Program: Science

Unit Outcomes:

T1. Admissions will complement recruitment efforts of diversifying WA teacher workforce.

Indicators:

A. Enrollment
B. Diversity/Military
C. Rate of Acceptance
D. WEST B Math
E. WEST B Reading
F. WEST B Writing
G. Disposition Inventory (DI)

Expected Performance Level (Criterion):

A. Enrollment numbers are maintained
B. 40% of our candidates will represent underrepresented populations including military
C. 75% of all applicants will be accepted into the program
D. 90% will achieve 240 on Math
E. 90% will achieve 240 on Reading
F. 90% will achieve 240 on Writing
G. 100% of Program Candidates will complete the DI

Indicator/Performance Level Reported By / When do assessments take place? Term / Dates

A. OREA / Program / Fall Quarter November 1 and December 15
B. OREA / Program / Fall Quarter November 1 and December 15
C. OREA / IR / Program / Program / Fall Quarter November 1 and December 15
D. Pearson/ All Quarters
E. Pearson/ All Quarters
F. Pearson/ All Quarters
G. OREA / Program / Fall Quarter November 1 and December 15

A. Met Criterion
B. Below Criterion
C. N/A
D. Exceeded Criterion
E. Exceeded Criterion
F. Exceeded Criterion
G. Below Criterion

Interpretations/Key Strategies/Initiatives:

A. ADMISSIONS. Trends have remained roughly constant over the past several academic years, from lower enrollment numbers in 2007-2008. Current enrollment numbers indicate a fairly flat trend.

B. DIVERSITY. Ethnic diversity of science teaching candidates appears to be 12.5% in 2012-2013, which is slightly lower than our program target of 20%. ML science is lower at 9.2% diversity. We are taking active steps to recruit and retain diverse candidates, and are currently about 1% less than the CTL average, which is better in science than it has been historically. However, trends also indicate that CWU graduates a much higher percentage of female secondary science teachers, which is addressing a major area of need and is in contrast to existing science teacher positions that are predominantly occupied by males. Currently 63% of science candidates are female.

C. ACCEPTANCE (DATA NOT PROVIDED). If Science Education candidates are a smaller reflection of the CTL, then acceptance levels are at 89%.

D. MATH. During the past 5 years, Science Education has attracted well-qualified candidates who perform well above the CTL standard for mathematics (108% of CTL mean). 100% of science candidates met the math standard on the first attempt. ML Math/Science students were less likely to pass the WEST-B math section on the first attempt. We will continue to focus recruitment efforts on attracting and retaining candidates with high quantitative skill.
E. READING. As for Math, over the past 5 years Science Education has attracted well-qualified candidates who perform well above the CTL standard for reading (99% of CTL mean). ML Math/Science students were less likely to pass the WEST-B reading section on the first attempt. 100% of science candidates passed the reading standard on the first attempt. Recruitment efforts will continue to attract and retain candidates with high reading skill.

F. WRITING. Science candidates performed above the 90% standard in Writing (100% passing on first attempt). Writing in Science Education is receiving much greater emphasis and reflects national concerns to improve undergraduate writing quality and to better meet edTPA requirements. We have reformed our curriculum and assessment to more specifically address issues related to writing including format and creativity as well as writing mechanics.

G. DISPOSITIONS INVENTORY. Only 50% of science candidates completed the pre-DI; however, the CTL data indicates no candidates completed the pre-DI. Regardless, 50% completion is below our goal of 100% of candidates completing the Inventory. We should consider strategies to increase completion, possibly by getting more specific information from CTL administration on who hasn't completed the form, or possibly including the DI as part of an entry-to-major advising package.

Budget/Resource Analysis  Recruitment of science teaching candidates, including students of diversity, is one of our major areas of focus. We need funds to develop a comprehensive marketing strategy and coordinated marketing plan across the region and state that highlights the center of science teaching excellence at CWU. We also need to improve the consistency and breadth of science teaching advising and associated materials. We request a goods and services increase of $3000 one time and $1000 ongoing, and a marketing/IT staff person to help design and implement the strategy.

We also request a minimum of 1 WLU per SCED faculty member (7 WLU total), to be flexibly allocated by the department to meet our advising need.

