

State of Washington
Recommendation Summary

Agency: **375 Central Washington University**

4:43:15PM

10/5/2015

Dollars in Thousands

	Annual Average FTEs	General Fund State	Other Funds	Total Funds
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2015-17 Current Biennium Total**Total Carry Forward Level**

Percent Change from Current Biennium

Carry Forward plus Workload Changes

Percent Change from Current Biennium

Total Maintenance Level

Percent Change from Current Biennium

PL A1 Online Alternative Credit Model	33.0	7,178	7,178
PL A2 Integrated Energy Studies	2.0	600	600
PL A3 Wildfire Real-time Forecasting	3.0	1,171	1,171
PL A4 4-Year Degree Efficiency	1.0	675	675
Subtotal - Performance Level Changes	39.0	9,624	9,624
2015-17 Total Proposed Budget	39.0	9,624	9,624
Percent Change from Current Biennium			

PL A1 Online Alternative Credit Model

This plan will help the state meet ambitious baccalaureate degree-production goals, adopted in 2011 (HB 1795). The Washington State Legislature approved and set a deadline of 2018 to increase the number of bachelor's degrees earned by Washington residents "from the 2009-10 academic year levels by at least six thousand degrees completed or by twenty-seven percent." Most of the high school students who would earn a bachelor's degree by 2018 already are enrolled at a baccalaureate institution .

In order to make further progress toward the degree production goal, the state must develop alternative credit models to serve students who may already hold some post-secondary academic credits or life experience that can count toward a degree . CWU's proposed Online Alternative Credit Model embraces several strategies to place baccalaureate credits within reach of students who move to a traditional residential campus but who want and need to earn a bachelor's degree .

What would this item actually buy or no longer buy

This item effects a new alternative online credit-granting model (OACM) that reduces the time required to earn a degree . This item purchases the people required to launch the program. The number of people is scalable. The more individuals hired, the more students can be served.

Marketing and coordination specialists

- " to communicate with community and business leaders to identify and deliver needed programs;
- " to identify strategies to enhance baccalaureate aspirations in underserved communities
- " to communicate the availability of the programs to other K-20 education providers .

Faculty

- " to develop and launch curriculum quickly to respond to the needs of business and students
- " to evaluate and grant credit for learning individuals have acquired outside of academic settings .

Budget staff

- " to develop unique, self-sustaining funding formulas that reflect the efficiencies--and the expenses--of providing education through these unique strategies.

PL A2 Integrated Energy Studies

Problems

- 1.) Reducing carbon emissions and fossil fuel dependence.
- 2.) Replacing an aging energy workforce with graduates prepared for rapidly changing energy technology .
- 3.) Lack of educational programs to address the transition from old to new energy sources .

Opportunity

- 1.) Create the nation's first energy degree program combining non-traditional and traditional energy studies .
- 2.) Leverage international partnerships with Chile, Mexico, and Brazil, and with energy services providers .
- 3.) Leverage CWU's physical location near 5 wind farms, the world's largest solar farm, solar panel manufacturing, and hydro-power and nuclear facilities.

Priority

4CWU Strategic Planning Priorities

I2ES supports all of the priorities of the CWU strategic plan:

- 1.) Teaching and Learning, by enhancing the quality and opportunities for students and faculty in an emerging, interdisciplinary field.
- 2.) Inclusivity And Diversity, by providing the hands-on experience and individualized learning experience that is preferred by many under-represented and first-generation students, particularly for STEM education .
- 3.) Scholarship and Creative Expression, but providing new opportunities for collaborative and interdisciplinary research in a field of critical importance to the state and the nation, and by creating an entity that will be well positioned to generate external funding for research and scholarship by students and faculty .
- 4.) Public Service and Community Engagement, by enhancing the commitment and the level of collaboration between the university and key corporate and government stakeholders . The institute also will strengthen the economic base of the region and state by building a new platform from which to address climate change .
- 5.) Resource Development and Stewardship, by enhancing enrollment and external partnerships .

PL A3 Wildfire Real-time Forecasting

The package responds to the crisis in wildfire management, and addresses the need of wildfire managers to know in real time where a fire will go. The lack of this expertise in summer of 2015, resulted in the deaths of firefighters and civilians. It produced billions in damages to homes, businesses, and hundreds of thousands of acres of state and national forestland. Bug kill and disease in the forests and statewide drought will continue to create extreme fire conditions and place lives and public and private property at risk of loss to wildfire.

CWU has the opportunity to leverage new science and technology to address this gap knowledge within wildfire management. CWU proposes to produce a new generation of scientists and natural-resource managers who understand and can anticipate wildfire behavior. Through a new partnership with the University of Leon in Spain, CWU has developed a new relationship with the founder of Technosyla (<http://technosylva.com/>), which provides wildfire analysis and modeling, fuels mapping, wildfire risk assessment, and custom web & mobile applications development for Texas, British Columbia and other states. Dr. Ramirez is eager to use his technological expertise to establish the nation's first degree program in wildfire behavior forecasting at CWU, which is located at the center of Washington's wildfire activity.

Some Northwest institutions have wildfire management programs that map fires that already have burned. None has the ability to predict where fires will go or are going in real time, and place the information in the hands of fire managers on the ground and in the air in.

This package supports the following CWU Strategic Planning Priorities

- " Teaching and Learning
- " Inclusivity and Diversity
- " Scholarship and Creative Expression.
- " Public Service and Community Engagement.
- " Resource Development and Stewardship.

b. What would this item actually buy or no longer buy

GIS software, equipment, and 2 FTE faculty, and 1 FTE technician to conduct teaching and research.

c. What outcomes does the agency expect as a result?

- " Wildfire predictive analytics. Creation of a Washington State Historical Fire behavior database that tailors predictive models to Washington state fire behavior.
- " New, more effective best practices for wildfire operational tactics and communication.
- " Next-generation fire managers. Program graduates ready to attack fires with greater sophistication and effectiveness.
- " The ability to understand in real-time wildfire fuel dynamics, based on remote sensing tools and techniques.
- " The ability to track and model resources suppression effectiveness and firefighter safety of on-going operations.

PL A4 4-Year Degree Efficiency

The package addresses opportunity to increase the efficiency of degree production and reduce the cost of and enhance the efficiency of resource utilization. Further it addresses the challenge of improving student retention and graduation metrics with limited state resources. The package addresses two theme areas within the CWU Strategic Plan :

" Theme 1, Teaching And Learning

Objective 1: Enhance student success by continually improving the curricular...programs.

Objective 2: Enhance the effectiveness of student support services.

" Theme 5: Resource Development And Stewardship

Objective 1: Maximize the financial resources to the university, and assure the efficient and effective operations of the University through financial stewardship.

Objective 2: Develop and implement enrollment management...plans that maximize revenue.

Objective 3: Ensure the university has human resources necessary to accomplish all university objectives.

Objective 4: Provide the facility and technology infrastructure and services appropriate to meet university objectives, while maximizing sustainability and stewardship

b. What would this item actually buy or no longer buy

The program buys software, and personnel and training for a four-year, degree-tracking system called "Degree Planner." It delivers degree requirements and degree progress information in an interface accessible to students and staff. It also forecasts personnel and lab and classroom space needs by tracking students' progress toward degrees in real time.

c. What outcomes does the agency expect as a result

" Reduced time to degree

" Increased retention

" Increased degree completion

" Reduced cost per degree for students

" Reduced cost per degree for the state and university

Agency: 375 Central Washington University
Decision Package Code/Title: A1 Online Alternative Credit Model
Budget Period: 2015-17
Budget Level: PL - Performance Level

Recommendation Summary Text:

This plan will help the state meet ambitious baccalaureate degree-production goals, adopted in 2011 (HB 1795). The Washington State Legislature approved and set a deadline of 2018 to increase the number of bachelor's degrees earned by Washington residents " ...from the 2009-10 academic year levels by at least six thousand degrees completed or by twenty-seven percent." Most of the high school students who would earn a bachelor's degree by 2018 already are enrolled at a baccalaureate institution .

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Faculty

- " to develop and launch curriculum quickly to respond to the needs of business and students
- " to evaluate and grant credit for learning individuals have acquired outside of academic settings.

Budget staff

- " to develop unique, self-sustaining funding formulas that reflect the efficiencies--and the expenses--of providing education through these unique strategies.

Fiscal Detail

Operating Expenditures	<u>FY 2016</u>	<u>FY 2017</u>	<u>Total</u>
001-1 General Fund - Basic Account-State	3,589,000	3,589,000	7,178,000
Total Cost	3,589,000	3,589,000	7,178,000
 Staffing	 <u>FY 2016</u>	 <u>FY 2017</u>	 <u>Annual Average</u>
FTEs	33.0	33.0	33.0

Package Description:

The Problem

The problem is reaching the state's aggressive degree production goals: by 2018 increase the number of bachelor's degrees earned ... by at least six thousand degrees or by twenty-seven percent." To assist in meeting this goal, the 2013 - 2015 Washington State Operating Budget (SB 5034) directed Central Washington University (CWU) to "...develop a plan to create an online degree granting entity that awards degrees based on an alternative credit model."

The Opportunity

According to the Washington Student Achievement Council, more than 900,000 individuals in Washington, ages 17-54, have some college experience but no degree. Of these, fewer than 25 percent (193,514) are currently enrolled in a degree program. Of those who are not enrolled, about 440,000 earn less than poverty-level income. The proposal leverages the opportunity to engage an otherwise neglected demographic in baccalaureate education and to help them increase their own earnings and enhance the quality of the Washington state workforce.

The Priorities

This item addresses the following state priorities of Results Washington within the "World Class Education" goal:

- 1.1. Increase the percentage of children enrolled in high-quality early learning programs from 2013 baseline to targets per program
- 1.3 Increase the percentage of population enrolled in certificate, credential, apprenticeship and degree programs from 13 % in 2012 to 24.8% in 2023
- 2.3 Increase attainment of certificates, credentials, apprenticeships and degrees from 72,000 to 149,000 by 2023

Narrative Justification and Impact Statement

What specific performance outcomes does the agency expect?

The key outcome is that people who would not otherwise have completed a degree will do so, because CWU, through OACM:

- " Grants credit for learning accumulated in non-academic settings
- " Allows individuals to learn at their own pace
- " Provides degree-completion online
- " Meets the specific needs of employers, whatever the industry

What specific performance outcomes does the agency expect? Describe and quantify.

