WELL, SEIVE ANALYSIS, CONTRACTOR OVERSIGHT, PROCTOR CURVES, GRADATIONAL ANALYSIS, OTHER SLOPE STABILITY ANALYSIS, LANDSLIDE RISK, PLAN READING (AGOR) OPERATA MP/EXP, AERIAL PHOTO INTERP, GOOGLE EARTH, EQUIP LOGISTICS, SAMPLING ABILITY SOIL AND WATER, RULE SOIL LOSS EQUATION, CUMULATIVE AREA A, CPT, MAPS, PHOTO INTERP, CLARIFYING, MAX DENSITY, TIGHT TUBE, BRISMAN, SAND TEST, 30" WATER, 30" WINDS, DRUGS, IMPACT OF TRANSPORT,



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Any brief comments or questions for us at this point?

Time to vote... anyone here who feels like we should not proceed and take the next step...

Submitting this certificate to the College and the Chancellor's Office ???

(FYI: this involves a number of months of back and forth for Becca and I with counselors and other curriculum people as they suggest helpful modifications to the certificate...)

Challenges and Opportunities Ahead

Externships: Becca and I will be asking some of you if we can come learn, at no cost, some of the skills we need to teach

Finish Curriculum: Narrow down the list of skills and fit them into two methods courses

Equipment: We may be asking around to see if companies are interested in donating equipment for a tax write-off

Internships: If we have our first cohort in the Spring of 2020, we need internships by Fall of 2021

More Advisors: We could benefit from more advisors, especially in water and environmental sectors...please suggest some friends?

Thanks so much for your help so far, today and in the future!!

We are done...unless you want to stick around and make some more suggestions...I'll remain on until everyone has logged off.