UNIVERSITY OBJECTIVE 1.1: T2 Retention

Unit Outcomes  Retention efforts will enable candidates to complete this program of study successfully in a timely manner, and prepare highly qualified graduates ready to assume needed positions in the teacher workforce

Indicators  A. CTL Standards
B. Time to Completion
C. Portfolio Submission

Expected Performance Level (Criterion)  A. 90 % Met 2008 Standards (3 on a 5 point scale)
B. Time to completion = 9 quarters
C. 90% are completing a Program and PEP core portfolio

Indicator/Performance Level Reported By / When do assessments take place? Term / Dates  A. OREA and Program / Fall Quarter October 1 and December 1
B. OREA and Program / Fall Quarter October 1 and December 1
C. OREA and Program / Fall Quarter October 1 and December 1

A  N/A
B  N/A
C  N/A

Interpretations/Key Strategies/Initiatives  A. CTL STANDARDS. In the last 5 years science students have performed at least as well as the average CTL student and in some cases one standard deviation above the CTL average. In 2011-2012 science students were slightly less than the CTL average for CTL 1.4. No data was provided for 2012-2013. We will investigate this standard and how it is currently assessed and make a recommendation for our program if necessary in order to support development in this area.

B. TIME TO COMPLETION. No data was provided for 2012-2013. Since 2010, science students have a
shorter time to completion than the CTL average. Historical trends show main campus students are taking more time than either transfer or center students. One of our goals is to improve advising and council students earlier so their time to graduation can be decreased. This situation should be improved by having more students declare science majors earlier.

C. COMPLETION OF PROGRAM AND PEP PORTFOLIOS. No data was provided for 2012-2013; however, Science Education faculty have an academic hold in place to prevent science teaching candidates from student teaching prior to completion of program portfolios. We also have a course that assists students in assembling program portfolios. Historically, the data shown does not provide an intuitive indication of student completion; however, a comparison of science and CTL students shows science students complete PEP portfolios a higher percentage of time than CTL students. We plan to get further clarification on this metric, because if science shows only a 51.1% completion percentage, and the goal is 90%, then there is a problem in PEP courses where these portfolios are required or there is a systematic issue with PEP portfolio completion with insufficient monitoring of the process. With regards to program portfolios, no data is provided to enable informed decision-making on this metric.

Budget/Resource Analysis Science education faculty have a comprehensive portfolio assessment strategy that has a 100% completion rate within our department. The data provided in the CDMS indicate that some SCED students are not completing required PEP portfolios, or PEP portfolios are not being assessed by PEP faculty. Implementing the comprehensive portfolio strategy ensures science education candidates have the requisite knowledge, skills, and dispositions needed for science teaching excellence. However, this assessment strategy is very time consuming. Current workload allocations limit continuous adjustment of portfolios based on best practices research and evaluation of student data. Updates to our technology infrastructure are also needed to ensure seamless data collection and analysis. We request 2 WLU per science teaching program (Biology, Chemistry, Earth Science, Physics, Middle Level, and General Science Teaching), to be allocated by the department to program coordinators. We also request an annual goods and services increase of $2000 to support faculty computers and $2400 annually to support student workstations. An IT staff is also needed to provide logistical support for science education technology.

UNIVERSITY OBJECTIVE 1.1: T3 Student Teaching

Unit Outcomes Student Teaching provides candidates a diverse culminating experience where program content-pedagogy is synthesized and tested in real classrooms.

Indicators
A. Candidates are ensured placements in school settings that are highly diverse during student teaching
B. Final Student Teaching Evaluation (FSTE)
C. Disposition Inventory
D. WTPA

Expected Performance Level (Criterion) A. 50% are placed in highly diverse settings
B. 80% will Meet the Standards averaging 3 point or better on the 10 FSTE rubrics
C. 100% will demonstrate a positive change on all four domains of the DI
D. 80% will Average of 3 or better across 15 testing domains on the WTPA

Indicator/Performance Level Reported By / When do assessments take place? Term / Dates
A. Office of Field Experiences (OFE) / All Quarters
B. OFE / All Quarters
C. OREA / All Quarters
D. Pearson / All Quarters

A N/A
B Met Criterion
C Below Criterion
D Below Criterion
A. DIVERSE STUDENT TEACHING PLACEMENT. No data was provided for 2012-2013. Historically, science student teachers are placed in schools as diverse, and in some cases, more diverse, than their CTL equivalents. Even though science students are being placed in more diverse schools, their placement is still below the goal of 50%. We plan to continue having conversations with student teaching placement personnel to ensure science students are provided with suitably diverse student teaching experiences.