Prior Learning Assessment

Increase the number of students obtaining Prior Learning Experience credit.

Competency Based Learning

Develop and implement multiple degree programs through competency based modality.

Increase student enrollment and retention in implemented programs.

Bachelor of Arts/Science in Specialized Studies

Increase number of degree completion students enrolled and retained to graduation in Specialized Studies program.

M.Ed. Literacy Global Literacy; M.Ed. Special Education; Early Learning

Increase number of degree completion students enrolled and retained in M.Ed. Literacy Global Literacy; M.Ed. Special Education; Early Learning programs.

Performance measure detail

Prior Learning Assessment

At least 500 students will obtain Prior Learning Experience credit through portfolio reviews.

Competency Based Learning

At least three degrees will be developed and implemented through competency based modality.

Student enrollment will exceed 100 FTE within the three degrees offered.

Retention will exceed 75% within each delivered program.

Bachelor of Arts/Science in Specialized Studies

The number of degree completion students enrolled will exceed 100 student FTE

Retention will exceed 85% in Specialized Studies program.

M.Ed. Literacy Global Literacy; M.Ed. Special Education; Early Learning

The number of students enrolled in M.Ed. Literacy & Global Literacy; M.Ed. Special Education; Early Learning programs will exceed 30 student FTE for each program (i.e., 120 total FTE).

Retention will exceed 75% in M.Ed. Literacy & Global Literacy; M.Ed. Special Education; Early Learning programs.

Performance Measure Detail

Activity:

Incremental Changes

No measures submitted for package

Is this decision package essential to implement a strategy identified in the agency's strategic plan?

First, the "Why." Because a key aspect of CWU's mission is to provide baccalaureate access to Washington citizens. CWU provides high-touch education that make educational success a reality for first-generation, non-traditional, and others who are put-off by classes of 750 - 1,000 students. CWU faculty are remarkable teachers, as well as proficient researchers. One way CWU excites students about learning is to engage them in real research as undergraduates.

CWU also is ideally positioned for the high level of collaboration, outreach and flexibility that the OACM program will demand. For more than 30 years, CWU has operated University Centers on community college campuses in Des Moines, Edmonds, Everett, Moses Lake, Steilacoom, Wenatchee, and Yakima. The university incorporated Interactive Television (ITV) with face-to-face instruction to meet the needs of students whose commitments to jobs or family prevented enrollment in a traditional university setting. A significant shift in the need for baccalaureate degrees and in the capacity of educational technology, however, is compelling the change in CWU's long-standing approach to educational outreach. The new approach combines web-based and face to face instruction and advising. The new approach, called the Portal Project, is transforming traditional, static campuses into doorways, or "portals," to regional education networks.

The Portal Project refocuses University Centers from their campus footprint to the surrounding region. Site directors are now regional directors, charged with outreach to local businesses and communities. Instead of primarily focusing on a specific building on a specific campus, University Centers are serving regional needs and use existing physical campuses and online resources as portals to a broader network of services. In other words, CWU will replace a site-specific focus with regional outreach that meets the needs of students and employers when and where they occur.

In fall 2012, CWU administrators and faculty conducted a three-day "listening tour" of community colleges in King, Pierce, and Snohomish counties, and in central Washington. Community and college leaders underscored the need for education not linked to a bachelor's degree. Meetings with college and community representatives about educational needs stimulated ideas about revamping the University Centers concept.

CWU already is a leader on online degree programs, offering more programs fully online than any other public baccalaureate in Washington. CWU will use this experience to reach individuals who are not able to or do not wish to engage in a traditional baccalaureate residential program.

Now the "How." OACM: A Plan to Streamline and Widen the Educational Pipeline

1. Award individuals credit for what they know or are able to do.

PRIOR LEARNING ASSESSMENT (PLA)

CWU will accept up to 45 credit hours toward a bachelor's degree for student learning acquired outside academic settings. Students

will be able to obtain CWU credit through three methods:

1. Credit by Examination Programs: CWU will recognize college credit from a number of sources, including Advanced Placement (AP), College Level Examination Program (CLEP), and International Baccalaureate (IB). Students scoring above university-set criteria for subject examinations will earn credit that can be applied toward satisfying degree requirements.
2. Course Challenge: Students will earn course credit or have requirements waived based on successfully completing examinations and/or assignments that measure learning in any given course.
3. Portfolio Review: Students will be able to develop and submit portfolios of work through the Council for Adult and Experiential Learning (CAEL) to demonstrate subject specific content competence. Students may submit multiple portfolios of up to 12 credit hours each. Credit awarded through portfolio examination can be applied to meet program and university related course requirements. Portfolios may include written reports or other documents, video demonstrations, work-based education and training information, and other materials.

For example, a police officer or security guard may have completed significant training related to basic criminal procedure and report writing. In addition, issues relating to ethics, conflict, and diversity may have been part of their normal training and day-to-day experiential activity. Through a portfolio narrative, a student could describe their life experience, training, and other developed skills and knowledge as related to course requirements and standards. Based on the applicability of the experience(s) and demonstration of knowledge and skills, a student could receive course credit.

Other individuals may have completed an employment-based education program. This may include internships and apprenticeships. It also could include corporate "universities," in which businesses develop formal education programs in order to provide knowledge and skills essential to the industry or to the culture of the employer.

2. Enable students to complete degrees at their own pace

COMPETENCY-BASED LEARNING: Three competency-based degree programs will allow students to earn a degree by completing a series of assessments in program courses. A student would be able to work at the pace and at the time of day most comfortable for that individual. Students would earn a degree just as do other CWU learners, only on an individualized timeline.

A competency-based format will allow students to complete course work at their own pace throughout a quarter, but without strictly designated due dates. Once a student feels he/she has mastered course concepts, he/she would complete tests to demonstrate specific competencies. The assessments would measure mastery of specific knowledge or skills required for workplace success, allowing students to apply learning to real-life situations.

A student will be allowed to enroll in a predefined number of courses at a time, but would not be limited to the total number of courses he/she could complete in a quarter. While some resources will be required and others recommended, students also could use materials and resources they choose, including textbooks, eBooks, simulations, videos, articles, and work experiences.

Course Format: Competency-based courses would be offered through an online format allowing for ease of access and completion. At a minimum, a course would include the following:

1. An overview of course outcomes and objectives
2. Guidelines for academic work and competency demonstration and CWU policies and procedures.
3. A series of course activities to develop knowledge, skills, and competencies
4. An explanation of how course activities will be evaluated and competencies demonstrated toward a degree
5. An overview, scoring guide, and instructions to help students complete authentic assessments
6. Suggested resources, including optional textbooks and scholarly articles

Instructional/Support Responsibilities

" Faculty:

o Evaluators: Content experts provide direct, substantive feedback on assessment measures.

o Coaches: Content experts that provide assistance when students need help completing learning activities.

" Advisors: One-to-one resource guides help students stay on track in terms of courses and use of resources.

" Online Academic Resource Center: This online academic tool and resource center includes a writing center, math center, library, etc.

Assessment Process

Once an assessment is completed, faculty evaluators will review and provide substantive feedback within a predetermined set of time (e.g., 48-72 hours). This is meant to aid students' understanding of their progress toward course outcomes. Because students will complete assessments at their own pace, they may be able to move quickly on subjects in which they already are proficient, without spending time re-learning material they already know.

3. Customize degree programs to meet employer needs.

BACHELOR OF ARTS/SCIENCE IN SPECIALIZED STUDIES

CWU will work with employers, community groups, and other institutions to meet unique education needs. This flexible program allows CWU to custom-fit education to the needs of individuals, organizations, and businesses. Faculty advisor(s) will work with constituents to develop a distinctive, customized major that is interdisciplinary and different from currently offered degree offerings.

Programs may be offered online or a combination of online and in-person. CWU is well positioned to reach out to meet disparate employer and community needs by virtue of its robust online organization and established statewide physical presence. CWU is collocated with community colleges in Everett, Edmonds, Des Moines, Steilacoom, Yakima, Wenatchee, and Moses Lake. New partnerships under development also will place CWU at Walla Walla and in Spokane.

4.) Promote Early Childhood Education

Expanding access to high quality early childhood education has been demonstrated to be among the best investments toward a healthful and productive life. According to the White House report, "An America Built to Last," "...the early years in a child's life-when the human brain is forming-represent a critically important window of opportunity to develop a child's full potential and shape key academic, social, and cognitive skills that determine a child's success in school and in life."

Economists Art Rolnick and Rob Grunewald estimate the return on investment in early learning programs is as high as 20 percent. The return is realized through reduced spending on other services, such as remedial education and special education, and through increased productivity and earnings when these children join the workforce as adults. These economists said early childhood development programs should be at the top of the economic development lists for state and local government.

A new Early Childhood Education certificate program will enable childcare providers to earn 15 credits online in the field of early childhood education to enhance their ability to provide high quality child care. According to the State of Washington's Early Learning Plan, one primary goal is to support "ready and successful early learning professionals". Some of the steps necessary to create an effective system of professional development include:

" Add "slots" and resources (e.g., advisors, materials, scholarships, release time to develop coursework, etc.) in the community colleges, technical colleges, and universities, and funding in the Washington Scholarships for Child Care Professionals to support degree attainment."

" Work with higher education institutions to encourage expanding programs of study in early childhood education and development."

PROMOTING LITERACY:

Reading proficiency is the best predictor of academic and professional success, according to numerous studies, including "Early Warning! Why Reading by the End of Third Grade Matters," by the Annie E. Casey Foundation. The study concluded that proficient readers need high quality learning opportunities, "beginning at birth and continuing in school and during out-of-school time, including summers."

According to "Improving Reading Comprehension in K-12 Education," Increased literacy demands as well as the changing nature of students in K-12 classrooms "make reading instruction far more complex than it was a generation ago and present an imperative in terms of understanding and implementing reading research." The study reports that educators who participated in graduate study in teaching reading gained increased professional knowledge and confidence. Educators also said that the result of completing graduate study in teaching reading was a better classroom planning and a more strategic, approach to their teaching.

" The Master of Education Literacy prepares educators more effectively to teach reading, the skill most closely associated with the success of K-12 students. The fully online Master of Education-Literacy (formerly the Master of Education, Reading Specialist)

informs educators' classroom toolkit with new strategies for meeting diverse needs. Program completers also may work in school districts as a Reading Specialist or Literacy Coach

" The Global Literacy Development Certificate provides students-in teaching and other professions-knowledge of best practices in literacy development and effective communication strategies. Certificate holders will be equipped with communication skills and basic knowledge about literacy development in order to support, sustain and enhance literacy programs for a variety of organizations .

PREPARING SPECIAL-NEEDS STUDENTS FOR COLLEGE:

Special Education serves approximately 130,000 students in Washington state with specially designed instruction that addresses students' unique learning needs. These services include early intervention services for children with disabilities and/or developmental delays. Pre-school services are provided in students' homes, in child care, in preschool or school programs, and in their communities . Services to school-age students are provided according to an Individualized Education Program in preschools, elementary, and secondary schools, or other appropriate settings.

Special education teachers work with children and young adults who have physical or mental disabilities . They use a variety of different teaching methods to help their students learn. The range and complexity of "disabilities" prevents general education teachers from providing these specialized services. Special education providers may be called upon to address a wide range of disabilities, including:

Autism Deafness Developmental delay
Emotional disturbanceIntellectual disability Multiple disabilities
Orthopedic impairment Specific learning disabilitySpeech or language impairment
Traumatic brain injury Visual impairment

Students who do not receive appropriate special services will not succeed in primary and secondary school, let alone enjoy a smooth transition to college.

The Master of Education, Special Education allows students to pursue graduate-level study in the various areas of special education . This online program serves teachers and related service personnel-wherever they live-who wish to add to their repertoire of strategies for diverse learners.

Does this DP provide essential support to one or more of the Governor's Results Washington priorities?

The decision package provides essential support to the following Results Washington goals :

- 1.1. Increase the percentage of children enrolled in high-quality early learning programs from 2013 baseline to targets per program
- 1.3 Increase the percentage of population enrolled in certificate, credential, apprenticeship and degree programs from 13 % in 2012 to 24.8% in 2023
- 2.3 Increase attainment of certificates, credentials, apprenticeships and degrees from 72,000 to 149,000 by 2023

What are the other important connections or impacts related to this proposal?

Which stakeholders have concerns about the changes related to this proposed investment or reduction

CWU is unaware of any concerns from anybody with this proposal.

Which stakeholders support this proposal?

This proposal was introduced in 2014 as HB 2352 and again in 2015 as HB 1439 by Rep . David Sawyer. Publicly supporting the bill was the Department of Defense and SEIU Local 925, as well as Central Washington University and ASCWU .

Is this related to a legal matter?

No.

Is this related to a task force, Results WA forum or audit recommendation

No.

What alternatives were explored by the agency, and why was this alternative chosen?

Discuss pros and cons of alternatives, why they were not selected, and why the recommended alternative was chosen .

The recommended approach was chosen because it responds to needs that are not being met by traditional higher education approaches. The alternative is to continue to provide baccalaureate education in the traditional ways. However doing so will not allow the state to meet baccalaureate degree goals.

What are the consequences of adopting or not adopting this package?

1. Less individuals with prior learning will be awarded credit for competencies and therefore increase time and cost to degree .
2. Less individuals will be able to participate in higher education due to the lack of competency-based learning .
3. The specialized studies degree will increase the business cost--in lost hours and in money--to upgrade workforce education . Less degrees will be suited for the specific skills needed by employers through the new degree in specialized studies .
4. Lack of an enhanced quality of pre-kindergarten education yields benefits for children, schools, and communities . According to a study by the Center for Public Education (<http://www.centerforpubliceducation.org/Main-Menu/Pre-kindergarten/Pre-Kindergarten#sthash.IfUVkMfq.dpuf>) young children who participate in high-quality pre-k programs enter school more ready to learn than their peers . The HighScope study (<http://www.highscope.org/content.asp?ContentId=219>) showed impressive long-term results regarding educational progress, delinquency, and earnings. The study found that, "Seventy-seven percent of these youngsters eventually graduated from high school, compared with 60 percent from the control group. In adulthood, pre-k participants were also less likely to be arrested for violent crimes, more likely to be employed, and more likely to earn higher wages than those in the comparison group."

What is the relationship, if any, to the state's capital budget?

This proposal has no necessary relationship. However the construction and renovation of the Samuelson Computer science and Technology Center will provide the technological tools required to build sophisticated online curriculum.

What changes would be required to existing statutes, rules, or contracts, in order to implement the change?

None.

Expenditure and revenue calculations and assumptions

APPROACH	COST	TOTAL
OACM Director	1 @ \$150,000 (salary and benefits);	
Administrative staff	- 1 @ \$65,000;	
Goods & Services (Travel to college and high school campuses, educational equipment, etc.)	\$20,000 .	\$150,000
	\$65,000	
	\$20,000	
	Total = \$235,000	
Prior Learning Assessment	" PLA Project Director - 1 @ \$100,000	
	" Administrative Staff - 1 @ \$65,000	
	" Portfolio Review - 500 portfolio reviews per year @ \$500.00 per review	
	" Goods & Services (Travel to community colleges, educational equipment, etc.)	\$100,000
	\$65,000	
	\$250,000	
	\$25,000	
	Total = \$440,000	
Competency Based Learning		
	" Project Director - 1 @ \$125,000	
	" Administrative Staff - 1 @ \$65,000	
	" Course Development - 3 degrees (65 online courses) @ \$3,000 per course	
Faculty -		
	" Evaluators 65 @ \$7,500 per course	
	" Coaches 65 @ \$3,000 per course	
	" Advisors 3 @ \$75,000	
	" Online Support Services (Tutoring)	
	" Goods & Services (Travel to community colleges, educational equipment, etc.)	\$125,000
	\$65,000	
	\$195,000	

\$487,500
\$195,000
\$225,000

\$54,000
\$50,000

Total = 1,396,500

Bachelor of Arts/Science in Specialized Studies " Project Director - 1 @ \$125,000

" Administrative Staff - 1 @ \$65,000

" Advisors - 3 @ \$75,000

" Courses - 45 online courses per year

" Online Support Services (Tutoring)

" Goods & Services (Travel to community colleges & businesses, educational equipment, etc.) \$125,000

\$65,000

\$225,000

\$382,500

\$45,000

\$50,000

Total = \$892,500

M.Ed. Literacy

Gobal Literacy

M.Ed. Special Education

Early Learning Certificate " Literacy Faculty - 2 @ \$100,000

" Special Education Faculty - 1 @ \$100,000

" Early Childhood Faculty - 1 @ \$100,000

" Administrative Staff - 2 @ \$65,000

" Online Support Services (Tutoring)

" Goods & Services (Travel, Equipment, Professional Development) \$200,000

\$100,000

\$100,000

\$130,000

\$45,000

\$50,000

Total = \$625,000

Grand Total = \$3,589,000

Grand Total	Fiscal 16	Fiscal 17	Biennium
Sal	2,394,500	2,394,500	4,789,000
Ben	749,500	749,500	1,499,000
Goods	445,000	445,000	890,000
	3,589,000	3,589,000	8,068,000

Tuition 149	(1,202,000)	(1,202,000)	(1,682,800)
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Fund 148	(516,000)	(516,000)	(1,032,000)
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NET	1,871,000	1,871,000	5,353,200
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Exempt	4.0	4.0	
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Faculty	20.0	20.0	
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Staff	9.0	9.0	
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OACM

Sal	170,000	170,000	340,000	
Ben	45,000	45,000	90,000	
Goods	20,000	20,000	40,000	
	235,000	235,000	470,000	235,000

Exempt	1.0	1.0		
Faculty				
Staff	1.0	1.0		

Prior Learn

Sal	122,000	122,000	244,000	
Ben	43,000	43,000	86,000	
Goods	275,000	275,000	550,000	
	440,000	440,000	880,000	440,000

Exempt	1.0	1.0		
Faculty				
Staff	1.0	1.0		

Competency

Sal	1,036,000	1,036,000	2,072,000	
Ben	310,500	310,500	621,000	
Goods	50,000	50,000	100,000	
	1,396,500	1,396,500	2,793,000	1,396,500

Revenue	(360,600)	(360,600)	(721,200)	
NET	1,035,900	1,035,900	2,071,800	
Student FTE	60.0	60.0		
Exempt	1.0	1.0		
Faculty	12.0	12.0		
Staff	1.0	1.0		

BA Art/Sci

Sal	629,000	629,000	1,258,000	
Ben	213,500	213,500	427,000	
Goods	50,000	50,000	100,000	
	892,500	892,500	1,785,000	892,500

Revenue	(360,600)	(360,600)	(721,200)	
NET	531,900	531,900	1,063,800	

Student FTE	60.0	60.0		
Exempt	1.0	1.0		
Faculty	4.0	4.0		
Staff	4.0	4.0		

M.Ed. Literacy				
Sal	432,000	432,000	864,000	
Ben	143,000	143,000	286,000	
Goods	50,000	50,000	100,000	
	625,000	625,000	1,250,000	625,000
Revenue	(480,800)	(480,800)	(961,600)	
NET	144,200	144,200	288,400	
Student FTE	80.0	80.0		
Exempt				
Faculty	4.0	4.0		
Staff	2.0	2.0		

Which costs and functions are one-time? Which are ongoing? What are the budget impacts in future biennia?

Prior Learning Assessment - Ongoing cost

Competency Based - One-time cost

Specialized Studies - Ongoing cost

M.Ed. Literacy Global Literacy; M.Ed. Special Education; Early Learning - Ongoing cost

Agency: 375 Central Washington University
Decision Package Code/Title: A2 Integrated Energy Studies

Budget Period: 2015-17

Budget Level: PL - Performance Level

Recommendation Summary Text:

Problems

- 1.) Reducing carbon emissions and fossil fuel dependence.
- 2.) Replacing an aging energy workforce with graduates prepared for rapidly changing energy technology.
- 3.) Lack of educational programs to address the transition from old to new energy sources.

Opportunity

- 1.) Create the nation's first energy degree program combining non-traditional and traditional energy studies.
- 2.) Leverage international partnerships with Chile, Mexico, and Brazil, and with energy services providers.
- 3.) Leverage CWU's physical location near 5 wind farms, the world's largest solar farm, solar panel manufacturing, and hydro-power and nuclear facilities.