B. FINAL STUDENT TEACHING EVALUATION. In 2012-2013 science teaching candidates did not perform as well as their CTL counterparts; however, science candidates met 9 out of 10 criteria for student teaching evaluation. ML Math/Science met criteria for all 10 metrics. Historically, science students perform as well as CTL students over the 5 year period under review. Science students tend to perform better in the areas of foundational knowledge, classroom management, and assessment, and score less well in school, home, and community. We plan to investigate the specifics for 2012-2013 to identify whether this is a trend or an anomaly because of the small dataset. We also plan to continue building candidate foundational knowledge, classroom management, and assessment - elements that are deeply embedded in the scientific enterprise - and focus more energy building community connections with candidates.

C. DISPOSITION INVENTORY. DI changes were largely flat for 2012-2013, with the greatest need for improvement in becoming a self-reflective practitioner. ML Math/Science showed positive change in 3 of 4 metrics. Across the prior 5 year review period, the average science candidate shows larger positive changes in teaching disposition than does the average CTL student. Disposition 3 (self reflection) shows more variability than other dispositional indicators, indicating a greater need for developing this disposition during their program. Science teaching faculty have taken steps to emphasize these dispositional qualities, and it will likely be another year before results begin to show.

D. edTPA. This first pass through the edTPA indicates that science candidates outperformed the average in 9 out of 15 indicators on the edTPA. Only 2 indicators are above a score of 3, on average. Clearly there is room for improvement, and in response we have re-designed science teaching methods courses to increase training and TPA preparedness. Since the edTPA was not required to pass student teaching last year, it is unlikely that students showed the level to which they are truly capable of performing. Regardless, the science education faculty are actively evaluating and incorporating key elements of the edTPA into several science education courses. These changes should have a positive impact on edTPA scores moving forward.

Budget/Resource Analysis: Current results are inconclusive given the unofficial requirement of the edTPA. Science education faculty are currently building key TPA elements into existing methods and practicum coursework, and those changes should produce visible gains next year. A confounding factor is that science education faculty have little to no input on candidate placement, even though we are in the best position to evaluate their strengths and weaknesses and ensure a maximally effective placement. Science education faculty fully support diverse placements as they promote increased candidate professional and personal growth. We need to have more transparent communication about science education candidate placements and at least some input on where they eventually are placed.

Given the technology-focused nature of the edTPA, we need suitable tools (e.g. flip cameras and the like) to enable students to record their performance and scientifically analyze it according to TPA and professional conventions. We also need updated computers that can handle video editing and related technology processing for best presentation of candidate growth and ability to meet standards. See request in previous section for baseline faculty and student computers. In addition, we request a dedicated student workstation at $1500 and $1000 for portable video cameras and related recording devices. As with our prior request, these technology items require the support of an IT professional.

UNIVERSITY OBJECTIVE 1.1: T4 Program Completion

Unit Outcomes: Graduation and Certification of program candidates will occur in a timely manner.

Indicators: A. Graduation
B. Time to Degree
C. WEST E scores
D. Certification Rate

Expected Performance Level (Criterion)
A. 85% will graduate
B. 90% of the candidates will complete the program on-time
C. 80% will Pass their Major Content Test (WEST-E) in their content area on their first attempt
D. 90% receive a first time residency certificate

Indicator/Performance Level Reported By / When do assessments take place? Term / Dates
A. Safari CAPS / Continuously
B. OREA/ IR / Summer Quarter
C. Pearson / All Quarters
D. Certification Office (CO) / Fall Quarter / November 1 / December 15

A. N/A
B. Below Criterion
C. Below Criterion
D. N/A

Interpretations/Key Strategies/Initiatives
A. GRADUATION. There is insufficient data to answer this. What is needed to answer this question is data on how many students are enrolled vs how many graduated. These data are not currently provided.

B. TIME TO DEGREE. In 2012-2013, 50% of science candidates and 72% of ML Math/Science candidates graduated on time vs. 81% for CTL mean. However, it is unclear how this metric is calculated, as science candidates frequently decide to become science teachers later in a science program. A more clear definition of this metric is needed prior to making any concrete conclusions. Historically, with the exception of 2010-2011, undergraduate science teaching candidates graduated on-time about 90% of the time. It is unclear why there was a decrease in that year. Science education faculty plan to investigate the issue to ensure on-time graduation remains at acceptable levels.

C. WEST E SCORES. If the data can be relied on to be accurate, the average of first-time WEST-E passers across all science areas is between 50-60%, which is below standard. ML West-E is difficult to determine since these candidates have to take both the Math and Science West-E, and the results are not broken out. It is difficult to extract the information needed from the tables to make an accurate determination. Science education faculty will need to have a collaborative discussion about how to ensure more candidates are passing the WEST-E the first time they take it. We know from other data sources that ML Science candidates need more content prior to taking the West-E. It will also be useful to disaggregate available data into the different science content areas so our efforts can be maximally productive and strategically focused.