Priority

4CWU Strategic Planning Priorities

I2ES supports all of the priorities of the CWU strategic plan:

- 1.) Teaching and Learning, by enhancing the quality and opportunities for students and faculty in an emerging, interdisciplinary field.
- 2.) Inclusivity And Diversity, by providing the hands-on experience and individualized learning experience that is preferred by many under-represented and first-generation students, particularly for STEM education.
- 3.) Scholarship and Creative Expression, but providing new opportunities for collaborative and interdisciplinary research in a field of critical importance to the state and the nation, and by creating an entity that will be well positioned to generate external funding for research and scholarship by students and faculty.
- 4.) Public Service and Community Engagement, by enhancing the commitment and the level of collaboration between the university and key corporate and government stakeholders. The institute also will strengthen the economic base of the region and state by building a new platform from which to address climate change.
- 5.) Resource Development and Stewardship, by enhancing enrollment and external partnerships.

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Agency Total

Fiscal Detail

Operating Expenditures

001-1 -General Fund - Basic Account-State

FY 2016

300,000

FY 2017

300,000

Total

600,000

Staffing

FTEs

FY 2016

2.0

FY 2017

2.0

Annual Average

2.0

Package Description:

PROBLEMS

1.) Carbon emissions/pollution. The project addresses the problems associated with dependence on fossil fuels and the challenges of adopting green energy sources. These problems include

- " environmental damage in getting the fossil fuels out of the ground
- " pollution from use as a fuel source
- " the eventual scarcity and increasing cost of these fuels as supply begins to decline

Neither the state of Washington nor any other entity can reject old carbon-pollution energy systems without a path from the old to the new. The nation's fundamental energy problems cannot be resolved by focusing only in the alternative side of energy and ignoring the most important part of the equation - that is, fossil fuels. Oil is a global commodity and the world economy is so embedded in conventional sources of energy that policies and decisions regarding renewable energy - whether it is the creation of tax credits or other economic incentives - depend heavily on what happens with fossil fuels

2.) Aging energy workforce and rapidly changing energy technology. I2ES addresses the pressing and severe need of the energy economy for individuals with the education and skills to manage the change from old technologies to new energy resources. The need is particularly urgent at Puget Sound Energy and Bonneville Power Administration, which estimates that 1,070 employees will retire between 2013 and 2017. A study regarding the aging workforce in the utility industry in United States conducted by the Carnegie Mellon Electricity Industry Center found that: (1) 57% of the respondents reported that the average age among their operations employees is 47-49; (2) 52% of respondents indicated that a sizeable percentage of existing employees are already eligible for retirement; and (3) 74% of respondents said that 40-60% of their employees will be eligible to retire after the next 5 years ("Program on Technology Innovation: Executive Workshop on the Aging Workforce in the Utility Industry," April 2006).

3.) Lack of educational programs that produce graduates who understand and address the transition from old energy sources and new ones. Many "green energy" or "renewable energy" programs exist at colleges and universities. But none maps a road from old to new. The BS in Integrated Energy Studies will graduate professionals with expertise in the following areas:

- " Integrated Energy Policy - include GIS, planning, policy, and environmental implications of energy production and consumption
- " Integrated Energy Management - strong focus on supply chain logistics
- " Integrated Power Systems - energy technologies and physical understanding of power systems

OPPORTUNITIES

1.) Create the nation's first energy degree program combining non-traditional and traditional energy studies. The program provides unique educational content and professional preparation for Washington residents through curriculum that combines content in numerous areas essential to the energy economy: economics, environmental studies, geography, industrial engineering technology, mathematics, physics, and supply chain management.

The project addresses the need to reduce carbon pollution by finding paths to the adoption of new energy resources. In this respect, the I2ES would be unique in the state and nation. Washington's clean energy or renewable energy programs include the following:

- " University of Washington: Advanced Materials for Energy Institute, Clean Energy Institute
- " Western Washington University: Institute for Energy Studies
- " Washington State University: Energy Systems Innovation Center

All of these programs focus exclusively on alternative energy; none addresses the overwhelming reliance on traditional fuels and finding a route from them to new energy sources. All have a strong engineering specialization applied to developing alternative technologies: e.g., smart power grid systems, battery storage, software and hardware. All of these institutes focus on research. None of these programs offers a bachelor's degree or an apprenticeship program. None provides a broad understanding of fossil fuels and the way in which geopolitics of conventional sources shape alternative sources of energy.

Similarly, nationally institutes focus almost entirely on energy economics, while others pay special attention to power engineering, especially in the area of alternative energy technologies. No institute is dedicated to understanding the nexus of traditional and non-traditional energy resources. This knowledge gap prohibits progress toward reduction of carbon emissions.

2.) Develop international partnerships with Chile, Mexico, and Brazil to support innovative curriculum, apprenticeships, and research. The director of I2ES, Dr. Elvin Delgado, is well respected in the US and Latin America. With more than ten years of Dr. Delgado chairs the Energy and Environment Specialty Group (EESG) of Association of American Geographers, and, in 2013, he was among a handful of American geographers invited to Chile to participate in the National Science Foundation's Pan-American Advanced Studies Institute on Adaptive Water-Energy Management in the Arid Americas.

3.) Leverage CWU's physical location for the study of energy resources. CWU is ideally situated for the student of integrated energy study, located near five wind farms, the world's largest solar farm, and solar panel manufacturing. CWU is close to major hydro-power and nuclear facilities, and 90 minutes from Washington's urban core.

Narrative Justification and Impact Statement

What specific performance outcomes does the agency expect?

" Graduates that bring to the Washington state workforce unique expertise in how to develop policy and business practices that understand the complex nature of the energy spectrum and are energy leaders who move from reliance on traditional energy resources to clean energy.

" Research that informs public policy and provides concrete, useful information to decision makers in business that facilitates the transition from traditional energy to clean energy.

" Service through our efforts in high schools to increase energy literacy, to our students and faculty members serving area organizations, we will increase the messaging about the need for better understanding of energy transition, and how all have a role to play in this clean energy economy.

Outcomes and Results

Quality education to 20 students declared as majors in fall 2015 and up to 110 declared majors by 2018 . We anticipate our first graduation of IEM degreed students spring 2017 .

Reducing/mitigating undesired results

We will perform a targeted search to secure a faculty member who not only has the skill set and knowledge needed for the position, but we will ensure his personal preferences and family concerns will also be considered .

Increased efficiency

The level by which we can instruct students and advise students will increase with the addition of two new faculty members .

Change in outputs

Increased research and external funding

Expected impacts

All good. Students will have benefit of two additional faculty members for help with their academic quest. Businesses will have an additional resource available to them for research and contracts.

Future expansion plans include

- o creating a 2+2 pathway (2 years of courses at a West Side center or on-line followed by 2 years on the main Ellensburg campus).
- o a 3+1 degree program that allows students to finish an intense B.S. in three years (including the apprenticeship) with the option to complete a master of science (online) in one year.

Performance measure detail

The typical measures are time to degree, retention, degree completion, diversity, etc

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Performance measure detail

The typical measures are time to degree, retention, degree completion, diversity, etc

Performance Measure Detail

Activity

Incremental Changes

No measures submitted for package

Is this decision package essential to implement a strategy identified in the agency's strategic plan?

CWU Strategic Planning Priorities

The Institute for Integrated Energy Studies has two key pillars: education and research/contracts. On the education side, we have established a four-year degree program in Integrated Energy Management (IEM) comprised of three specializations: Integrated Energy Policy; Integrated Energy Business; and Integrated Power Systems. This degree program supports all of the priorities of the CWU strategic plan:

- 1.) Teaching and Learning, by enhancing the quality and opportunities for students and faculty in an emerging, interdisciplinary field.
- 2.) Inclusivity And Diversity, by intentional recruitment of under-represented and first-generation students, and providing them a hands-on and individualized learning experience that is preferred by many especially those pursuing STEM education.
- 3.) Scholarship and Creative Expression, by requiring students to take a longer and more in-depth sequence of interdisciplinary courses in particular aspects of energy as well as directed independent work, the new degree and specializations provides motivated students with increased opportunities for advanced understanding of energy management as a form of scientific inquiry and applied approaches to contemporary local, regional, national, and global energy issues.
- 4.) Public Service and Community Engagement, by engaging students early and often in collaboration with communities, and key corporate and government stakeholders.
- 5.) Resource Development and Stewardship, by increasing research funding from external funding, increasing enrollment of new and transfer students, and strengthening the economic base of the region and state by building a new platform to address pressing issues related to energy such as climate change.

Does this DP provide essential support to one or more of the Governor's Results Washington priorities?

This request supports Results Washington goals 1, 2, 3, and 5. Essential support includes

Postsecondary access and success by increasing the number of students transferring to a four-year degree program, completing an apprenticeship, and finding work.

Expanding opportunities for skilled workers in high-demand fields

Moving toward a clean economy through transportation, energy and building choices

Fostering accountable governance through applied research

GOAL 1. WORLD CLASS EDUCATION

Postsecondary Access & Success

- 1.3 Increase the percentage of population earning a certificate, apprenticeship and degree programs
- 1.3.a. Increase number of students signed up for College Bound program
- 1.3.b. Increase number of students enrolled in academic transfer STEM courses in public community and technical colleges
- 1.3.e. Increase the percentage of community college graduates enrolled in postsecondary education
- 1.3.f. Increase number of students enrolled in STEM and high-demand employment programs
- 1.3.h. Increase number of graduates in STEM and high-demand employment programs
- 1.3.i. Increase number of soon-to-be university graduates either enrolled in postsecondary degree programs or have a job offer from a Washington based organization

GOAL 2. PROSPEROUS ECONOMY

Thriving Washingtonians: Expanding Opportunities

- 2.2.a. Expand skilled workforce to match increase in high-demand industries

GOAL 3. SUSTAINABLE ENERGY & A CLEAN ENVIRONMENT

Sustainable and Clean Energy:

Clean Transportation

- 1.1 Reduce transportation related greenhouse gas emissions

Clean Electricity

- 1.2 Reduce greenhouse gas emissions from electrical energy consumption

Efficient Buildings & Industrial Processes

- 1.3 Improve non-electrical energy efficiency of buildings and industrial processes to reduce greenhouse gas emissions

GOAL 5: EFFICIENT, EFFECTIVE & ACCOUNTABLE GOVERNMENT

Resource Stewardship:

Cost-Effective Government

- 2.2 Reduce statewide energy use index of state facilities

- 2.2.a. Reduce energy consumption in state-owned buildings

What are the other important connections or impacts related to this proposal?

Which stakeholders have concerns about the changes related to this proposed investment or reduction . None

Which stakeholders support this proposal

- " Angus Duncan, Founder and President; Bonneville Environmental Foundation
- " Daniel Malarkey, Vice President, Business Development and Public Policy; IEnergy
- " Dick Wanderscheid, Vice President, Renewable Energy Group; Bonneville Environmental Foundation
- " Erin Anderson, Counsel in the Natural Resources and Land Use practice group; Stoel Rivers LLP, Attorneys at Law
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- " Tim Stearn, Senior Energy Policy Specialist, Washington State Energy Office, Innovation and Policy Priorities Division; Washington State Department of Commerce.

Is this related to a legal matter? No

Is this related to a task force, Results WA forum or audit recommendation No

What alternatives were explored by the agency, and why was this alternative chosen?

Alternatives include

Disregard what businesses and the energy sector want from CWU to ensure a 21st century workforce

PROS: No more time commitment is needed

CONS: Academia is but one stop of many along ones pathway in life. In many instances the next stop for a student who graduates is to find a job. If we choose to disregard what employers want, we are doing a disservice to both students and employers .

Deliver multiple degree programs at various levels - undergraduate and graduate - offering students many academic pathways but do so without a clear means to evaluate success and without full faculty and financial support

PROS: Might be possible to get lots of students

CONS: Delivery of the curriculum would be haphazard, disconnected, and lack meaning.

Continue to offer the Energy Studies Minor

PROS: Requires no additional effort

CONS: The minor that lacks currency and the robustness needed to meet workforce needs

Develop, plan and incrementally deliver quality education to high performing students in response to what the energy sector is looking for
PROS: Responds to what employers want. Responds to what students are interested in. Excites faculty and administration alike. Great potential for external funding support.

CONS: Growth, demand is currently pressing the edges of our ability to deliver quality instruction to high performing students. It is with urgency that we prepare and submit this decision package request.

What are the consequences of adopting or not adopting this package?

This project responds to business and government needs, filling a large gap in the state's workforce by offering a unique degree program comprised of three tracks. By providing expertise in policy, business, and power systems, this program complements existing degree programs at other public community colleges and universities with a unique perspective of energy transition. The consequence of not funding would be a missed opportunity in moving Washington State forward in the integrated energy studies.

What is the relationship, if any, to the state's capital budget?

This request has no capital component. CWU will be able to absorb capital impacts within current resources.

What changes would be required to existing statutes, rules, or contracts, in order to implement the change?

No changes to statute, rules or contracts are required.

Expenditure and revenue calculations and assumptions

Provide written explanations

1 FTE faculty with expertise in energy policy

1 FTE faculty with expertise in alternative energy and Geographical Information Systems (GIS)

Goods and services

c. Numerical table

	Fiscal 2016	Fiscal 2017	Biennium
General Fund State	\$200,000	\$338,000	\$538,000
Tuition Revenue	(138,000)	(138,000)	
NET BUDGET REQUEST	\$200,000	\$200,000	\$400,000
FTE - Faculty	2.0	2.0	2.0
General Fund State	200,000	338,000	538,000
Salaries	133,000	187,500	320,500
Benefits	42,000	62,500	104,500
Goods	25,000	88,000	113,000
Student FTE	0	23	
Tuition Revenue	138,000	450,765	

Which costs and functions are one-time? Which are ongoing? What are the budget impacts in future biennia?

The request for \$200,000 per year ongoing.

Is this decision package essential to implement a strategy identified in the agency's strategic plan?

CWU Strategic Planning Priorities

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Goods and services

c. Numerical table

	Fiscal 2016	Fiscal 2017	Biennium
General Fund State	\$200,000	\$338,000	\$538,000
Tuition Revenue	(138,000)	(138,000)	
NET BUDGET REQUEST	\$200,000	\$200,000	\$400,000
FTE - Faculty	2.0	2.0	2.0
General Fund State	200,000	338,000	538,000
Salaries	133,000	187,500	320,500
Benefits	42,000	62,500	104,500
Goods	25,000	88,000	113,000
Student FTE	0	23	
Tuition Revenue	138,000	450,765	

Which costs and functions are one-time? Which are ongoing? What are the budget impacts in future biennia?

The request for \$200,000 per year ongoing.

Object Detail

Total

Total Objects

State of Washington
Decision Package

DRAFT

Agency: 375 Central Washington University
Decision Package Code/Title: A3 Wildfire Real-time Forecasting

Budget Period: 2015-17
Budget Level: PL - Performance Level

Recommendation Summary Text:

The package responds to the crisis in wildfire management, and addresses the need of wildfire managers to know in real time where a fire will go. The lack of this expertise in summer of 2015, resulted in the deaths of firefighters and civilians. It produced billions in damages to homes, businesses, and hundreds of thousands of acres of state and national forestland. Bug kill and disease in the forests and statewide drought will continue to create extreme fire conditions and place lives and public and private property at risk of loss to wildfire.

CWU has the opportunity to leverage new science and technology to address this gap knowledge within wildfire management. CWU proposes to produce a new generation of scientists and natural-resource managers who understand and can anticipate wildfire behavior. Through a new partnership with the University of Leon in Spain, CWU has developed a new relationship with the founder of Technosylva (<http://technosylva.com/>), which provides wildfire analysis and modeling, fuels mapping, wildfire risk assessment, and custom web & mobile applications development for Texas, British Columbia and other states. Dr. Ramirez is eager to use his technological expertise to establish the nation's first degree program in wildfire behavior forecasting at CWU, which is located at the center of Washington's wildfire activity.

Some Northwest institutions have wildfire management programs that map fires that already have burned. None has the ability to predict where fires will go or are going in real time, and place the information in the hands of fire managers on the ground and in the air in.

This package supports the following CWU Strategic Planning Priorities

- " Teaching and Learning
- " Inclusivity and Diversity
- " Scholarship and Creative Expression.
- " Public Service and Community Engagement.
- " Resource Development and Stewardship.

b. What would this item actually buy or no longer buy

GIS software, equipment, and 2 FTE faculty, and 1 FTE technician to conduct teaching and research.

c. What outcomes does the agency expect as a result?

- " Wildfire predictive analytics. Creation of a Washington State Historical Fire behavior database that tailors predictive models to Washington state fire behavior.
- " New, more effective best practices for wildfire operational tactics and communication.
- " Next-generation fire managers. Program graduates ready to attack fires with greater sophistication and effectiveness.
- " The ability to understand in real-time wildfire fuel dynamics, based on remote sensing tools and techniques.
- " The ability to track and model resources suppression effectiveness and firefighter safety of on-going operations.

Agency Total

Fiscal Detail

Operating Expenditures	<u>FY 2016</u>	<u>FY 2017</u>	<u>Total</u>
001-1 -General Fund - Basic Account-State	666,200	505,000	1,171,200
Staffing	<u>FY 2016</u>	<u>FY 2017</u>	<u>Annual Average</u>

Package Description:

The Problem

The package addresses the inability of wildfire managers to predict in real time where a fire is going. Washington is only now emerging from one of the most destructive and deadly fire seasons in the history of the state. The crisis is particularly volatile and pressing in the center of the state, where hot weather, dry and dead fuel (trees and brush), and powerful winds create a chaotic, unmanageable inferno for firefighters, first responders, and people who live and work in this region.

Fire managers are not able to anticipate fire behavior in real time. Rather they base ground and air attack on hours-old fire maps and instinct of experienced firefighters / managers. Resulting uncontrolled massive wildfires has resulted in

- " Loss of life within the ranks of first responders and members of affected communities
- " Destruction of valuable natural resources, including forest lands, grass lands, farms, ranches, watersheds and wildlife habitat
- " Destruction of rural business infrastructure, including the loss of millions in the agricultural economy
- " Atmospheric pollution that creates or exacerbates cardiovascular and respiratory problems, and disrupts business and education activities
- " The erosion of local jobs and the tax base needed to sustain our state's education and social service infrastructure

The state has the opportunity to reduce the destruction associated with wildfire by implementing new predictive analytics for wildfire behavior.

This package supports the following CWU Strategic Planning Priorities

- " Teaching and Learning
 - o Enhancing the quality and opportunities for students and faculty in an emerging, interdisciplinary field.
- " Inclusivity and Diversity
 - o Providing the hands-on experience and individualized learning experience that is preferred by many under-represented and first-generation students, particularly for STEM education.
- " Scholarship and Creative Expression.
 - o Providing new opportunities for collaborative and interdisciplinary research in a field of critical importance to the state and the nation. Of particular interest is applying wildfire forecasting to mobile technologies that are effective both on the ground and in the air.
- " Public Service and Community Engagement.
 - o CWU has been at the heart of wildfire emergencies several times in recent years, including the Table Mountain and Taylor Bridget fires. CWU has been an emergency response partner for communications, housing, food, volunteer management, and other services. This program provides a new dimension of fire support that CWU could provide.
 - o The Wildfire Behavior Forecasting degree program strengthens the economic base of the region and the state by establishing a new GIS-based training platform from which to address the horrific and expensive impact of uncontrolled wildfires in our valuable wildlands and rural communities.
- " Resource Development and Stewardship.
 - o Creating new revenue streams for certificate training for wildfire "practitioners," including emergency service providers like Red Cross, and public and private agencies directly affected by fire management: e.g. Dept. of Natural Resources, Dept. of Transportation, Puget Sound Energy (whose power transmissions lines and wind turbines are at risk during range fires), and many others.
 - o Making more secure the CWU facilities and resources within fire-prone areas, including facilities.
- b. Exactly how does the agency want to address this problem, opportunity, and priority, and why.

CWU proposes to create an academic unit with the College of the Sciences that conducts training for wildfire professionals, conducts research into the applications of real-time wildfire behavior analytics, and provides a Bachelor of Science degree in Wildfire Behavior Forecasting. The degree would be the first of its kind in the nation and provide graduates with expertise in three specializations:

1. Use of GIS and latest geo-technologies to manage wild-land fires and other natural hazards,

2. Analysis and evaluation of the results of spatial operations applied to fire management, from prevention to operations and recovery,
3. Management of geo-tools to perform advanced analysis to support emergency management.

Both the federal and state government train wildfire planners, managers and responders. Some universities have degree programs and conduct research in after-the-fact fire mapping and old-style fire management. However no federal, state or local entities, nor any university in the US provides education or training at this level of technological sophistication. None has both integrated predictive firefighting geo-technologies in their curriculum and advanced real-time wildfire risk management techniques.

Furthermore, no flight training programs exist in the United States that can train pilots in real-time wildfire management. CWU, which is the only public university in the West to offer a bachelor's degree in aviation, would add an aviation specialization in wildfire behavior analytics once the degree is established. CWU will create the specialization for training fixed-wing and helicopter aircraft pilots with flight simulators designed specifically to provide wildfire combat readiness. The specialization would be developed using flight simulators designed to present wildfire scenarios.

Long-term education goals would include a certificate and a degree program:

- " Continuing education short courses or certificate programs designed for fire-fighting professionals
- " MS-level coursework within the existing MS Resource Management
- " Education and training for aerial fire-support professionals using advanced wildfire simulation available in our aviation program
- " Development of a wildfire risk management specialization as a Wildfire Analyst
- " Joint research on the further development of the software used for training firefighters, pilots, wildfire analysts, managers, responders and planners.

Degree-program graduates would be professionals with expertise in the following areas:

- " Use of GIS and latest geo-technologies to manage wild-land fires and other natural hazards,
- " Understanding the sources of spatial data to support natural hazards analysis, their limitations and applicability
- " How to analyze and evaluate the results of spatial operations applied to fire management, from prevention to operations and recovery
- " Managing geo-tools to perform advanced analysis to support emergency management
- " Proficiency in the use of decision support systems and command and control in emergency management
- " Developing a solid criteria to choose the right tools to support the needs in every moment of the incident management
- " Advanced wildfire strategies for fixed-wing and helicopter pilots

CWU is engaging in a new partnership with Technosylva, a company that combines GIS technology with meteorological information and historical data, as well as other information, to anticipate in real time the path a wildfire will take. The scientist behind Technosylva is Dr. Joaquin Ramirez, a recognized innovator and leading researcher in this field. He will provide a unique advantage in developing important partnerships and a sustainable statewide strategy for implementing this latest technology and wildfire risk management approach. He has tested this new geo-technologies approach and technology successfully in California, Texas, Oregon, and Montana and with the U.S. Army.

Why does CWU wish to address this problem? Because CWU has witnessed first-hand the destruction and terror wildfires inflict on a population and a region. We have lived through it and are fully aware of the frustration fire managers experience due to the uncertainty about fire behavior.

No other institution in the nation is moving forward in a pro-active approach to fire management technology, which is desperately needed in the Northwest. As discussed previously, other "wildfire training programs" and educational programs focus on various aspects of wildfire management based in traditional tools and equipment. They focus on what has occurred, not what will occur. No real-time or simulated aerial wildfire training currently exists. This knowledge gap prohibits significant progress in wildfire management.

CWU is ideally situated for the task, in terms of location and philosophy. CWU is located in the heart of the state's most fire-prone region of central Washington. We are well positioned for research and hands-on education and experience-something all appropriate government wildfire sectors have identified key in their training priorities.

c. What will the package funding actually buy?

Faculty and staff (\$330,000 annually)

- " 1 FTE faculty with expertise in integrated geographical information systems related to wildfire prevention and management and software development (GIS).

- " 1 FTE faculty with expertise in advanced forest fire and natural resources risk management.
- " 1 FTE staff for administrative and technology support

Microsoft simulation software

- " Enterprise ArcMap™ 10.3 Academic edition
- " Wildfire Analyst™ Academic license
- " fiResponse™ Pro and Mobile, Academic license*
- " SimTable™ Academic license
- " Wildfire Simulation Training Software

* fiResponse™ is an enterprise-wide decision support system that provides capabilities for monitoring wildland fire incidents and all associated operational activities related to incident response, dispatch and resource tracking. The Technosylva software is designed to support the entire lifecycle of an incident, supporting multiagency use with seamless synchronization and sharing of data between different users, agencies, and devices for tracking incidents - all on a GIS platform. fiResponse™ has been used since 1998 providing robust capabilities for Computer Aided Dispatch (CAD), AVL, GPS, and mobile data integration, resource tracking and reporting, and ICS assignment, tracking and reporting. The GIS platform provides advanced mapping and reporting capabilities for all phases of wildland firefighting-from prevention to monitoring, detection, response and suppression, impact analysis and after action assessment.

Narrative Justification and Impact Statement

What specific performance outcomes does the agency expect?

The key outcome will be graduates and certificate program completers who are able to apply GIS predictive analytics to fire management. Experienced, well-educated wildfire planners, managers and responder professionals will possess a deep and integrated understanding about proactive and predictive wildfire risk management techniques and technologies.

The program also would produce research that integrates GIS technology in the wildfire fighting sector and informs public policy makers and business strategies on the use of these new innovations. Both the program completers and research directly aid state agencies, tribal governments and private-sector organizations to proactively manage destructive wildfires.

If funding is received in spring 2016, by fall CWU would purchase training software, hire a technician to manage the software, and begin to offer certificate training for wildfire practitioners. Training would be conducted by Technosylva at Central Washington University in Ellensburg, and, depending upon agency demand, could occur in Olympia or at University Centers in western (Steilacoom, Des Moines, Lynnwood) and central Washington (Yakima and Wenatchee).

A conservative estimate for training completers in FY 2017 is 75, or 25 per academic quarter.

During FY 2017 CWU would conduct a search for two (2) FTE faculty with specializations in wildfire GIS and move through the academic process required for curriculum approval. In fall 2017, CWU would enroll the first cohort of students in the BS Wildfire Behavior Forecasting.

With a year of lead-time to market the program, CWU estimates fall 2017 enrollment to be 25, doubling to 50 the following year.

b. Performance measure detail

- " Certificate completion FY 2017 - 75 headcount
- " Degree program enrollment Fall 2017 - 25

Performance Measure Detail

Activity

Incremental Changes

No measures submitted for package

Is this decision package essential to implement a strategy identified in the agency's strategic plan?

This package supports the following CWU Strategic Planning Priorities

- " Teaching and Learning
- " Inclusivity and Diversity
- " Scholarship and Creative Expression.
- " Public Service and Community Engagement.
- " Resource Development and Stewardship.

b. What would this item actually buy or no longer buy

GIS software, equipment, and 2 FTE faculty, and 1 FTE technician to conduct teaching and research .

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- " The ability to track and model resources suppression effectiveness and firefighter safety of on-going operations .

Does this DP provide essential support to one or more of the Governor's Results Washington priorities?

In addition to Results Washington Goal areas 1 and 3, this package supports the following priorities of Governor Inslee :

Revitalizing Washington's economy and building a 21st century workforce. The request supports the strong commitment to postsecondary education required to develop a 21st century workforce. Investments in the program will produce results in the form of professionals who graduate with experience gleaned from an intensive understanding of the most advanced wildfire risk management techniques and technology, apprenticeship or internships and fully integrated curriculum that addresses a knowledge gap in the current wildfire risk management sector.

Encourage innovation and entrepreneurship. The request will stimulate development of new software technologies, equipment and techniques and encourage new start-up and clustering industries. Innovations and business development will create entrepreneurial opportunities that support Washington state's new aggressive wildfire combat strategy.

Climate Change. Massive wildfires spread a veil of smoke all across Washington state last summer. In the worst cases, smoke actually blocked the sun and exacerbated air quality issues brought about by climate change. Effective wildfire risk management will directly enhance our state's ability to reduce the impact of wildfire smoke on atmospheric quality problems brought on by climate change.

The certification and degree programs also support the priorities and strategies outlined in Executive Order 14-04 for reducing carbon pollution in Washington state.

What are the other important connections or impacts related to this proposal?

i. Which stakeholders have concerns about the changes related to this proposed investment or reduction . None

ii. Which stakeholders support this proposal? CWU is now developing stakeholder support for this proposal and will approach the following organizations:

- " All Pacific Northwest Tribal Nations
- " Bonneville Environmental Foundation
- " Bureau of Indian Affairs,
- " Bureau of Land management (BLM)
- " Geographic Area Coordination Centers (GACCs)
- " National Incident Management Organization (NIMO)
- " National Interagency Coordination Center (NICC)
- " National Park Service,
- " The Intelligence and Meteorology Working Groups (chartered under NPSS)
- " The National Association of State Foresters
- " The National Weather Service
- " U.S. Department of the Interior
- " U.S. Forest Services
- " United States Department of Agriculture-Forest Service
- " United States Fish and Wildlife Services
- " Washington State Department of Ecology
- " Washington State Department of Natural Resources

iii. Is this related to a legal matter? No

iv. Is this related to a task force, Results WA forum or audit recommendation? No

What alternatives were explored by the agency, and why was this alternative chosen?

Do without this program. The state currently lacks the capacity described in this proposal . The result has been chaotic fire management, loss of life, and billions lost in property and natural resources. Neither the state of Washington, federal government, nor any municipality will be able to continue to face the devastation of our natural resources, threat to lives and personal property and the overall economic impact created by the increasing number of poorly controlled mega wildfires . Furthermore, no educational program currently provides access to this new technology and the needed expertise .

Ask existing programs to develop the expertise and programming. These entities they lack the infrastructure, technical expertise, vision and capability to produce a uniform, statewide and implementable certification and degree based program of this scope and focus . The educational and analytical mission proposed can be set up more efficiently at CWU, where initial work already has been done to establish the infrastructure, including draft curriculum. The recommended alternative provides the highest quality, lowest cost, and most rapid response to the need for a comprehensive proactive real-time wildfire integrated research, certification and degree program .

This is the alternative that positions the state to make meaningful advances in firefighting. This alternatives bridges the gap that has frustrated wildfire managers and resulted in significant loss of life and property: the inability to predict fire behavior.

What are the consequences of adopting or not adopting this package?

The consequences would be the lack of a critically needed program to train current fire practitioners and first responders in a more effective approach to managing wildfire, and launching a program to train the next generation of wildfire first responders and managers in revolutionary predictive analytics for wildfires.

What is the relationship, if any, to the state's capital budget?

This request has no capital component.

What changes would be required to existing statutes, rules, or contracts, in order to implement the change?

No changes to statute, rules or contracts are required.

Expenditure and revenue calculations and assumptions

Equipment Estimated one-time cost
 2 Vans to transport equipment and students \$150,000
 6 Go-Pro helmet cameras and attachments \$1200
 2 desktop work stations: Mac laptop, printer, etc. \$10,000
 Personnel Estimated annual Salary & Benefits
 1 FTE staff technician \$100,000
 2 FTE faculty \$240,000
 Software Estimated one-time cost
 Microsoft simulations software \$50,000
 Enterprise ArcMap, 10.3 Academic edition \$15,000
 Remote sensing software (ENVI/ERDAS) \$20,000
 Trimble eCognition \$15,000
 SimTable, Academic License \$25,000
 SimTable All Hazards Scenario \$25,000
 fiResponse, Pro and Mobile, Academic license \$15,000

Which costs and functions are one-time? Which are ongoing? What are the budget impacts in future biennia?

Personnel Estimated annual Salary & Benefits
 1 FTE staff technician \$100,000
 2 FTE faculty \$240,000

Object Detail

Total

Total Objects

Agency: 375 Central Washington University
Decision Package Code/Title: A4 4-Year Degree Efficiency

Budget Period: 2015-17

Budget Level: PL - Performance Level

Recommendation Summary Text:

The package addresses opportunity to increase the efficiency of degree production and reduce the cost of and enhance the efficiency of resource utilization. Further it addresses the challenge of improving student retention and graduation metrics with limited state resources. The package addresses two theme areas within the CWU Strategic Plan :

" Theme 1, Teaching And Learning

Objective 1: Enhance student success by continually improving the curricular ...programs.

Objective 2: Enhance the effectiveness of student support services.

" Theme 5: Resource Development And Stewardship

Objective 1: Maximize the financial resources to the university, and assure the efficient and effective operations of the University through financial stewardship.

Objective 2: Develop and implement enrollment management ...plans that maximize revenue.

Objective 3: Ensure the university has human resources necessary to accomplish all university objectives.

Objective 4: Provide the facility and technology infrastructure and services appropriate to meet university objectives, while maximizing sustainability and stewardship

b. What would this item actually buy or no longer buy

The program buys software, and personnel and training for a four-year, degree-tracking system called "Degree Planner." It delivers degree requirements and degree progress information in an interface accessible to students and staff. It also forecasts personnel and lab and classroom space needs by tracking students' progress toward degrees in real time.

c. What outcomes does the agency expect as a result

" Reduced time to degree

" Increased retention

" Increased degree completion

" Reduced cost per degree for students

" Reduced cost per degree for the state and university

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" Increased retention

" Increased degree completion

" Reduced cost per degree for students

" Reduced cost per degree for the state and university

Agency Total

Fiscal Detail

Operating Expenditures

001-1 -General Fund - Basic Account-State

FY 2016

FY 2017

Total

475,000

200,000

675,000

Staffing

FTEs

FY 2016

FY 2017

Annual Average

1.0

1.0

1.0

Package Description:

This package addresses two priorities:

" Enhancing student success by providing the detailed, real-time information students need to understand what is required to complete a degree in four years, and by providing real-time updates on student work so that advisors and faculty can intervene before students take unnecessary classes, don't take enough classes, or drop out.

The retention and degree completion results for high-achieving students are about the same at CWU as for the same student profile at research institutions. But first-generation students and those who do not have a strong academic background need a hand in scheduling and follow-through. They need encouragement and support. CWU is near the top in the nation for retention and completion rates for under-represented students. This tool supports even greater success and efficiency for these harder-to-serve students, who comprise the great majority of high school graduates and non-traditional students.

" Maximizing the use of resources, by providing four-year forecasts of space, human capital, and other resources required to serve students. This information supports detailed planning, acquisition and use of resources.

b. Exactly how does the agency want to address this problem, opportunity, and priority, and why.

CWU proposes to buy software, and personnel and training for a four-year degree tracking system called "Degree Planner." The student-centered interface includes online degree plans that provide sequenced degree requirements . A degree search tool helps students narrow down their interests, major, and career choice. A web-based interface will enable students and academic and student affairs professionals instantaneous access to information regarding their course progress, degree progress, important dates and deadlines, and

procedures to navigate academic policies.

At registration time, students would be able to select classes by selecting a department then a class from drop-down boxes. Only the classes that will fulfill that specific categorized degree requirement will be shown. Once classes are selected, Degree Planner would calculate what has and what has not been taken, then limit future choices based on this projected map to graduation. In effect, students would be able to understand their senior schedule in their freshman year.

The system will flag advisors when students are on or off track within degree programs and within courses, providing faculty and advisors notice and information needed to get students back on track.

Degree Planner will enhance the efficiency of resource utilization by forecasting for four years the space, personnel, and other resources required to serve students. This knowledge will support unprecedented precision in the acquisition and use of resources. Rather than budgeting on a year-to-year basis for key student support resources, the university will be able to do long-term planning that ensures uninterrupted service to students and reduces costs.

Why does CWU wish to address this problem?

As a state-funded institution, CWU must provide the best possible service to students. It is an ethical and civic responsibility. If we can avoid it, we should not allow students to waste time or money by taking unneeded courses or "stalling" until a class is available. We should not allow them to make poor choices as a result of inexperience or misinformation.

Many of the students CWU serves need guidance to complete a degree. About a third of students are the first in their family to attend college; 50 percent of students transferred to CWU from another school. These students generally do not come to a university setting understanding the process required to earn a degree. Degree Planner will make this plain, and allow students to see a clear path laid before them.

The package also would significantly contribute to operational and capital planning. More accurate four-year projections for sections and enrollment per section would enhance the effectiveness of the 10-year capital plan, especially by informing prioritization of Minor Works projects—both requests and work plans. It would aid in the efficiency of scheduling and use of instructional space. Degree Planner information would enable the university to more precisely project and plan for

- " energy costs
- " acquisition/replacement of instructional technology
- " renovation and construction schedules that avoid interruption of academic schedules.

Similarly, on the operational side of the budget Degree Planner provides impressive benefits to multi-year resource planning: e.g. projecting salary and benefit costs, and personnel requirements for everything from faculty and technology support to maintenance and custodial staff.

c. What will the package funding actually buy?

One-time purchase:

- 1.) Degree Planner software package

Ongoing (base-budget) purchase:

- 1.) 2 FTE technology support to implement the software and train personnel on its use.
- 2.) Software licensing

Narrative Justification and Impact Statement

What specific performance outcomes does the agency expect?

There are three major metrics that this initiative addresses:

- " Reduced time to degree
- " Increased retention
- " Increased degree completion

The following provides baseline data for each SMART (Specific, Measurable, Assignable, Realistic, Time-based) goal, along with a narrative describing progressive benchmarks; methods of assessment and reporting timelines.

Reduced Time To Degree

The average amount of time that it takes for a student to graduate from high School and earn a bachelor's degree from Central Washington University has been slowly increasing over a five-year period as reported to the Office of Financial Management (OFM). Table 1 below provides evidence of this trend.

Table 1 - Average Time to Degree (Students Directly from High School)

Academic Year	2009-10	2010-11	2011-12	2012-13	2013-14
N	1420	1489	1472	1622	1551
Mean UGRD Time to Degree	4.274	4.284	4.254	4.364	4.42
Average NO Pell	4.234	4.234	4.204	4.244	4.27
Average Pell/SNG	4.344	4.384	4.324	4.344	4.61

SMART TIME TO DEGREE GOALS (AY 2018-2019):

- Mean Time to Degree = 4.2 years or less
- Mean Time to Degree (No Pell) = 4.1 years or less
- Mean Time to Degree (Pell/SNG) = 4.3 years or less

Increased Retention

Central Washington University has taken several steps in the last two years to improve student retention, and these efforts have begun to produce results show results as indicated in Table 2. These efforts extend beyond the traditional Fall-Fall retention of freshman and also target maintaining the enrollment of second year students as they enter their third year of enrollment. However, as the data indicates there is a 3 percent difference in the first year retention of students who receive Pell/State Need Grant. This increases to a 4 percent difference during third- to fourth-year retention.

Table 2 - CWU YEAR-YEAR RETENTION

Fall Cohort	N	1st-2nd Year		2nd-3rd Year		3rd-4th Year				
		Mean	No Pell	Mean	No Pell	Mean	No Pell	Pell/SNG	Pell/SNG	
2008	1551	77.3%	78.3%	73.9%	64.6%	65.6%	61.5%	57.2%	61.9%	56.6%
2009	1645	74.9%	75.9%	72.8%	61.8%	62.8%	59.8%	58.6%	60.1%	55.2%
2010	1662	77.5%	77.7%	77.0%	63.5%	64.2%	62.1%	58.7%	60.5%	54.7%
2011	1374	73.6%	72.8%	75.0%	61.0%	61.6%	60.0%	58.4%	58.9%	57.4%
2012	1422	73.9%	76.2%	70.0%	62.1%	65.9%	59.0%			
2013	1502	78.9%	81.0%	75.5%	64.2%*					
2014	1361	77.7%*								
2015*	1650*									
MEAN	1521	76.3%	77.0%	74.0%	62.6%	64.0%	60.5%	58.2%	60.4%	56.0%

*Note: data is based on fall 2015 enrollment collected 5 days prior to census

SMART RETENTION GOALS (AY 2018-2019):

- Maintain First Year Retention = 80% +
- First Year Retention (No Pell) = 83% +
- First Year Retention (Pell/SNG) = 77% +

b. Performance measure detail

Each of the goals outlined in the section above will only be achieved by the application of incremental measures designed to evaluate the university's progress. The Institutional Effectiveness (IE) office at CWU will provide predictive models for improvement in graduation and retention rates based upon historical data collected on a quarterly basis, and projection models designed to target and adjust benchmarks for the achievement of all the SMART goals.

Each of the models will be developed from individual student data-sets which include demographics; admission profiles; financial aid disbursements; enrollment activities and achievement; and any program-related flags for aggregation. Research methods may include cluster analysis; regression models; and risk analysis depending on where the interventions and results lead.

Package Description:

This package addresses two priorities:

" Enhancing student success by providing the detailed, real-time information students need to understand what is required to complete a degree in four years, and by providing real-time updates on student work so that advisors and faculty can intervene before students take unnecessary classes, don't take enough classes, or drop out.

The retention and degree completion results for high-achieving students are about the same at CWU as for the same student profile at research institutions. But first-generation students and those who do not have a strong academic background need a hand in scheduling and follow-through. They need encouragement and support. CWU is near the top in the nation for retention and completion rates for under-represented students. This tool supports even greater success and efficiency for these harder-to-serve students, who comprise the great majority of high school graduates and non-traditional students.

" Maximizing the use of resources, by providing four-year forecasts of space, human capital, and other resources required to serve students. This information supports detailed planning, acquisition and use of resources.

b. Exactly how does the agency want to address this problem, opportunity, and priority, and why.

CWU proposes to buy software, and personnel and training for a four-year degree tracking system called "Degree Planner." The student-centered interface includes online degree plans that provide sequenced degree requirements. A degree search tool helps students narrow down their interests, major, and career choice. A web-based interface will enable students and academic and student affairs professionals instantaneous access to information regarding their course progress, degree progress, important dates and deadlines, and procedures to navigate academic policies.

At registration time, students would be able to select classes by selecting a department then a class from drop-down boxes. Only the classes that will fulfill that specific categorized degree requirement will be shown. Once classes are selected, Degree Planner would calculate what has and what has not been taken, then limit future choices based on this projected map to graduation. In effect, students would be able to understand their senior schedule in their freshman year.

The system will flag advisors when students are on or off track within degree programs and within courses, providing faculty and advisors notice and information needed to get students back on track.

Degree Planner will enhance the efficiency of resource utilization by forecasting for four years the space, personnel, and other resources required to serve students. This knowledge will support unprecedented precision in the acquisition and use of resources. Rather than budgeting on a year-to-year basis for key student support resources, the university will be able to do long-term planning that ensures uninterrupted service to students and reduces costs.

Why does CWU wish to address this problem?

As a state-funded institution, CWU must provide the best possible service to students. It is an ethical and civic responsibility. If we can avoid it, we should not allow students to waste time or money by taking unneeded courses or "stalling" until a class is available. We should not allow them to make poor choices as a result of inexperience or misinformation.

Many of the students CWU serves need guidance to complete a degree. About a third of students are the first in their family to attend college; 50 percent of students transferred to CWU from another school. These students generally do not come to a university setting understanding the process required to earn a degree. Degree Planner will make this plain, and allow students to see a clear path laid before them.

The package also would significantly contribute to operational and capital planning. More accurate four-year projections for sections and enrollment per section would enhance the effectiveness of the 10-year capital plan, especially by informing prioritization of Minor Works projects-both requests and work plans. It would aid in the efficiency of scheduling and use of instructional space. Degree Planner information would enable the university to more precisely project and plan for

" energy costs

" acquisition/replacement of instructional technology

" renovation and construction schedules that avoid interruption of academic schedules .

Similarly, on the operational side of the budget Degree Planner provides impressive benefits to multi-year resource planning : e.g. projecting salary and benefit costs, and personnel requirements for everything from faculty and technology support to maintenance and custodial staff.

c. What will the package funding actually buy?

One-time purchase:

1.) Degree Planner software package

Ongoing (base-budget) purchase:

1.) 2 FTE technology support to implement the software and train personnel on its use .

2.) Software licensing

Narrative Justification and Impact Statement

What specific performance outcomes does the agency expect?

There are three major metrics that this initiative addresses:

- " Reduced time to degree
- " Increased retention
- " Increased degree completion

The following provides baseline data for each SMART (Specific, Measurable, Assignable, Realistic, Time-based) goal, along with a narrative describing progressive benchmarks; methods of assessment and reporting timelines.

Reduced Time To Degree

The average amount of time that it takes for a student to graduate from high School and earn a bachelor's degree from Central Washington University has been slowly increasing over a five-year period as reported to the Office of Financial Management (OFM). Table 1 below provides evidence of this trend.

Table 1 - Average Time to Degree (Students Directly from High School)

Academic Year	2009-10	2010-11	2011-12	2012-13	2013-14
N	1420	1489	1472	1622	1551
Mean UGRD Time to Degree	4.274	4.284	4.254	4.364	4.42
Average NO Pell	4.234	4.234	4.204	4.244	4.27
Average Pell/SNG	4.344	4.384	4.324	4.344	4.61

SMART TIME TO DEGREE GOALS (AY 2018-2019):

- Mean Time to Degree = 4.2 years or less
- Mean Time to Degree (No Pell) = 4.1 years or less
- Mean Time to Degree (Pell/SNG) = 4.3 years or less

Increased Retention

Central Washington University has taken several steps in the last two years to improve student retention, and these efforts have begun to produce results show results as indicated in Table 2. These efforts extend beyond the traditional Fall-Fall retention of freshman and also target maintaining the enrollment of second year students as they enter their third year of enrollment. However, as the data indicates there is a 3 percent difference in the first year retention of students who receive Pell/State Need Grant. This increases to a 4 percent difference during third- to fourth-year retention.

Table 2 - CWU YEAR-YEAR RETENTION

Fall Cohort	N	1st-2nd Year		2nd-3rd Year		3rd-4th Year				
		Mean	No Pell	Mean	No Pell	Mean	No Pell	Pell/SNG	Pell/SNG	
2008	1551	77.3%	78.3%	73.9%	64.6%	65.6%	61.5%	57.2%	61.9%	56.6%
2009	1645	74.9%	75.9%	72.8%	61.8%	62.8%	59.8%	58.6%	60.1%	55.2%
2010	1662	77.5%	77.7%	77.0%	63.5%	64.2%	62.1%	58.7%	60.5%	54.7%
2011	1374	73.6%	72.8%	75.0%	61.0%	61.6%	60.0%	58.4%	58.9%	57.4%
2012	1422	73.9%	76.2%	70.0%	62.1%	65.9%	59.0%			
2013	1502	78.9%	81.0%	75.5%	64.2%*					
2014	1361	77.7%*								
2015*	1650*									
MEAN	1521	76.3%	77.0%	74.0%	62.6%	64.0%	60.5%	58.2%	60.4%	56.0%

*Note: data is based on fall 2015 enrollment collected 5 days prior to census

SMART RETENTION GOALS (AY 2018-2019):

- Maintain First Year Retention = 80% +
- First Year Retention (No Pell) = 83% +
- First Year Retention (Pell/SNG) = 77% +

b. Performance measure detail

Each of the goals outlined in the section above will only be achieved by the application of incremental measures designed to evaluate the university's progress. The Institutional Effectiveness (IE) office at CWU will provide predictive models for improvement in graduation and retention rates based upon historical data collected on a quarterly basis, and projection models designed to target and adjust benchmarks for the achievement of all the SMART goals.

Each of the models will be developed from individual student data-sets which include demographics; admission profiles; financial aid disbursements; enrollment activities and achievement; and any program-related flags for aggregation. Research methods may include cluster analysis; regression models; and risk analysis depending on where the interventions and results lead.

Performance Measure Detail

Activity

Incremental Changes

No measures submitted for package

Is this decision package essential to implement a strategy identified in the agency's strategic plan?

The package addresses two theme areas within the CWU Strategic Plan :

" Theme 1, Teaching And Learning

Objective 1: Enhance student success by continually improving the curricular...programs.

Objective 2: Enhance the effectiveness of student support services.

" Theme 5: Resource Development And Stewardship

Objective 1: Maximize the financial resources to the university, and assure the efficient and effective operations of the University through financial stewardship.

Objective 2: Develop and implement enrollment management...plans that maximize revenue.

Objective 3: Ensure the university has human resources necessary to accomplish all university objectives.

Objective 4: Provide the facility and technology infrastructure and services appropriate to meet university objectives, while maximizing sustainability and stewardship

Does this DP provide essential support to one or more of the Governor's Results Washington priorities?

This package supports two of the governor's top priorities:

1. Build on Lean success. Degree Planner reduces wait times for classes and improves services to our "customers," students. The proposals also save taxpayers money by reducing the time it takes to earn a degree and by enhancing the efficiency of capital and operating budget systems and planning.
2. Implement a sustainable budget. Degree Planner provides the detailed forecasting information CWU needs to plan for the efficient acquisition and disposition of resources: technology, space, labor, equipment, energy, and more

What are the other important connections or impacts related to this proposal?

- i. Which stakeholders have concerns about the changes related to this proposed investment or reduction. None
- ii. Which stakeholders support this proposal The CWU Board of Trustees supports enhanced degree efficiency and reduced time to degree. CWU also will seek the support of the Washington Student Achievement Council, the CWU Board of Trustees, and the Washington Student Association.
- iii. Is this related to a legal matter No
- iv. Is this related to a task force, Results WA forum or audit recommendation No

What alternatives were explored by the agency, and why was this alternative chosen?

Alternatives:

4 Do without the program: Central Washington University uses a PeopleSoft Campus Solutions student information system. The degree audit capability, while powerful, creates extra work for advisors and many students are confused by the interface. Many students do not understand their degree requirements or how to navigate, in terms of the sequence of courses. They also do not understand where they are in terms of reaching their academic goals or what they need to do to reach those goals.

Rather than seeing this information laid out simply and clearly, students either seek out verbal advice from advisors or attempt to use the current Degree Progress Report, which can misrepresent class requirements due to the technological inadequacies of the system.

Continued use of this information system means advisors will be spending an exorbitant amount of time providing prescriptive information about course requirements, pre-requisites, and interpretations of advisement reports. They also will have to spend more time processing course exceptions and teaching students how to use the CAPS report and Planner features. The current system also does not afford enrollment managers the ability to accurately forecast the need for sections and seats in classes resulting in a shortage of the same, which impedes students' progress toward degree completion.

Develop "Degree Planner" software using CWU staff: CWU does have staff who could develop this software. However, in order to create the time they need to do the development, CWU would have to hire temporary employees to cover the work of programmers engaged in the project. Even with this support, it would take many years and be very expensive to develop this program from scratch. The most efficient option--in terms of time as well as money--is to purchase the software package.

What are the consequences of adopting or not adopting this package?

" Diminished persistence, retention, time to degree: By not providing students and advisors detailed, immediate information about student academic behavior, CWU cannot enable more students to persist in their studies to graduation, and do it without wasting time or money on classes that don't apply to a chosen degree.

" Diminished the precision of budget management. The current system is not able to forecast service demands and associated costs and requirements for space, energy, labor, technology, equipment, and other resources.

What is the relationship, if any, to the state's capital budget?

This request is not linked to a capital request.

What changes would be required to existing statutes, rules, or contracts, in order to implement the change?

No changes to statute, rules or contracts are required.

Expenditure and revenue calculations and assumptions

Software licensing and implementation is \$350,000 1st year and \$100,000 annual fee. Training would cost ~\$25,000 and an admin position \$100,000 including benefits.

Total for FY16 \$475,000, FY17 \$200,000.

Which costs and functions are one-time? Which are ongoing? What are the budget impacts in future biennia?

Software annual licensing and administrator.

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Object Detail

Total

Total Objects