D. CERTIFICATION RATE. In 2012-2013, 175% science candidates were certified in their content area. This makes no sense, and so it is difficult to draw conclusions from these results without further clarification and data integrity. For ML Math/Science, 88% were certified vs. 74% for the CTL. Over the 5 year review period, on average science candidates received certificates in their content area over 90% of the time. There were some anomalies in 2010-2011 that are difficult to analyze from the data provided. Science education faculty will continue to evaluate certification data to ensure that candidates are becoming certified to teach in their chosen science specialty.

Budget/Resource Analysis
Secondary science education candidates are doing reasonably well in passing the WEST-E exam required for endorsement in their science content area, with the exception of Middle Level Science. The reality is that Middle Level students simply do not have enough content exposure to provide the background needed to pass the WEST-E. Science education faculty would like to be more intentional and coordinated about final WEST-E preparation for ALL secondary candidates to ensure a larger number are passing their first time. We also need to update our instructional materials on hand to ensure candidates are experiencing the most current pedagogical tools used in the field. To
meet these needs, we request 5 WLU annually to teach an interdisciplinary content course (SCED 311) that enables candidates to identify areas of content weakness and address them accordingly. This course is taught periodically at CWU centers but should also be taught on the main campus. Current workload time restrictions prevent this from occurring. Furthermore, we request $1500 annually to purchase and refurbish necessary instructional materials.

UNIVERSITY OBJECTIVE 1.1: T5 Post-Graduation

Unit Outcomes The program prepares highly qualified and satisfied members of the teaching community

Indicators
A. First Year Placement
B. Third Year Placement
C. Employment retention
D. Alumni Satisfaction Survey (Coursework)
E. Alumni Satisfaction Survey (Strategies and Assessment)
F. Alumni Satisfaction Survey (Student Teaching)
G. Alumni Satisfaction Survey (Difference in coursework and Student Teaching)

Expected Performance Level (Criterion) A. 50% of the program’s graduates will find teaching jobs within the 1st year after certification
B. 70% of the program’s graduates will find teaching jobs within 3 years after certification
C. 80% of the graduates hired will remain teaching after five years
D. Satisfaction with “Coursework Relevance” indicated by a 3.5 or better
E. Satisfaction with “Strategies and Assessment” indicated by a 4 or better
F. Satisfaction with “Student Teaching Feedback” indicated by a 4 or better
G. Coherence with “coursework and student teaching” indicated by a 3 or lower

Indicator/Performance Level Reported By / When do assessments take place? Term / Dates
A. OREA / Fall Quarter/ November 1
B. OREA Fall Quarter / November 1/ Programs/ December 15
C. OREA Fall Quarter / November 1/ Programs/ December 15
D. OREA Fall Quarter / November 1/ Programs/ December 15
E. OREA Fall Quarter / November 1/ Programs/ December 15
F. OREA Fall Quarter / November 1/ Programs/ December 15
G. OREA Fall Quarter / November 1/ Programs/ December 15

A Exceeded Criterion
B Exceeded Criterion
C N/A
D N/A
E N/A
F N/A
G N/A

Interpretations/Key Strategies/Initiatives
A. FIRST YEAR PLACEMENT. In 2012-2013, 100% of science candidates held a science teaching job within the first year compared to a CTL average of 29%. ML Math/Science placement was 50%. Historically, with the exception of 2010-2011, we are meeting our goal of 50% placement. As with other indicators, 2010-2011 appears to have spurious results. When all 5 years are taken into account we are not meeting this standard. We would like to focus more on post-graduation induction. This should be part of a larger conversation within the CTL, as it is a trend both in our program and across the CTL.

B. THIRD YEAR PLACEMENT. Using the same metrics as for A, these data indicate 100% of science and ML Math/Science candidates were hired by the third year during 2012-2013. However, these results make it difficult to know for sure how to interpret or draw any concrete conclusions about hires. For
example, the numbers for the science education program 3rd year employment indicate that 100% of our graduates are teaching science; however these numbers do not match the table above for first year employment, and there is no obvious connection between the two.

C. EMPLOYMENT RETENTION. No data is provided on employment retention.

D. ALUMNI SATISFACTION - COURSES. No data is provided.

E. ALUMNI SATISFACTION - STRATEGIES/ASSESSMENT. No data is provided.

F. ALUMNI SATISFACTION - STUDENT TEACHING. No data is provided.

G. ALUMNI SATISFACTION - COURSEWORK/STUDENT TEACHING DIFFERENCES. No data is provided.

Budget/Resource Analysis  Our analysis of CDMS-provided data indicates that first and third year placements are above the CTL standard. Since no data was provided for employment retention or alumni satisfaction, we cannot draw any conclusions on those metrics. Some of these data collection issues could be mitigated with a science education-specific alumni survey. Science education faculty have accumulated considerable data on graduating seniors as part of the comprehensive assessment strategy we currently have in place. We are quite clear on what program elements students felt were most, and least, effective, including science education AND PEP courses and experiences. What is needed is a clearer picture of what is happening with science education first and third year retained teachers, using a MUCH larger dataset. We would like to connect post-graduation assessment via surveys and similar tools to our requested marketing strategy so that alumni experiences are linked to recruitment of new science teaching candidates. No additional funds are requested beyond those previously requested for marketing.

UNIVERSITY OBJECTIVE 1.2: Enhance the Effectiveness of Student Support Services

Unit Outcomes  A. Faculty annually review effectiveness of field placements, mentoring, and mentor training
B. The Program reviews student satisfaction with advising
C. The Program faculty monitor, discuss, and collectively report on academic support improvements in the program and curriculum

Indicators  A. Field Placement documentation
B. New Teacher Survey results
C. Faculty meeting minutes and annual reports

Expected Performance Level (Criterion)  A. Field placement data show 80% of Program candidates’ score a level 3 or better on field placement rubrics
B. Survey results show improvements in satisfaction
C. Programs attempt to make one improvement annually

Indicator/Performance Level Reported By / When do assessments take place? Term / Dates  A. OFE and OREA Fall Quarter / November 1/ Programs /December 15
B. OREA Fall Quarter / November 1/ Programs /December 15
C. OREA Fall Quarter /November 1/ Programs /December 15

A Below Criterion
B N/A
C Exceeded Criterion
Interpretations/Key Strategies/Initiatives

A. EFFECTIVENESS OF FIELD PLACEMENTS. Field placement results are summarized in the section on Student Teaching.

B. STUDENT ADVISING SATISFACTION. No data is provided. Data from our comprehensive assessment plan indicates that students feel supported and satisfied with the advising and mentoring they receive in science education. They feel far less supported in receiving advice from the PEP faculty.

C. MINUTES AND REPORTS. Science education faculty meet regularly and collaboratively discuss student and program assessment data and continuously make program changes based on results and data trends. Previous data was used to make major program changes in middle level science and general science teaching. All curriculum and course changes over the past 10 years have followed our collaborative developmental model, as evidenced by meeting minutes and annual reports.

Budget/Resource Analysis
Our comprehensive portfolio assessments provide considerable data on candidate performance over time which is regularly reviewed to maximize student learning performance. The previously requested 2 WLU for each faculty that coordinates a science teaching program is sufficient for science education faculty to accomplish ongoing planning and evaluation. No additional funds are requested.

UNIVERSITY OBJECTIVE 2.1: Enhance the Environment of Inclusiveness for Faculty, Staff, and Students

Unit Outcomes
A. The Program seeks input from groups of underrepresented groups to inform recruitment and retention practices
B. Programs demonstrate the dispositions of a professional educator
C. Address the state and partner districts’ goals for diversifying the workplace

Indicators
A. Professional Development
B. CTL Disposition Inventory analysis
C. District Placements

Expected Performance Level (Criterion)
A. The Program offers one professional development opportunity per year to faculty learn more about equity pedagogy from different underrepresented groups
B. Candidates’ post-test scores have positively improved by .10 on all four domains
C. Graduates represent 35% diversity (including military)

Indicator/Performance Level Reported By / When do assessments take place? Term / Dates
A. Program / Fall Quarter / December 1
B. OREA and Program / Fall Quarter / November 1 and December 15
C. OREA and Program / Fall Quarter / November 1 and December 15

A Surpassed Criterion
B Below Criterion
C Below Criterion

Interpretations/Key Strategies/Initiatives

A. INPUT FROM UNDERREPRESENTED GROUPS. The CTL offered a professional development opportunity focused on diversity during the 2012-2013 academic year and several science education faculty attended. Previously, two science education faculty attended a workshop on Guided Language Acquisition Design that focused on supporting English Language Learners. Two science education faculty attended a regional Noyce training on how to support migrant families. Science education faculty will continue to explore and implement best teaching practices to support diverse students.

B. DISPOSITIONS. Historically, the average science candidate shows gains in DI scores across the four domains; however scores were less positive in 2012-2013. Analysis of the discipline specific disposition
survey that is part of our comprehensive assessment system also reveals positive change as a result of our program. Science education faculty will continue to advise, mentor, model, and assess for dispositions required to become an effective teacher. Science education faculty will work to be more intentional and consistently build these important professional characteristics into science education courses.

C. WORKPLACE DIVERSITY. Ethnically the secondary science education programs has less than ideal diversity, although we are showing gains in this area. The CDMS data does not include diversity measures for our graduates, only for majors. There is no reason to believe that the diversity of the candidates graduating in secondary science is significantly different from the diversity of students in the program. Historically, women have been underrepresented in secondary science teaching, and this is a major area of growth for science teaching. Over the last 5 years 70-80% of science teaching candidates have been women. Recruiting a diverse pool of science teaching candidates is a necessary and major area of focus.

Budget/Resource Analysis  Recruitment of science teaching candidates, including students of diversity, is one of our major areas of focus. We need funds to develop a comprehensive marketing strategy and coordinated marketing plan across the region and state that highlights the center of science teaching excellence at CWU. We also need to improve the consistency and breadth of science teaching advising and associated materials. The goods and services, IT staff, and faculty workload request made under University Objective 1.1 will be sufficient funds to include specific recruiting efforts for a diverse candidate pool.

UNIVERSITY OBJECTIVE 2.2: Increase Faculty, Staff, and Student Diversity by Active Programs of Recruitment and Retention for Members of Underrepresented Groups

Unit Outcomes  A. Faculty seek highly qualified faculty members (attention to diversifying the faculty) to join the Program
B. Program actively recruits and admits underrepresented candidates

Indicators  A. Program Faculty Demographic Trends
B. Program Candidate Demographic Trends

Expected Performance Level (Criterion) A. The Program increased or maintained its highly qualified diverse faculty over the past five years
B. 30% of Program candidates are from cultures other than Caucasian

Indicator/Performance Level Reported By / When do assessments take place? Term / Dates  A. OREA and Program / Fall Quarter / November 1 and December 15
B. OREA and Program / Fall Quarter / November 1 and December 15

A  Met Criterion
B  Below Criterion

Interpretations/Key Strategies/Initiatives  A. FACULTY DEMOGRAPHIC. The science education faculty are 100% caucasian and 57% female. Since females are underrepresented in most of the science programs we support (i.e. Chemistry, Earth Science, Physics) and in secondary science teaching, a greater the 50% female faculty is a positive indicator of diversity. During the last 5 years we have done two faculty searches and hired females each time.

B. CANDIDATE DEMOGRAPHIC. As indicated in previous section of this document, the secondary science teaching candidate pool is not sufficiently diverse. Specific recruiting of students of color is necessary. Science education faculty have expanded relationships with teachers at schools with high ethnic diversity (e.g. Wahluke High School, Sierra Vista Middle School, and Davis High School) to provide more diverse experiences for science teaching candidates. Science education faculty will continue to expand
these relationships and focus on recruiting.

Budget/Resource Analysis  Faculty diversity is high from the perspective of gender but low ethnically. If given an opportunity to hire a new faculty member, the search committee will actively recruit candidates of diverse ethnicities. Solving the problem of the lack of ethnic diversity in the secondary science teaching candidate pool requires time be spent on a comprehensive, consistent marketing plan including specific recruiting materials. Funds requested under University Outcome 1.1 are sufficient to support the recruitment of greater numbers of ethnic minorities into the secondary science teaching programs.

UNIVERSITY OBJECTIVE 2.3: Ensure that CWU has an Inclusive and Diverse Curriculum

Unit Outcomes  A. Candidates demonstrate cultural competence using Program Portfolios
B. Field experiences are integrated throughout the preparation program and provide opportunity to plan, practice and reflect on methods of instruction and differentiation
C. Field experiences provide opportunity to work in communities or with populations dissimilar to the background of the candidate

Indicators  A. PEP and Program Portfolio Data on CDMS
B. Field Experience Data on CDMS
C. Diversity Index Data on CDMS

Expected Performance Level (Criterion)  A. The Program requires candidates to substantiate cultural competence by scoring a 3 or better on CTL Standard 1.3 using a portfolio 85% of the time
B. Field Experience data demonstrate 100 hours of embedded practice that includes assessed reflections on instruction and differentiation
C. The diversity index illustrated that 80% of Program candidates have had a experience in a classroom dissimilar to their our background

Indicator/Performance Level Reported By / When do assessments take place? Term / Dates  A. OREA and Program / Fall Quarter / October 1 and December 1
B. OREA and Program / Fall Quarter / October 1 and December 1
C. OREA and Program / Fall Quarter / October 1 and December 1

A  N/A
B  N/A
C  N/A

Interpretations/Key Strategies/Initiatives  A. CANDIDATE CULTURAL COMPETENCE. No CTL standards data was provided in 2012-2013. Historically, secondary science teaching candidates score on average 4.48 on CTL Standard 1.3 and thus exceed the CTL standard of 3 or better. Science education faculty will model culturally competent pedagogies when teaching.

B. FIELD EXPERIENCE REFLECTION. No data is provided in the CDMS currently to evaluate performance in this area. Science education has recently implemented a 50 hour practicum course that includes reflection elements similar to those required in the edTPA. We also have implemented practicum field experiences in science teaching methods courses and provide many programmatic opportunities for students to work in the field (informal science, etc).

C. DIVERSITY OF FIELD EXPERIENCE. No data is provide for 2012-2013. Historically, data indicate that in the last two years the percentage of candidates experiencing ethnically diverse field placements has increase from an average around 30% to and average of just over 50%. The percentage of candidates receiving a bilingual and a high poverty experience is roughly parallel to the ethnicity data. Science
education faculty currently have no say in student teaching placements. We plan to continue having conversations with student teaching placement personnel to ensure science students are provided with suitably diverse student teaching experiences.

Budget/Resource Analysis  Faculty modelling culturally competent teaching is important for candidates to understand how to demonstrate effective strategies and dispositions related to cultural competence. Modeling effective strategies requires that faculty develop cultural competence and related teaching strategies. Providing time for candidates to reflect on their teaching and how they differentiated instruction is important and just as important is the time required for faculty to provide feedback on student reflections. Placing candidates in diverse field experiences will increase cultural competence, however, science education faculty have little to no input on candidate placement which is one reason why we implemented a secondary science practicum course. Science education faculty fully support diverse placements as they promote increased candidate professional and personal growth. We need to have more transparent communication about science education candidate placements and at least some input on where they eventually are placed. We request 1 WLU per faculty member (7 WLU total) to participate in professional development around cultural competency and to develop modules in science teaching courses that explicitly model culturally competent teaching. The faculty time requested in a prior section for advising and assessment will effectively allow faculty time to provide opportunities for and feedback on candidate teaching reflection.

Source URL:
Please enter the appropriate information concerning your student learning assessment activities for this year.

Academic Year of Report: _2012-2013_____ College: ___COTS___________
Department ___Science Education_____ Program: __Secondary Science, ML Math/Science__

1. What student learning outcomes were assessed this year, and why?
In answering this question, please identify the specific student learning outcomes you assessed this year, reasons for assessing these outcomes, with the outcomes written in clear, measurable terms, and note how the outcomes are linked to department, college and university mission and goals.

Provided in CTL 2 in 1 report

Tom’s note: The WEST-B scores listed below seem to be the most pertinent measures of student learning outcomes

Submission information Form: Annual Program Report
Form Submitted by iq
Mon, 12/16/20
11:58
172.16.30.13
Program Science
Unit Outcomes T1. Admissions will complement recruitment efforts of diversifying WA teacher workforce
Indicators
A. Enrollment
B. Diversity/ Military
C. Rate of Acceptance
D. WEST B Math
E. WEST B Reading
F. WEST B Writing
G. Disposition Inventory (DI)

Expected Performance Level (Criterion) A. Enrollment numbers are maintained
B. 40% of our candidates will represent underrepresented populations including military
C. 75% of all applicants will be accepted into the program
D. 90% will achieve 240 on Math
E. 90% will achieve 240 on Reading
F. 90% will achieve 240 on Writing
G. 100% of Program Candidates will complete the DI
2. How were they assessed?
In answering these questions, please concisely describe the specific methods used in assessing student learning. Please also specify the population assessed, when the assessment took place, and the standard of mastery (criterion) against which you will compare your assessment results. If appropriate, please list survey or questionnaire response rate from total population.

Provided in CTL 2 in 1 report

WEST-B exams administered at Pearson test centers

A) What methods were used?
B) Who was assessed?

4 secondary science candidates and 32 middle level math/science candidates were assessed.

C) When was it assessed?

3. What was learned?
In answering this question, please report results in specific qualitative or quantitative terms, with the results linked to the outcomes you assessed, and compared to the standard of mastery (criterion) you noted above. Please also include a concise interpretation or analysis of the results.

Provided in CTL 2 in 1 report

| Indicator/Performance Level Reported By / When do assessments take place? Term / Dates |
|---------------------------------|---------------------------------|
| A. OREA / Program / Fall Quarter November 1 and December 15 |
| B. OREA / Program / Fall Quarter November 1 and December 15 |
| C. OREA / IR / Program / Program / Fall Quarter November 1 and December 15 |
| D. Pearson / All Quarters |
| E. Pearson / All Quarters |
| F. Pearson / All Quarters |
| G. OREA / Program / Fall Quarter November 1 and December 15 |

<table>
<thead>
<tr>
<th>Performance Level</th>
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<tbody>
<tr>
<td>A. Met Criterion</td>
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<tr>
<td>B. Below Criterion</td>
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<tr>
<td>C. N/A</td>
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<tr>
<td>D. Exceeded Criterion</td>
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<tr>
<td>E. Exceeded Criterion</td>
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<tr>
<td>F. Exceeded Criterion</td>
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<tr>
<td>G. Below Criterion</td>
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Interpretations/Key Strategies/Initiatives
A. ADMISSIONS. Trends have remained roughly constant over the past several academic years, from lower enrollment numbers in 2007-2008. Current enrollment numbers indicate a fairly flat trend.

4. What will the department or program do as a result of that information?
CTL Report Addendum

In answering this question, please note specific changes to your program as they affect student learning, and as they are related to results from the assessment process. If no changes are planned, please describe why no changes are needed. In addition, how will the department report the results and changes to internal and external constituents (e.g., advisory groups, newsletters, forums, etc.).

Provided in CTL 2 in 1 report

B. MATH. During the past 5 years, Science Education has attracted well-qualified candidates who perform well above the CTL standard for mathematics (108% of CTL mean). 100% of science candidates met the math standard on the first attempt. ML Math/Science students were less likely to pass the WEST-B math section on the first attempt. We will continue to focus recruitment efforts on attracting and retaining candidates with high quantitative skill.

C. READING. As for Math, over the past 5 years Science Education has attracted well-qualified candidates who perform well above the CTL standard for reading (99% of CTL mean). ML Math/Science students were less likely to pass the WEST-B reading section on the first attempt. 100% of science candidates passed the reading standard on the first attempt. Recruitment efforts will continue to attract and retain candidates with high reading skill.

D. WRITING. Science candidates performed above the 90% standard in Writing (100% passing on first attempt). Writing in Science Education is receiving much greater emphasis and reflects national concerns to improve undergraduate writing quality and to better meet edTPA requirements. We have reformed our curriculum and assessment to more specifically address issues related to writing including format and creativity as well as writing mechanics.

5. What did the department or program do in response to last year’s assessment information?

Systematic implementation of assessment has been occurring in Science Education courses and program for over 10 years, partly in response to external accreditation requirements but mostly for the purpose of engaging in continuous improvement. Actions that have been taken over the past year include:

- The Middle Level Math and Science major has been revised to focus on science. The major will now be included as part of the General Science major as an endorsable section.
- We integrated SCED 301/401 into a cohesive experience that can be offered more frequently during the academic year.
- We planned and will offer a next-generation integrated content series for elementary and middle-level teaching candidates. Biology, chemistry, earth science and physics concepts will be investigated using an inquiry-based approach.
- We have scheduled Noyce quarterly meetings to increase cultural competency and diversity literacy.
CTL Report Addendum

- We continue to collect copious data on science teaching candidates using a standards-aligned, performance-based portfolio system and entry/exit surveys to determine changes in candidate disposition.
- We have heavily revised our science teaching methods series to integrate competencies from PEP courses, including educational technology, reading literacy, and classroom management. These competencies are now embedded in field experiences in K-12 classrooms.
- Further revisions in our science teaching methods series includes a more deliberate emphasis on edTPA performance expectations with a large increase in writing proficiency expectations. Developmental foundations are built in SCED 324 (which also includes an intensive field experience) and applied more fully in SCED 325 (in partnership with local K-12 schools), leading to a more seamless transition to student teaching.

6. Questions or suggestions concerning Assessment of Student Learning at Central Washington University: