September 15, 2018

The Honorable Jay Inslee
Office of the Governor
PO Box 40002
Olympia, WA 98504-0002

Dear Governor Inslee,

Enclosed please find Western Washington University’s 2019-21 Operating Budget Request. Western’s strategic mission is focused on serving the people of the state of Washington through academic excellence and a commitment to inclusive achievement for all students. The enclosed budget request is closely aligned with the goals of Results Washington, including providing a world class education to all Washingtonians, growing a prosperous economy, ensuring healthy and safe communities, and working toward a more sustainable energy system and clean environment.

The request includes items that are critical to maintaining Western’s excellence and efficiency, including compensation increases and operations and maintenance funding necessary to operate the campus facilities and infrastructure. The request also includes proposals that will address critical capacity constraints in STEM, the State’s need for more qualified teachers, and enhance excellence in high-demand programs.

Maintaining excellence and efficiency:

- **Compensation Adjustments:** Provides funding an amount equivalent to a 4.0% annual increase for all faculty and professional staff. The request for funding annual increases for classified staff will be submitted to the Office of Financial Management by the October 1, 2018 deadline, following the conclusion of collective bargaining negotiations.
- **Critical IT Infrastructure Upgrades:** Addresses critically needed updates to Western’s wired and wireless networks and replaces the University’s outdated 35+ year old telephone system.
- **Maintenance and Operations:** Addresses the operations and maintenance impacts associated with Western’s major and minor capital budget projects to come on line in 2019-2021, as well as inflationary costs for utilities, and maintenance and operations of existing facilities.

Addressing capacity constraints and enhancing excellence:

- **Expanding Capacity for Prehealthcare:** Addresses a statewide shortage of healthcare providers as well as significant bottlenecks in STEM degree programs by expanding course offerings in key Biology and Chemistry courses. The proposal will increase the number of graduates prepared for advanced healthcare degree programs, improve course access, reduce time to degrees for students, add 70 pre-health and STEM graduates per year, and establish a new streamlined BA degree in Biochemistry.
• **BS Degree in Energy Science and Technology**: Responds to industry needs and student demand by developing a BS degree in Energy Science and Technology, while simultaneously reducing STEM bottlenecks and expanding energy research and outreach.

• **Electrical Engineering Expansion**: Addresses capacity constraints in WWU’s Electrical Engineering program to meet student demand and the needs of the state while supporting the program’s ongoing efforts to improve equity and inclusion.

• **Enhancing Career-Connected Learning**: Enhances and expands WWU’s Career Services program, with the capacity to provide comprehensive and targeted individualized services to support every student in achieving their career potential.

• **Increasing the Number of Teachers in Washington State**: Addresses the State’s teacher shortage and capacity constraints within the College of Education by increasing the number of teachers graduating from WWU by 200 each year in the high needs areas of elementary education, early childhood education, special education and secondary STEM education.

As directed by proviso in the 2018 Supplemental Budget, by December 2018, Western will also be submitting to your office and the Legislature a report assessing the feasibility of expanding Western’s academic programming on the Kitsap and Olympic Peninsulas based on a needs assessment of the region. We anticipate the report will include proposals for state funding in order for Western to respond to the most urgent postsecondary educational needs in this underserved part of the state.

I greatly appreciate your consideration of this budget request. On behalf of the Western community, thank you for your leadership and service to our great state. Should you or your staff have any questions or need additional information related to this budget request, please do not hesitate to contact me or my staff.

With gratitude,

![Signature]

Sabah Randhawa
President

CC:
Brent Carbajal, Provost/Vice President for Academic Affairs
Linda Teater, Director, Budget Office
Becca Kenna-Schenk, Executive Director, Government Relations
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Mission and Values

Western Washington University is a public comprehensive institution dedicated to serving the people of the state of Washington. Together our students, staff, and faculty are committed to making a positive impact in the state and the world with a shared focus on academic excellence and inclusive achievement. As a community, we uphold certain basic values. These include:

- Commitment to student success, critical thought, creativity, and sustainability
- Commitment to equity and justice, and respect for the rights and dignity of others
- Pursuit of excellence, in an environment characterized by principles of shared governance, academic freedom and effective engagement
- Integrity, responsibility and accountability in all our work

Vision

Western Washington University prepares and inspires individuals to explore widely, think critically, communicate clearly, and connect ideas creatively to address our most challenging needs, problems, and questions.

Core Themes: Advancing Our Mission

The Northwest Commission on Colleges and Universities, the regional accreditation body for Western, requires that the institution define core themes, overarching constructs essential for advancing the institutional mission. Advancing inclusive excellence, increasing Washington impact and enhancing academic excellence represent those overarching constructs. We believe that progress on advancing institutional mission and vision requires making significant and continuous progress on these ideals, which reflect the goals of the strategic plan.

Advancing Inclusive Success

Education is the most powerful social equalizer, a true engine for upward mobility. While postsecondary institutions become increasingly diverse, the degree attainment gap persists for low-income students and students of color. We recognize that our most important challenge is to advance inclusive success, that is, increase retention and persistence rates and the number of graduates, while eliminating achievement gaps for
students from diverse and under-represented socio-economic backgrounds. We have a great platform to advance access and completion at Western, starting with a six-year graduation rate of 70 percent, one of the best in the region.

Increasing Washington Impact

In the next decade, two-thirds of the jobs in Washington will require some form of post-secondary education. We recognize that to contribute to the future workforce needs in Washington and the region, we need to expand access to our programs, increase persistence and graduation rates, and partner with other education providers to offer programs and credentials to place-bound and non-traditional students. At the same time, we must prepare our students to be successful in a continuously changing work and social environment, where technology and automation are driving employment trends, and significantly changing the nature of work and relationships.

Enhancing Academic Excellence

Western provides a transformational education grounded in the liberal arts and sciences and based on innovative scholarship, research and creative activity to foster the development of engaged members of a global community. Making progress on critical issues—from environmental sustainability and climate change, to human health, economic vitality and cultural diversity—requires investing in, and nurturing, a faculty culture that integrates knowledge and exploration in our undergraduate and graduate programs. We will continue to enhance the high quality of our undergraduate and graduate programs in the liberal arts and professional programs, while simultaneously extending our reach to become a greater catalyst for regional economic and social development. We strive to expand and deepen our work to build a diverse, inclusive and equitable community and culture: in terms of access and success, curriculum, learning, shared experiences, embedded values and beliefs, and engagement opportunities to create enduring change.

Goals

The Strategic Plan articulates four goals to advance Western. Our approach is somewhat non-traditional; we articulate our goals as values that we aspire to advance.

**Goal #1:** Western will provide a transformational education grounded in the liberal arts and sciences and based on innovative scholarship, research, and creative activity.

Western’s educational experience will continue to be rooted in an active teaching and learning environment with a liberal arts and sciences foundation and robust co-curricular, internship, research, creative, and community engagement opportunities. Western will prepare students to be successful and engaged members of society, and will provide the tools to work in and across disciplines to identify and creatively solve key societal problems, both local and global. Western will recruit the best faculty and staff to support the growth and sustained flourishing of programs, departments, and centers that do this vital work.
Goal #2: Western will advance a deeper understanding of and engagement with place.

At Western, we seek to engage place in all of its complexity. Place calls us to recognize debts and obligations to indigenous and Native nations, to the environment and sustainability, and to diverse and rich cultures within and across borders. Place inspires us to study with rigor and precision the complexity, vibrancy, and beauty of land and sea in Washington State and in the Pacific Northwest. Place moves us to think and act thoughtfully and creatively about where we are and how we connect with the wider world. Place beckons us to look at the past with care and to envision the future with curiosity, innovation, and creativity.

Goal #3: Western will foster a caring and supportive environment where all members are respected and treated fairly.

Western’s greatest strength is the outstanding students, faculty, staff, and alumni/ae who make up its community. Western supports an inclusive governance structure for all and provides a learning and working environment in which everyone can thrive.

Goal #4: Western will pursue justice and equity in its policies, practices, and impacts.

Western sees equity, justice, inclusion, and diversity as fundamental principles calling for authentic engagement. Western acknowledges that, as an institution, it has failed to meet the needs of people of many races, ethnicities, creeds, socioeconomic classes, gender identities, sexual orientations, and disability statuses. WWU will contribute to redressing these inequities by transforming policies, structures, and practices to ensure meaningful inclusion.
Western Washington University provides quality educational opportunities to students seeking degrees at the undergraduate and graduate level and for students desiring continuing education. Western is a public comprehensive, residential university with a strong commitment to quality and excellence built around a strong core curriculum in the humanities, arts, sciences, and technology. The instruction activity encompasses the entire spectrum of interrelated services that are necessary in accomplishing Western's primary mission learning and scholarship of the highest possible quality. To support the teaching mission of the Institution, the services within this activity includes classroom instruction, scholarship, public service, primary support services, library services, student support services, technology services and support, and the operation and maintenance of campus facilities.

380 - Western Washington University

A002 Instruction

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Statewide Result Area: World Class Education
Statewide Strategy: Provide convenient and efficient post-secondary education
Expected Results
Improve the value of a state college or university education: Increased percentage of adults completing certificates/degrees; Increased student/graduate satisfaction; Increased number of students prepared to meet workforce needs.
Western Washington University provides research programs that advance the instruction, public service, and community outreach components of its instruction activity. These programs include the Institute for Watershed Studies, the Institute for Environmental Toxicology, and summer research fellowships. In addition, grants and contracts provided by federal, state, and local agencies and from private sources enable Western to conduct research and training that provides benefits not only to the granting agency, but enables faculty and students to maintain and enhance their scholarship and to advance knowledge on many social and environmental issues of concern to the citizens of the state of Washington.

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Statewide Result Area: **World Class Education**
Statewide Strategy: **Provide access to high-quality research opportunities**

**Expected Results**
Improve the value of a state college or university education: Increased percentage of adults completing certificates/degrees; Increased student/graduate satisfaction; Increased number of students prepared to meet workforce needs.
A001 Administration

This activity includes the central administrative functions of the institution. These functions support the entire institution and are not directly attributable to a specific activity. Included in this activity are the administrative and management services necessary for the efficient and effective operation of Western Washington University, such as the Offices of the President, Provost, and Business and Financial Affairs, Faculty Senate, Internal Auditor, Board of Trustees, Institutional Research, and Planning and Budgeting.

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Statewide Result Area: World Class Education
Statewide Strategy: Provide convenient and efficient post-secondary education

Expected Results
Improve the value of a state college or university education: Increased percentage of adults completing certificates/degrees; Increased student/graduate satisfaction; Increased number of students prepared to meet workforce needs.
ZZZX  Other Statewide Adjustments

This item reflects proposed compensation and other adjustments that were not allocated to individual agency activities. This agency will assign these costs to the proper activities after the budget is enacted.

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<th>Account</th>
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Statewide Result Area: World Class Education
Statewide Strategy: Provide convenient and efficient post-secondary education

Expected Results

Grand Total

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### 2019-21 Biennium

**Activity Inventory Indirect Cost Allocation Approach**

**Agency:** 380 Western Washington University  
**Date:** September 7, 2018  
**Allocation Method Description:** Total indirect costs were allocated to activities based on the number of FTEs in each activity.

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<th>Activity</th>
<th>% Allocation Received</th>
<th>Dollars Allocated FY1</th>
<th>Dollars Allocated FY2</th>
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<td><strong>TOTAL</strong></td>
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## Recommendation Summary

**Agency:** 380 Western Washington University  
**Version:** WWUREQ21 WWU 2019-21 Budget Request 2

### Dollars in Thousands

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<th>Description</th>
<th>Average FTEs</th>
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<td>CL 92E   Legal Services</td>
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### Total Carry Forward Level

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Percent Change from Current Biennium .5% 3.9% 2.0% 2.7%

### Maintenance – Other Changes

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### Total Maintenance Level

<table>
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Percent Change from Current Biennium .5% 4.8% 2.0% 3.0%

### Policy – Other Changes

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<th>2017-19 Current Biennium Total</th>
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<td>PL A2    Critical IT Infrastructure Upgrades</td>
<td>1.5 5,900 0</td>
<td>1.5 5,900 0</td>
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<tr>
<td>PL A3    Expanding Prehealthcare Capacity</td>
<td>15.0 4,901 0</td>
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Date Run: 9/20/2018 10:27:31AM
## Recommendation Summary

**Agency:** Western Washington University  
**Version:** WWUREQ21 WWU 2019-21 Budget Request 2

### Dollars in Thousands

<table>
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<tr>
<th>Description</th>
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**Policy – Other Total**

| PL A1 Critical Compensation Adjustments          | 0.0                 | 11,981             | 0           | 11,981      |

**Policy – Comp Total**

Subtotal - Policy Level Changes: 69.3

2019-21 Total Proposed Budget: 1,856.4

Percent Change from Current Biennium: 4.4%

Percent Change from Previous Biennium: 11.3%

Subtotal - Policy Level Changes: 32,538

Total Funds: 438,780

Date Run: 9/20/2018 10:27:31AM
### Agency: Western Washington University
#### Version: WWUREQ21 WWU 2019-21 Budget Request 2

**Dollars in Thousands**

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<td>A paid family and medical leave program was created by Chapter 5, Laws of 2017, 3rd Special Session. Beginning January 1, 2019, the state, as an employer, will be responsible for payment of employer premiums for employees not covered by a collective bargaining agreement. This item provides funding for this obligation.</td>
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</table>
Recommendation Summary

Agency: Western Washington University
Version: WWUREQ21 WWU 2019-21 Budget Request 2

$\text{Dollars in Thousands}$

<table>
<thead>
<tr>
<th>Annual Average FTEs</th>
<th>General Fund State</th>
<th>Other Funds</th>
<th>Total Funds</th>
</tr>
</thead>
</table>

**ML B1 New Square Footage**
- Western took possession of the 13,280 square foot (SF) Poulsbo Sea Discovery Center and Aquarium in January 2018 in support of the Western on the Peninsula academic program.
- During the 19-21 biennium Western anticipates taking occupancy of a new 25,000 SF Support Services Facility, and approximately 2,000 SF of new space to support our Student Multi-Cultural Center.

**ML B2 Utility Cost Inflation**
The cost of utility commodities: electricity, natural gas, water, sewer and storm water increases annually. Even as consumption is reduced through dedicated energy saving initiatives, the per unit rates charged by commercial providers continue to increase. The total cost for these commodities exceeds the value of energy saved. Estimating a 3% annual increase in commodity costs, an inflationary increase to the utility budget is requested. WWU estimates an additional $113,428 in FY2019-20 and $230,259 in FY2020-21 to maintain its utility budget.

**ML B3 Facilities Goods/Services Inflation**
Maintain buying power of the goods & services portion of Facilities Management budget is critical for maintaining Western’s infrastructure. For the past four fiscal years, the average annual rate of inflation for construction materials in the Puget Sound area was 4.17%. Industry experts recommend planning for 3.5%-4% annual increases for the foreseeable future. Using 3.5% as a conservative escalation rate, in order to maintain current levels of buying power, the $1.9M FM Goods and Services budget (non-labor) will need a recurring increase of $66,500 in FY2019-20 and an additional $68,828 in FY2020-21 for a total biennial increase of $201,828.

**PL A2 Critical IT Infrastructure Upgrades**
This is a request to update Western’s wired and wireless networks and replace Western’s outdated 35+ year old telephone system. Secure, reliable and up-to-date technology is more essential than ever in higher education in order to support students, improve learning outcomes, and prepare graduates to join the workforce. WWU’s archaic information technology infrastructure is severely overdue for improvements and upgrades, and because technology affects all students, staff and faculty, this proposal will have wide-reaching impacts throughout campus. In large part, the request is to use debt financing to fund equipment replacement that is past its life expectancy.

**PL A3 Expanding Prehealthcare Capacity**
This proposal addresses a statewide shortage of healthcare providers by increasing the number of WWU graduates prepared for advanced healthcare degree programs. Enrollment pressures limit access to Biology and Chemistry courses required for Western’s pre-health students, a population that is increasingly diverse and from historically underserved backgrounds. This proposal will address these pre-health course limitations, as well as ongoing capacity constraints in all STEM majors at WWU by expanding course offerings in Biology, Chemistry, Math and Physics. The proposal will result in reduced time to degrees for students, enabling an additional 70 pre-health and STEM graduates per year, and establishing a streamlined degree program (Biochemistry BA) suitable for many pre-health students, including transfer students. These changes will help WWU meet growing student demand and better prepare students for healthcare careers throughout Washington State.

**PL A4 Energy Science & Tech BS Degree**
Agency: 380 Western Washington University
Version: WWUREQ21 WWU 2019-21 Budget Request 2

Dollars in Thousands

<table>
<thead>
<tr>
<th></th>
<th>Annual Fund State</th>
<th>General Fund State</th>
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<tbody>
<tr>
<td></td>
<td>Average FTEs</td>
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</table>

This proposal seeks to help feed the workforce for Washington’s clean energy economy, bolster sustainability and entrepreneurship initiatives by creating a BS degree in Energy Science and Technology as part of WWU’s Institute for Energy Studies (IES). The proposal would also reduce STEM bottlenecks and student access issues, and expand energy research and outreach by hiring new faculty who would both support the new program and work in existing departments, including engineering, physics, geology, environmental science/studies and management. This proposal will add faculty expertise in building science, energy efficiency, electric power and utility planning, as well as support place-bound students on the Peninsulas and transfer students from 2-year colleges.

PL A5 Electrical Engineering Expansion

This proposal addresses the need to expand Western’s Electrical Engineering (EE) program by increasing access to meet student demand and the needs of the state while supporting the program’s on-going efforts to improve equity and inclusion. It is the first of two phases in WWU’s long-range plan that will more than double the number of EE graduates. This proposal provides faculty and staff support to increase student access by more than 30% by introducing a new computer engineering concentration. On-going strategic partnerships with local industry combined with linked and related state capital projects will be leveraged to meet help Western meet STEM space needs required for this EE expansion.

PL A6 Enhancing Career-Connected Learning

As jobs in the modern economy continue to evolve and skills required to be successful in the workforce continue to transform, the need for career-connected learning to fulfill the promise of higher education has never been greater. This proposal will allow Western Washington University to implement an enhanced and expanded Career Services program, with the capacity to provide comprehensive and targeted individualized services to support every student in achieving their career potential. The proposed program will produce tangible results, including increased internship rates, improved job placement performance, and enhanced engagement with employers to help meet workforce demands and support a thriving state economy.

PL A7 Increasing Number of Teachers in WA

Washington is facing a critical shortage of new teachers, especially in four high needs areas: special education, mathematics, science, and English language learning. At the same time, Western Washington University’s teacher preparation programs are currently at or near full capacity, creating waitlists for students to access programs that will certify them to become teachers. School principals, the Office of the Superintendent of Public Instruction, the Professional Educator Standards Board, the Washington Association for the Council of Teacher Education, and state legislators are focused on increasing the number of Washington teachers. Western Washington University, supported and encouraged by the entities, proposes to bring 200 additional teachers into high needs/critical shortage areas each year. As a public institution approved to certify teachers, WWU’s College of Education is mandated to help alleviate the K-12 teacher shortage.

PL A1 Critical Compensation Adjustments

Western Washington University requests funding for an amount equivalent to 4% per year for all faculty and professional staff salaries and an amount for classified staff to be determined through collective bargaining. Such increases will allow Western to attract and retain the high quality faculty and staff that the university is known for to better serve students and the State of Washington.
Agency Recommendation Summary

Western Washington University requests funding for an amount equivalent to 4% per year for all faculty and professional staff salaries and an amount for classified staff to be determined through collective bargaining. Such increases will allow Western to attract and retain the high quality faculty and staff that the university is known for to better serve students and the State of Washington.

Fiscal Summary

Dollars in Thousands

<table>
<thead>
<tr>
<th>Operating Expenditures</th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>FY 2022</th>
<th>FY 2023</th>
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Object of Expenditure

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<td>Obj. A</td>
<td>$3,941</td>
<td>$8,040</td>
<td>$8,040</td>
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Package Description

Western Washington University continues to successfully serve the State of Washington with more than 15,000 students, 160 academic programs, and an energized, engaged campus community. The quality of education at Western is shown through high retention rates, graduation rates, employer satisfaction rates, and numerous positive national recognitions of the university.

The quality of academic instruction at Western has been consistently recognized by national rankings including being ranked the number one public, master’s-granting university in the Pacific Northwest by US News & World Report for several years in a row. Out of more than 600 institutions, Western ranks in the top ten nationally for graduates who go on to earn research doctorates by the Survey of Earned Doctorates (SED), a widely recognized key measure of university quality. A high ranking on the SED indicates that a university’s undergraduate curriculum successfully prepares students for advanced study and research. Western also produces a high number of Fulbright Fellows, tying for third place among public master-granting institutions nationally. In 2018, Western finished third in the nation — tying with Stanford University — as producers of prestigious National Oceanic and Atmospheric Administration Ernest J. Hollings Undergraduate Scholars.

In addition to providing an excellent quality of education, Western has also been recognized as a leader in operational efficiency by US News & World Report and was ranked among the best values in the nation by both Kiplinger’s Personal Finance and Washington Monthly magazine. G.I. Jobs once again selected Western as a “Military Friendly School”, placing Western in the top 20% of all higher education institutions nation-wide and the Chronicle of Higher Education has named Western a Great College to Work For several years running.

Western’s commitment to community engagement was acknowledged when it was awarded the President’s Higher Education Community Service Honor roll as well as when the Carnegie Foundation for the Advancement of Teaching gave Western the Community Engagement classification for Western’s efforts to operate community-outreach programs, deepen students’ civic and academic learning and to enhance overall community well-being. Western currently ranks second in the nation among medium-sized universities sending graduates to the Peace Corps as well. In July 2018 Western was named in the Green Power Partnership Top 30 colleges and universities by the U.S. Environmental Protection agency, the only institution in the Pacific Northwest to make the list.
Western’s first and foremost obligation to the State of Washington is to protect and continue this high level quality of education to our students and apply our considerable strengths to meeting the critical needs of the state. Western continues to demonstrate this commitment through the work of outstanding faculty, staff, and administrators to engage, educate, and prepare the next generation of Washington’s leaders, innovators, entrepreneurs, scientists, teachers, and actively engaged citizens.

As a mission-driven and talent-based enterprise, higher education institutions compete in a national, and sometimes international, marketplace for hires. Western’s ability to fulfill our mission as a proudly public university is predicated on our ability to provide the highest quality instruction, research, and services to students, other stakeholders, and the state. This requires competitive compensation to attract and retain the diverse talent necessary to maintain Western’s excellence. Salaries for faculty, administrators, and professional staff are measured using national compensation date provided by the College and University Personnel Association (CUPA). Compensation analysis shows that Western is lagging behind local, regional, and national salary comparisons. Western is facing a serious morale issue; employees continue to be asked to do more with less. A salary increase for all classifications of employees is needed to remain competitive in attracting and retaining high quality employees.

It is also imperative that annual salary commitments from the state take into consideration both regional and local cost of living impacts. Bellingham and Whatcom County housing markets have reached all-time highs with median home prices up 13.2 percent compared to just one year ago. The Seattle area Consumer Price Index from the U.S. Bureau of Labor Statistics shows an increase of 6.8 percent compared to June 2016. Healthcare costs also continue to increase for all employees at Western. Adequately covering inflationary costs is a first and critical step to improving salaries at Western.

Western’s ability to recruit and retain talented employees has been compromised over the years with the inability to adjust salaries to competitive wages. Investing in existing employees reduces turnover, sick leave, and healthcare costs, while increasing employee engagement, communication, wellness and workforce performance and productivity.

**Assumptions and Calculations**

**Expansion or alteration of a current program or service:**
N/A

**Detailed assumptions and calculations:**
001-1
General Fund - State

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**Workforce Assumptions:**
Not applicable

**Strategic and Performance Outcomes**

**Strategic framework:**
Governor Inslee has indicated that providing a world class education is a top priority in the Results Washington goal areas. Providing additional compensation funding will allow Western to attract and retain the crucial faculty and staff necessary to continue providing a top quality undergraduate and graduate education. Well-prepared Western graduates also impact the state after graduation by entering the workforce and using their skills to help continue Washington’s prosperous economy, another of the Governor’s goal areas. Nationally recognized faculty in a variety of colleges and research centers on campus are also currently conducting research across the state in the areas of sustainable energy and a wide range of environmental issues. Retaining these faculty and recruiting more like them will allow this work to continue and bring new knowledge, data, and resources to the Governor’s Sustainable Energy and a Clean Environment goal.

Western Washington University recently approved a new strategic plan to provide a vision for our future. The number one goal of that plan is to “provide a transformative education grounded in the liberal arts and sciences and based on innovative scholarship, research, and creative activity.” Achieving this goal will require continual recruitment and retention of innovative faculty, dedicated executives, and talented staff. Providing competitive compensation will allow Western to do just that.

**Performance outcomes:**
Western provides excellent service to our students and to the State of Washington, as evidenced by high retention rates; high graduations rates; low time to degree; and number of students served. Not only is employee turnover expensive in monetary terms, time commitments required to fill most faculty and administrator vacancies require 9-12 months, and professional and classified staff range from 3-6 months, depending on the type of position. As workforce vacancies increase, there is a negative impact on our performance indicators as number of students served
decreases and time to degree increases. To continue the excellent service to our students and to the State of Washington, we must continue to invest in our quality workforce. This investment will result in less employee turnover and reduced expenditures for recruitment costs to fill vacant positions.

Western’s key indicators of university quality remain high. Fall-to-fall retention for freshmen at Western was 81% for the incoming cohort of Fall 2016, second only to the University of Washington within the state and above the national average of 80.0% at 4-year degree-granting institutions. Western’s six-year graduation is currently 69%, second in the state and well above the national average of 60.0%.

Western is committed to increasing degree-production in high-employer demand programs and in critical areas of state needs. Many of these programs and degrees are in high demand throughout the nation, resulting in increased competition for the top faculty. There is intense competition among universities, industry, government and other non-profit institutions to hire the best scholars, teachers, and leaders. Ensuring Western’s ability to attract and retain the best faculty and staff will positively impact all performance measures.

Other Collateral Connections

Intergovernmental:
None anticipated

Stakeholder response:
None anticipated

Legal or administrative mandates:
None anticipated

Changes from current law:
None anticipated

State workforce impacts:
None anticipated

State facilities impacts:
None anticipated

Puget Sound recovery:
None anticipated

IT Addendum

Does this Decision Package include funding for any IT-related costs, including hardware, software, (including cloud-based services), contracts or IT staff?
No
Agency Recommendation Summary
This is a request to update Western’s wired and wireless networks and replace Western’s outdated 35+ year old telephone system. Secure, reliable and up-to-date technology is more essential than ever in higher education in order to support students, improve learning outcomes, and prepare graduates to join the workforce. WWU’s archaic information technology infrastructure is severely overdue for improvements and upgrades, and because technology affects all students, staff and faculty, this proposal will have wide-reaching impacts throughout campus. In large part, the request is to use debt financing to fund equipment replacement that is past its life expectancy.

Fiscal Summary
*Dollars in Thousands*

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<tr>
<th>Operating Expenditures</th>
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| Average Annual         | 1.5     | 1.0     |         |         |

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Package Description

**Network Refresh:**

The vast majority of equipment that provides the data network on campus is either end-of-support or will be in the next three years, leaving critical infrastructure without replacement parts or software security updates. Our campus wireless network does not provide sufficient coverage to serve the growing needs of our students, faculty, and staff. Our wired network does not provide sufficient power-over-Ethernet capacity to meet the campus’s growing needs for electronic access control, cameras and security equipment, IP telephones, and newer wireless access points.

Leadership from the new Vice Provost of IT/CIO has brought renewed attention and a new strategic approach to addressing the need to refresh and expand our campus’s wired and wireless networks. New procurement options are now available from our campus networking partner that will allow us to operationalize the costs of refreshing our network equipment – a necessary change in acquisition strategy given that WA State OFM will no longer fund the equipment through capital dollars as they have in past refresh projects.

The last two refresh projects for the campus network, in 1999-2000 and 2009-10, were funded by the state as capital projects. In 2014, OFM informed us that this equipment no longer qualifies for capital funding due to its 7-10 year replacement lifecycle.

Western is therefore recommending a shift to an operationalized funding model utilizing a certificate of participation to:

- Upgrade and expand of the campus wireless network to meet the growing academic and operational needs of students, faculty, and staff
- Upgrade of the campus wired network to meet bandwidth and power-over-Ethernet requirements for the next generation of networked devices, upgraded telephone systems, and expanded security/access control systems
- Update network hardware and software that provides up-to-date security protection against evolving cybersecurity threats
- Provide an annualized payment that can be accounted for in the university’s annual operating budget allocations.
• Minimize disruption to campus through inter-departmental coordination, dedicated project management resources, and off-hours work.

This large enterprise-wide project will need to be coordinated in an effort to minimize campus disruption as a goal. ITS will hire a project manager to properly scope, communicate and keep the project on task to help achieve this goal. Once complete, this project will aid in minimizing future potential network outages due to aged equipment. Instead of measuring network outages, this project will allow ITS to focus on measuring enhanced uses of out networks, not decreased uses.

The strategy being employed will result in a one-year implementation purchased with a seven-year annualized payment through a certificate of participation with the State. Replacement costs will be financed every seven years for a 7-year repayment period. The first year of each 7-year cycle will be higher to account for project and facility costs. The details of plan are included in the Assumptions and Calculations section of these proposal.

There are several consequences that Western is trying to mitigate using the proposed strategy:

• Western buys resilient, enterprise-grade equipment that can be run beyond its end-of-support date without fear of immediate failure. However, as more equipment reaches its end-of-support date, the probability of component failure increases, and replacement parts for failed components will become more expensive and more difficult to source. The impact of a failure can be anywhere from the entire floor of a building to the entire campus’s connection to the internet, and increased scarcity of replacement parts will increase the projected downtime for impacted users from a couple hours to several days or even weeks.
• Critical network equipment will stop receiving software updates and security patches as soon as they go end-of-support, leaving our campus computers and other networked devices increasingly vulnerable to fast-evolving cybersecurity threats.
• Without more robust and abundant wireless network infrastructure, the campus network will not be able to support increased demand from student devices, from academic technology initiatives like the new microscope-connected tablets, or operational technology initiatives like the new asset management and work control system being deployed by Facilities Management.
• Without upgrades to the network equipment in all of our buildings to provide higher capacity of Power-over-Ethernet, the campus network will not be able to support modern wireless access points, the expansion of our IP telephony system to replace the existing, aging analog telephony infrastructure, modern access control and security systems, or other devices that rely on power-over-Ethernet to function.
• The quality of a campus’s wireless network, in terms of coverage area and performance, is a highly visible indicator of the university’s overall technology stature. A wireless network with poor coverage and/or performance has the potential to place us at a competitive disadvantage when attracting prospective students, and may impact our reputation when hosting conferences and visiting scholars.

Western has tried several tactics in the past to resolve our aging network issues:

• Capital project money was sought in 2014 to support the wireless network expansion in this request. OFM declared the project ineligible for capital funding, because networking equipment does not last at least 14 years before needing to be replaced.
• Replacements of aging network equipment were folded into the capital construction projects to renovate Miller Hall, Carver Academic Center, and the Viking Union/Multicultural Center. Wireless coverage has been expanded to classrooms through capital-funded classroom renovation projects. However, state OFM will not allow these equipment purchases to exceed 20% of the total project cost, and the purchased equipment must be rationally related to the larger construction project. This approach does not allow us to grow the wireless network across campus fast enough to meet student demand, or to refresh the campus network in time to meet the end-of-support deadlines of the existing equipment.
• Auxiliary Services have self-funded the necessary network equipment refreshes and wireless network expansions in their facilities.

Because the campus network equipment was all put in by a single capital project in 2000, and all refreshed by a single capital project in 2009, it is all coming due for replacement at the same time. But without eligibility to fund the next refresh through a capital project, Western must use an alternate strategy to replace aged and supported hardware. By relying on large one-time allocations in the past, the true cost of ownership of our campus network has been hidden from us. Western recommends operationalizing that cost through an annualized financing arrangement that will make the true cost of ownership visible and accounted for.

Voice over Internet Protocol (VoIP):

Western’s current phone system is outdated and end-of-life. This means software updates and hardware replacements are no longer available for our phone system. Parts are only available on the “gray market,” such as eBay. The aged system is highly sensitive to power outages causing components to fail and phone outages for several hours at a time. In the past six months, Western has had three telephone outages in certain areas of campus. When part of the phone system fails, Western loses 200-400 phones at a time. This happened as recently as 2/20/2018 for six hours, when 400 phones lost service. This project will bring a modern, stable, communication service to Western.

For a few years, Western has tried to address this widely known problem of replacing our 35+ year old telephone system. Historically, the approach to resolution has not been well organized or properly resourced by ITS. For instance, an issue of this size needs to be defined as an enterprise project and proper project management resources assigned. A few years ago, ITS didn’t have a Project Manager, which has been added. The skillset is now here to properly move a project of this scale forward.

Given the age of our current phone switch and its incompatibility with modern telephony technologies, like Voice Over IP (VoIP), WWU has been testing Microsoft’s Skype For Business (SfB) VoIP platform with good success on 300 handsets so far. Western is already licensed for SfB through our existing Microsoft relationship, so a move to SfB would be more economical for the university. We are proposing an institutional-wide move to SfB for our unified communication needs.
The phone system will move from a historically capital expenditure to more of an on-going operational expense service. The biggest ongoing replacement costs will be physical phone handsets. These new devices are little computers of sorts and will have shorter lifecycles compared to the analog phones Western has been accustomed to. It is WWU’s intent to transition to computer-based “soft phones” to reduce physical handset replacement costs over time. In addition to the handsets, Western anticipates purchasing new wired headsets for computer-based software phones, PoE (Power over Ethernet) switches in physically phone dense areas, potentially new web cameras to take advantage of desktop video conferencing, and enhanced 911 appliances. Costs depend on which deployment model and number of physical vs software phone mix campus decides on. Costs range from $676,000 to $810,000 in year 1. Year 2 cost range from $310k – $336k.

Moving off the old phone system will be phased in over many years. ITS will take advantage of office moves, remodel projects, and new construction to eventually migrate offices to VoIP. In the meantime, phone outages are inevitable risking life safety and effective communication.

The new VPIT is aware of other third-party VoIP providers. Compared to Western’s current investment in Microsoft’s ecosystem for services such as Office 365 and Azure, these providers comparable VoIP solutions are more expensive.

Because of the timing, traditional alternatives that would have used the existing copper infrastructure are no longer viable options. Most new communication systems are VoIP, and require the same decisions around physical handsets, phone density and changes to call control.

**Assumptions and Calculations**

**Expansion or alteration of a current program or service:**
Not applicable

**Detailed assumptions and calculations:**
See attached Excel spreadsheet.

**Workforce Assumptions:**
Updating the campus network will require an additional 1.0 FTE project position during the first year to coordinate efforts. This FTE will allow existing Western staff to maintain on-going work levels during the upgrade. This position will also work to ensure efficient use of resources to expedite the upgrade process while limiting disruption to campus.

Upgrading the phone system on campus will also require significant oversight to help minimize disruption to campus, train users on new systems and devices, maximize efficiency in the installation and rollout of the new system and oversee both Skype of Business and E911 operations. This new 1.0 FTE will serve as a system administrator for the variety of new services that a modern phone system will provide.

See the attached spreadsheets for detailed information about salary and benefits for each of these positions.

**Strategic and Performance Outcomes**

**Strategic framework:**
The Governor’s Results Washington goals and statewide priorities highlight our State’s desire to increase percent of eligible students who sign up for college bound programs and postsecondary STEM programs. An up-to-date, robust and secure infrastructure supports these goals and priorities by providing the IT foundation to attract/retain students to Western and to support the focus on STEM and related disciplines. Students will benefit by having the access and performance needed to facilitate learning in these high-tech fields.

At the local WWU level, our Strategic Object 1.G of the new WWU Strategic Plan requires the university to:

**Network Refresh:**
Provide technological and other academic infrastructure to support curricular innovation, research, scholarship, and creative activity, civic engagement and social justice.

The introduction to the Strategic Plan states that WWU must:

...improve our commitment to provide a safe, just, and equitable University for all students and employees.

Any technology or technology-dependent initiative advanced by this university requires a robust, resilient, secure data network as a foundation for its implementation and sustained success. Some of the university’s current highest priority projects, from the upgrade of our Ellucian Banner student and financial information systems (driven by federal mandates) to the expansion of our electronic access control and security systems (driven by our institution’s deep concern for the safety and wellbeing of our community), are dependent upon the campus network.

- New academic technologies, from app-based audience response systems in classrooms to microscopes that connect to mobile network devices, are revolutionizing curricular and pedagogical approaches.
- New mobile-friendly work control systems are already being implemented to make the university’s custodians and tradespeople more efficient, better prepared, and ultimately more effective at serving the university’s operational needs.
- Nationwide surveys by Educause and others show that today’s students are bringing an average of three wireless network devices per student to campus, with that number growing every year.
A modern university, best positioned to attract and retain the modern student while implementing the most advanced academic and operational technologies in service of the university’s mission, must be able to provide the highest quality wireless network experience across its campus.

An investment in a refreshed campus network is not only a strategic investment on its own merits, it is a foundational investment in strategic initiatives to come.

**Phone System:**

Strategic Object 1.G of the new WWU Strategic Plan requires the university to:

*Provide technological and other academic infrastructure to support curricular innovation, research, scholarship, and creative activity, civic engagement and social justice.*

The introduction to the Strategic Plan states that WWU must:

*...improve our commitment to provide a safe, just, and equitable University for all students and employees.*

Western relies heavily on our telephone system for day-to-day communication as well as for special uses, like fund raising, to run the University effectively. Life safety is another mission-critical function telephones play across campus. Without a stable, reliable telephone system, basic operations at the University come to a standstill.

This project will also increase access to collaboration technologies, reducing barriers to students, faculty and staff for creating meetings and collaborating outside traditional environments.

Western will measure project success around: minimizing project impact on day-to-day University business, project cost containments, and enhanced unified communication functions made available to campus to enhance communication efficiency.

**Performance outcomes:**

An up-to-date, converged (voice, data, video) infrastructure supports all corners of Western’s campus, from administration, to academics, to life safety, to educational outreach across the western part of our state. The state of our current infrastructure is holding WWU back, and is putting our ability to address the areas above at jeopardy. For instance, our phone switch is highly susceptible to power fluctuations. Windstorms, brownouts, or switch to generator power causes segments of our phone service to drop because the hardware is 35+ years old and past its usual life. In the past year, we have had five phone outages that affected up to 25% of our campus phones for six to eight hours at a time while we wait for a local third-party to respond. With a reliable VoIP phone service based on Skype for Business, we are better positioned to support our needs internally and get back to business quicker than we are today.

Our wired data network is nine to ten years old, and our network partner, Cisco, no longer provides support or required security updates for hardware this old. We need to update our network and bring our level of cybersecurity up to modern standards so we can conduct the business of being a modern university.

With a new stable, reliable, and properly designed IT infrastructure, outages can be greatly minimized.

**Other Collateral Connections**

- **Intergovernmental:**
  Not applicable.

- **Stakeholder response:**
  Not applicable.

- **Legal or administrative mandates:**
  Not applicable.

- **Changes from current law:**
  Not applicable.

- **State workforce impacts:**
  Not applicable.

- **State facilities impacts:**
  Not applicable.

- **Puget Sound recovery:**
  Not applicable.

**Reference Documents**

- 2019-21 Decision Package Critical IT Infrastructure Upgrades IT Addendum.docx
IT Addendum

Does this Decision Package include funding for any IT-related costs, including hardware, software, (including cloud-based services), contracts or IT staff?
Yes

2019-21 Decision Package Critical IT Infrastructure Upgrades IT Addendum.docx
Agency Recommendation Summary
This proposal addresses a statewide shortage of healthcare providers by increasing the number of WWU graduates prepared for advanced healthcare degree programs. Enrollment pressures limit access to Biology and Chemistry courses required for Western’s pre-health students, a population that is increasingly diverse and from historically underserved backgrounds. This proposal will address these pre-health course limitations, as well as ongoing capacity constraints in all STEM majors at WWU by expanding course offerings in Biology, Chemistry, Math and Physics. The proposal will result in reduced time to degrees for students, enabling an additional 70 pre-health and STEM graduates per year, and establishing a streamlined degree program (Biochemistry BA) suitable for many pre-health students, including transfer students. These changes will help WWU meet growing student demand and better prepare students for healthcare careers throughout Washington State.

Fiscal Summary

<table>
<thead>
<tr>
<th>Object of Expenditure</th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>FY 2022</th>
<th>FY 2023</th>
</tr>
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<tbody>
<tr>
<td>Total Expenditures</td>
<td>$2,220</td>
<td>$2,681</td>
<td>$2,740</td>
<td>$2,801</td>
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<tr>
<td>Biennial Totals</td>
<td>$4,901</td>
<td>$5,541</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Package Description
Problem addressed:
This proposal will help to meet the critical workforce needs in Washington State’s healthcare sector by increasing the number of graduates at WWU who are prepared to enter graduate and professional programs in allied health fields. According to recent forecasts, statewide employer demand will significantly exceed supply over the next 5-7 years for numerous health occupations, particularly those that require graduate or professional degrees. The projected healthcare provider shortfall will be largest among physicians and surgeons, with additional shortages predicted for many other healthcare careers that require an advanced degree, including physical therapy, pharmacy, and dentistry. Indeed, to forestall this shortage of healthcare providers, the State has recently invested significant resources to increase the capacity for advanced degrees in allied health via commitments to WWAMI (UW) and by establishing the Elson S. Floyd College of Medicine at WSU. Compounding the general shortage of healthcare providers in the state, there is a significant lack of healthcare practitioners who come from underrepresented groups, a problem that many professional healthcare programs are actively working to address by recruiting and enrolling applicants from diverse backgrounds. WWU’s ability to provide diverse graduates ready to enroll in such programs is limited by significant access challenges to pre-health courses due to rapid growth in student demand, as well as overly-strained advising resources. This proposal would remedy both of these problems.

The proposal also seeks to alleviate broader capacity constraints in STEM degree programs at WWU. Currently all majors within WWU’s College of Science and Engineering are capped due to capacity limitations. Waitlists for required courses are prevalent throughout the college, often forcing students to wait for up to two quarters to access the courses they need to graduate. For example, some Chemistry and Biology courses have waitlists with over 100 students.
Constraints either significantly delay students’ time to graduation or force students to change their major if they want to graduate on time.

**Context: Access Challenges for Pre-Health Students at Western:**

Currently, the approximately 700 WWU students interested in pursuing healthcare careers that require post-baccalaureate education are facing acute challenges in accessing critical pre-health courses in Biology and Chemistry and in obtaining the advising support they need. These challenges have been driven by dramatic shifts in student demand and enrollment over the past decade, resulting in a 75% increase in students completing degrees from the College of Science & Engineering and a 25% increase in the number of students entering WWU with interests in allied health careers. Specific to Biology and Chemistry, since 2001, the number of Biology majors at Western has doubled, the number of Chemistry majors has nearly doubled, and the number of students in other majors that require Biology and/or Chemistry courses (e.g., Environmental Science, Kinesiology, Geology, Manufacturing Engineering, and many more) has more than doubled. Because of this dramatically increased enrollment pressure, many courses in Biology and Chemistry, including those needed by pre-health students (Table 1), routinely have long waitlists.

**Table 1: Biology and Chemistry courses required or recommended for pre-health students at Western, organized by pre-health track.**

<table>
<thead>
<tr>
<th>Biology</th>
<th>Pre-Occupational Therapy</th>
<th>Pre-Physical Therapy</th>
<th>Pre-Physician Assistant</th>
<th>Pre-Veterinary Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro Bio I (204)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Intro Bio II (205)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Intro Bio III (206)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Genetics (321)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Genetics lab (322)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Bio-statistics (340)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Microbiology (345-6/245)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Human A&amp;P (348)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Human Phys, w/ lab (349)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemistry</th>
<th>Pre-Occupational Therapy</th>
<th>Pre-Physical Therapy</th>
<th>Pre-Physician Assistant</th>
<th>Pre-Veterinary Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gen Chem I (161)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Gen Chem II (162)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Gen Chem III (163)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Organic Chem (251 or 351-6)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Biochemistry (375 or 471-2)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Because access to required courses in Biology and Chemistry at WWU has become increasingly limited, pre-health students are experiencing lengthened times to degree and thousands of dollars in additional costs, in some cases forcing them to abandon their ambitions for a career in healthcare. The solution to this issue is detailed below, but primarily involves offering more sections of the courses students need to gain admission to graduate and professional programs in healthcare.

**The Conundrum Facing WWU Pre-Health Students**

**OPTION A: Behavioral Neuroscience, Biochemistry, Biology/Anthropology, Community Health, or Kinesiology**

Pre-health courses are included in major requirements, but access to other required courses in these majors is tight.

**OPTION B: All other majors**

Must take pre-health courses in addition to their degree requirements and can only register for these courses after students in Option A have registered.

As a result of dramatic growth in STEM majors and increasing enrollment pressures on courses in Biology and Chemistry, pre-health students at Western are currently faced with a conundrum in which they must decide between two paths, each of which presents access challenges. One choice is to major in a discipline in which the degree requirements include most or all of the courses required for their professional aspirations (Option A in figure above), and the other choice is to major in another discipline and take pre-health courses on top of the major requirements (Option B).

Under Option A, pre-health students at WWU typically pursue one of the following majors:

- Behavioral Neuroscience BS
- Biocultural Anthropology BA
- Biology/Anthropology BA or BS
- Biochemistry BS (esp. pre-medicine, pre-pharmacy, and pre-dentistry)
- Community Health BS
An advantage of majoring in one of these programs is that many of the pre-health courses have priority enrollment for majors requiring those courses. In particular, microbiology, human anatomy and physiology, human physiology with lab, organic chemistry, and biochemistry are all available to select majors before they are available to the rest of the pre-health student population on campus. A disadvantage of Option A is that there are many other degree requirements for each of the above degrees, and some of these (e.g., genetics, genetics lab, cell biology, molecular biology methods lab, biostatistics, biochemistry lab) present their own access challenges due to high student demand. In addition, because each of the above majors is academically rigorous with a high credit load, students following this path are unlikely to be able to take a significant amount of coursework in other academic areas, such as pursuing minors or a second major.

Option B is pursued by pre-health students at Western who have academic interests and career goals that are better suited by degrees with requirements that align poorly with pre-health requirements. As a result, on top of their major requirements, these students take coursework specific to the particular pre-health track they are following. Pre-health tracks at Western are:

- Pre-Chiropractic
- Pre-Dentistry
- Pre-Medicine
- Pre-Nursing
- Pre-Nutrition
- Pre-Occupational Therapy
- Pre-Optometry
- Pre-Pharmacy
- Pre-Physical Therapy
- Pre-Physician Assistant
- Pre-Veterinary Medicine

These pre-health tracks all require most or all of a year-long series in both introductory biology and general chemistry. Additional requirements and recommendations vary among the pre-health tracks but include microbiology, human anatomy and physiology, human physiology with lab, organic chemistry, and biochemistry. See Table 1 for the requirements and recommendations for each pre-health track at Western.

The main advantage of Option B is that it provides students with tremendous latitude in pursuing a degree that best fits their academic interests and abilities. Another advantage (particularly for pre-med students) is that medical schools often seek to enroll students from a broad array of undergraduate majors, underscoring the importance of a liberal arts education. Indeed, recent Western graduates that go on to medical programs represent a wide variety of majors spanning multiple colleges at WWU. The primary disadvantage of Option B is that these students can typically register for these pre-health classes only after students in majors requiring those courses have already registered. Consistently high enrollment demand by majors with high enrollment priority makes it very difficult for Option B students to gain entry into these courses, resulting in increased time to degree and associated costs for these students.

Context: Equity and Inclusion in Healthcare Professions:

Although diversity in allied health professions has increased over the last 15 years, most racial and ethnic groups remain underrepresented across allied health professions or are well represented only in low-paying positions in allied health. Barriers to improving equity and inclusion in allied health are many, but at the baccalaureate level, oft-cited barriers include inadequate academic preparation, limited awareness of healthcare career options, and challenges in financing a college education. Similar difficulties plague efforts to improve diversity in STEM fields. Transfer students, about 45% of whom at Western are first generation college students, encounter similar challenges.

At Western, student diversity continues to increase; last year, 30% of new freshmen at WWU were the first in their family to attend college and 25% identified as students of color. This trend is mirrored in recent shifts in the demographic composition of pre-health students at Western. Today, 39% of WWU’s incoming pre-health students are students of color, up from 31% in the 2008-09 academic year. During this same period, pre-health students have increasingly come from financially disadvantaged families; nearly 29% of pre-health students were Pell eligible in 2017-18 compared to just over 11% a decade ago. In addition, nearly 34% of incoming pre-health students in 2017-18 were transfer students, which is double the percentage from 2008-09. Because pre-health students at Western have become more racially and ethnically diverse, are more financially disadvantaged, and are more likely to be transfer students, WWU is in an excellent position to address equity and inclusion issues relating to allied health careers.

Context: Advising Challenges for Pre-Health Students at Western:

The dramatic recent growth in the number and diversity of pre-health students at Western has overly strained the advising resources available to these students, impacting the ability of departments to provide effective strategies for registering for pre-health courses, and to plan annual course schedules in anticipation of expected changes in the needs of pre-health students. Another challenge is that we currently lack the personnel power to be able to track the success of pre-health students, which is critical if we are to identify areas where new policies and procedures would better serve students from all backgrounds. Furthermore, the current pre-health advising staff is able to coordinate a modest number of internships with area healthcare providers (via Peace
Health Medical Center and Sea-Mar Community Health Centers, in particular, but there are many unexploited internship opportunities that, if developed, would benefit our students, serve local employers, and strengthen ties between WWU and the community. Such opportunities include internships with local physical therapists, dentists, and veterinarians.

Why Fund this Proposal Now?:

Enrollment pressures on multiple courses in Biology and Chemistry have recently intensified to the point that we cannot meet current and future student demand. This has happened in part because of the growth of student interest in pre-health careers and a general increase in student demand in STEM majors at Western. Access challenges for pre-health students are acute, hindering an increasingly diverse and financially disadvantaged population of students from graduating in a timely fashion. Solving this interconnected set of challenges also helps address an increasingly acute statewide shortage of healthcare providers.

Overview of Proposed Solution:

This proposal would give pre-health students at WWU – regardless of their major – timely access to pre-health courses in Biology and Chemistry that currently create bottlenecks and delay graduation. It would also enable Western to establish a new streamlined degree (Biochemistry BA) that meets pre-medicine, pre-dentistry, and pre-pharmacy requirements, particularly benefiting transfer students. Through these changes, we anticipate an increase of 70 more pre-health and STEM graduates per year. To accommodate the recent and anticipated increase in the number and diversity of pre-health students at Western, this proposal would also enhance WWU’s capacity for pre-health advising and support.

Increasing Course Access and Enhancing Advising Capacity for WWU Pre-health Students:

This proposal has several interconnected elements that will substantially improve the options available to pre-health students at Western, increasing course access for such students, improving advising and support services, and reducing their times to graduation. The specific benefits are described below.

- Provides the instructional and advising resources needed to support the large increase in WWU students interested in allied health careers, which exceeds our current capacity.
- Addresses the critical state need for more qualified health professionals by dovetailing with recent state investments to increase capacity for advanced degrees in allied health both at UW (via WWAMI) and at the new WSU medical school.
- Provides greater capacity in Biology and Chemistry courses that serve the needs of pre-health students in all majors on the WWU main campus (see Table 2), resulting in 70 more pre-health and STEM graduates per year. The majority of these courses is required for at least some pre-health tracks. Those courses that are not required for pre-health tracks are currently experiencing enrollment bottlenecks in majors that align well with the pre-health requirements. Increasing access in these courses requires additional faculty and technical staff positions.
- Provides greater capacity in supporting courses in Math and Physics that will be impacted by reducing bottlenecks in Biology and Chemistry.
- Creates an interdisciplinary bachelor’s degree (B.A.) in Biochemistry that provides a 2-year degree completion option for transfer students as well as WWU students who matriculate as freshmen and move into a pre-medicine or pre-pharmacy track after their first year. The initial enrollment target for this major is up to 32 students per year. The capacity needed for this degree will be created by the increases shown in Table 2.
- Increases opportunities for undergraduate students to engage in high-impact experiences that result from doing research in Biology and Chemistry faculty research labs.
- Provides increased pre-health advising capacity to improve students’ entry into the courses they need for their programs of study, to help them find internships with healthcare providers in the community, to monitor their progress to degree, and to track their career paths after graduation.

<table>
<thead>
<tr>
<th>Biology</th>
<th>Chemistry</th>
<th>Capacity Increase (Students/YR), by Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>fIntro Bio I  (204)</td>
<td>96</td>
<td>fGen Chem I (161)</td>
</tr>
<tr>
<td>fIntro Bio II (205)</td>
<td>96</td>
<td>fGen Chem II (162)</td>
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<tr>
<td>Intro Bio III (206)</td>
<td>96</td>
<td>fGen Chem III (163)</td>
</tr>
<tr>
<td>fGenetics (323)</td>
<td>80</td>
<td>f**Analytical Chem (333)</td>
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<tr>
<td>Genetics lab (322)</td>
<td>32</td>
<td>fOrganic Chem I (351)</td>
</tr>
<tr>
<td>**Cell Bio (323)</td>
<td>80</td>
<td>fOrganic Chem II (352)</td>
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<tr>
<td>**Methods in Molec Bio (324)</td>
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</tr>
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<td>fEcology (325)</td>
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<tr>
<td>Bio-statistics (340)</td>
<td>40</td>
<td>Organic Chem Lab II (356)</td>
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<tr>
<td>Microbiology (345)</td>
<td>40</td>
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<tr>
<td>Microbiology lab (346)</td>
<td>30</td>
<td>fBiochemistry II (472)</td>
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<tr>
<td>Human A&amp;P (348)</td>
<td>200</td>
<td>f**Molecular Biology (473)</td>
</tr>
<tr>
<td>Human Phys, w/ lab (349)</td>
<td>80</td>
<td>fBiochemistry Lab (474)</td>
</tr>
<tr>
<td>fEvolutionary Biology (432)</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

fCourses that would be required in the new Biochemistry BA degree program.

*Courses that are not required by pre-health tracks. These courses currently create access challenges for students in some of the majors that align well with pre-health requirements (Behavioral Neuroscience, Biology/Anthropology, Biochemistry).

Improving Equity and Inclusion for Pre-Health and STEM Students at Western:
Western has a proven track record of recognizing and responding to the changing educational needs of students that are driven by shifts in diversity, financial status and other forms of familial support of academic pursuits. Indeed, WWU is a national leader in STEM educational reform at the college level, including providing professional development opportunities in which STEM faculty learn best practices for student-centered, inclusive teaching and placing a premium on hiring new faculty members who have had extensive pedagogical training. Because of its successes and leadership in transforming STEM education, Western was one of 24 institutions in the country to be awarded a 5-year, $1M Howard Hughes Medical Institute (HHMI) “Inclusive Excellence” award (2017-2022) \[11\]. Through the HHMI award, WWU faculty have developed a model in which diverse STEM students’ progress as a cohort through a series of first-year courses designed to increase their success at Western by building study skills as well as abilities in communication, quantitative reasoning, and critical thinking.

This proposal would improve equity and inclusion for pre-health and STEM students at Western by:

- Reducing times to degree for pre-health students, thereby reducing the cost of their education.
- Establishing a series of first-year courses for diverse cohorts of pre-health students at Western, patterned after the HHMI Inclusive Excellence cohort courses being piloted this year.
- Increasing our capacity for advising and supporting pre-health students, including having pre-health advisors meet with pre-health cohorts in their first-year seminar courses to discuss options for careers in healthcare.
- Creating more opportunities for students to join faculty research labs and to intern with area healthcare providers, giving more students the sort of high-impact learning experiences that have been shown to improve retention and graduation rates \[12\].
- Creating new faculty and staff positions that can serve as role models and mentors to students.

In order to be effective in expanding prehealthcare capacity, this proposal requires 12 new tenure-track positions (6 in Biology and 6 in Chemistry), one new non tenure-track position in Biology, new technical and advising staff and graduate TA lines in each department, and new campus-wide pre-health advising staff.

Personnel:

Faculty: Biology and Chemistry need a sizable influx of new faculty members with a wide array of collective expertise to enable increased enrollment in the many bottleneck courses (Table 2) that support pre-health students and that support the other pinch point courses affecting students in Behavioral Neuroscience, Biology/Anthropology, and Biochemistry (majors with requirements that align well with pre-health requirements). Total needed for Biology: 6 tenure-track faculty lines and 1 non-tenure-track line, distributed across several subdisciplinary areas. Total needed for Chemistry: 6 tenure-track faculty lines: 3 in biochemistry and 3 distributed across other disciplines that support the prerequisite general, organic, and analytical chemistry curriculum. These positions would also enable Western to cover the instructional needs for pre-health seminar courses for first-year cohorts. In addition, WWU would need 1 new tenure-track line in Math and 1 in Physics to meet the increased demand in the introductory courses in these departments that would result from reducing course bottlenecks in Biology and Chemistry.

Staff: Due to the combined effects of staff cuts made during the recession and increasing enrollment pressures since the recession, Biology and Chemistry are stretched thin in terms of both advising staff and technical staff to support labs, to the point that the departments lack staff capacity to support the changes described in this proposal; thus, funding is requested for 7.0 FTE in staff positions. Specifically, the proposal includes 1.25 FTE in each department for additional advising/admin/fiscal support,1.0 FTE technical lab support in Biology and 0.5 FTE for Chemistry, 1.0 FTE for equipment/ instrument maintenance (to be shared across both departments) to support the additional lab sections needed to expand capacity as described in this proposal, and 0.5 FTE to support lab safety and compliance (also to be shared across both departments). In addition to these new departmental staff positions, the proposal includes1.5 FTE for increased capacity for pre-health advising (in Academic Advising).

Graduate Students: To support the increased enrollment in lab courses, the proposal also includes 4 new graduate TA positions in the Biology and Chemistry departments

New equipment or other one-time costs:

To outfit new upper-division lab courses, the proposal includes $450,000 for equipment and instrumentation. These funds will enable WWU to fully equip three new teaching labs ($150,000 in equipment/instrumentation per teaching lab) to increase the number of available sections of Biology 322 (Genetics lab), Biology 324 (Methods in Molecular Biology), and Chemistry 474 (Biochemistry lab). Startup of approximately $150,000 per new tenure-track faculty member (14 total) would also be needed.

Recurring operating costs:

The proposal includes $30,000 annually in the Biology and Chemistry departments to meet increased financial demands due to increased student access and new faculty hires. Such demands include maintaining teaching lab safety in courses with growing enrollment, supporting existing teaching lab equipment and instrumentation that will be subject to greater wear and tear, purchasing an increased volume of office supplies, and increasing departmental support of faculty mentorship of student research.

If this proposal is not funded, pre-health students at Western will continue to face access challenges to required courses in Biology and Chemistry. Given recent trends, it is likely that these challenges will become more severe due to growing student numbers in STEM majors and increasing interest in careers in allied health. As a result, times to graduation for pre-health students will grow longer, making it harder for families to afford higher education. Without an increase in instructional and advising capacity, WWU’s Biology and Chemistry departments will be forced to turn away more students – a solution that is directly in opposition to Western’s goals of serving the needs of all students. For these reasons, there are no suitable alternatives.
Assumptions and Calculations

Expansion or alteration of a current program or service:
Not applicable

Detailed assumptions and calculations:
To outfit new upper-division lab courses, the proposal includes $450,000 for equipment and instrumentation. These funds will enable WWU to fully equip a new cellular/molecular biology instructional lab, new genetics lab, and new biochemistry lab ($150,000 per lab). Startup of approximately $150,000 per new tenure-track faculty member (14 total) is also included in the proposal.

See attached spreadsheet.

Workforce Assumptions:
The link between the requested faculty (Tenure Track and Non Tenure Track) and graduate TA lines in Biology and Chemistry and the additional capacity for specific courses in those departments is shown in the attached Excel file. That file also explains how new staff would be distributed within Biology, Chemistry, and Pre-health Advising, and summarizes why those lines are needed.

See attached spreadsheet.

Strategic and Performance Outcomes

Strategic framework:
This proposal provides essential support for several statewide priorities:

1. Economy – this proposal directly addresses the goal of supporting the expansion of a skilled Washington workforce. More specifically, the job sector growth afforded by this proposal would be in one of the key areas identified by the Governor: Life Sciences and Global Health.
2. Education – this proposal would expand Western’s capacity to serve the educational needs of pre-health students who major in a wide variety of disciplines. More generally, it addresses the Governor’s goals of supporting STEM education and reinvesting in higher education.
3. Health Care and Human Services – this proposal would address the growing need for trained healthcare professionals in Washington, helping to address the Governor’s desire to increase the availability of affordable health care throughout the state.

This proposal also provides essential support for two of the Governor’s Results Washington priorities:

1. World-class education – this proposal would expand Western’s capacity to serve the educational needs of pre-health students who major in a wide variety of disciplines.
2. Healthy, safe communities – this proposal would address the growing need for trained healthcare professionals in Washington.

Specifically, the proposal will address the following Results Washington postsecondary education goals:

1.3.b Increase the number of students who are enrolled in STEM;
1.3.d Increase the number of graduates in STEM;
1.3.f Increase the number of students enrolled in STEM and high-demand employment programs, including the allied health professions;
1.3.h Increase the number of graduates in STEM and identified high-demand employment programs; and
1.3.i Increase percentage of postsecondary graduates from 4-year colleges who during the 4th quarter after graduation are either enrolled in post-secondary education or training or are employed in Washington.

By enabling an increased number of trained healthcare professionals, this package would also address the majority of Results Washington priorities related to Healthy, Safe Communities.

This decision package also supports WWU’s Strategic Plan in the following ways:

1A) Strengthen the liberal arts and sciences foundation to ensure and expand access to the breadth of our undergraduate, graduate, and professional programs.
- This proposal expands access to high-demand STEM courses and to Biology and Chemistry minors for the campus community; and
- Provides clear paths to high demand professional careers.

1B) Provide tools and experiences for all students to follow their intellectual curiosity, to work across disciplines, and to develop the skills, knowledge, and habits of mind that will enable them to effectively contribute to evolving societal needs.
- This proposal provides improved options for pre-health students at Western, giving them more flexibility in pursuing degrees that align with their academic interests without jeopardizing their aspirations for a career in healthcare; and
- Serves the growing critical healthcare needs of the state through the education and training of future healthcare professionals.

1C) Increase support and infrastructure for all types of scholarship, research, and creative activity, and...
1D) Ensure that all students have access to high quality educational experiences beyond the classroom.
- This proposal increases the number of tenure-track faculty in Biology and Chemistry, creating more opportunities for students to engage in highly impactful faculty-mentored research; and
- Increases number of internships available via area healthcare providers.

2F) Give all students educational experiences both in and beyond the classroom that help them develop the knowledge, skills, and abilities to nurture and create the conditions for people and planet to thrive, and...
2G) Increase engagement between Western and local communities, and...
3C) Enhance student services and co-curricular opportunities to foster students’ intellectual, personal, and professional development and success.
- This proposal builds stronger connections with the community by expanding the capacity of pre-health advising to cultivate and administer new opportunities for student/healthcare provider partnerships.

4A) Foster a positive and collaborative campus climate, including the physical environment, that welcomes and affirms the diversity of individuals, groups, cultures, and ideas, and...
4B) Establish, fund, and sustain practices of self-examination and continuous improvement to identify, understand, and remediate structural injustices and inequities at Western, and...
4C) Recruit, retain, and support more underrepresented and first-generation students at the undergraduate and graduate levels, and...
4E) Increase affordability of and access to high quality undergraduate and graduate education at all Western locations.
- This proposal promotes greater equity and inclusion in STEM by reducing time to degree for students interested in healthcare professions, by increasing our capacity to advise students as they work toward their degrees, and by increasing the capacity for biochemistry degrees, which is currently capped (32 students/year) well below the demand for the degree program (50 applicants in 2017); and
- Builds on initiatives begun under the competitive HHMI “Inclusive Excellence” grant award that WWU recently received, geared toward fostering greater inclusion of under-represented groups among the graduates in STEM fields; and
- Provides a B.A. Biochemistry degree option with a shorter path to completion than the current B.S. Biochemistry degree (the B.A. will have four fewer sequential requirements); specifically, this will create a viable 2-year degree completion option for transfer students with an interest in postgraduate healthcare programs.

Performance outcomes:
Specific performance outcomes and results for this proposal include:
- Increased number of pre-health graduates per year.
- Reduced time to degree for students requiring STEM coursework.
- Reduced time to degree for transfer students interested in healthcare professions.
- Reduction/elimination of waitlists for high demand courses listed above.
- Increased capacity for minors in STEM disciplines.
- Increased capacity for graduates with biochemistry degrees.
- Improved advising to support student success.
- Improved support for all pre-health students, including historically underserved populations.
- Increased number of STEM graduates from historically underrepresented groups as a result of increased capacity in (a) STEM courses, (b) first-year cohorts, (c) research opportunities, (d) internships with healthcare providers and (e) biochemistry degrees.

Undesired results that will be reduced, eliminated, or mitigated from this proposal include:
- Increased time to degree
- Increased withdrawal rates
- Increased waitlists for high-demand courses
Efficiency will increase via:

- Increased access to courses and improved advising, lowering time to degree.

Incremental performance metrics will include:

- Enrollment and demographic data for students in:
  - courses identified in this proposal
  - pre-health tracks
  - the new Biochemistry BA degree
- Waitlists in courses identified in this proposal
- Time to degree for pre-health students (parsed into transfer vs. matriculated as freshmen)
- Time to degree for students enrolling in the new Biochemistry BA program (parsed into transfer vs. matriculated as freshmen)
- Number of pre-health students engaged in internships with healthcare providers.
- Number of students engaged in research with faculty in Biology and Chemistry.

Other Collateral Connections

Intergovernmental:
This proposal will help ensure that advanced degree programs in healthcare at UW, WSU, and other institutions will have increased numbers of highly-qualified, diverse applicants.

Stakeholder response:
This proposal supports current ongoing efforts at WWU to promote greater inclusion and equity in higher education (e.g., closing the achievement gap between majority and underrepresented groups; the Howard Hughes Medical Institute “Inclusive Excellence” award). In addition, by improving our capacity to help students find internships with area healthcare providers, the proposal will strengthen ties between Western and the community.

Legal or administrative mandates:
This proposal was not written in response to litigation, an audit finding, executive order, or task force recommendations.

Changes from current law:
This proposal will not require changes to existing statutes, rules or contracts. Approval for a new degree program (B.A., Biochemistry) will be required. This will be pursued under existing policies.

State workforce impacts:
No such impacts are anticipated.

State facilities impacts:
This proposal is paired with a phased capital project request to be submitted for the 2019-21 biennium that, if funded, would provide the necessary space to accommodate these new hires and would provide instructional labs needed to increase course access.

Puget Sound recovery:
This proposal is not related to Puget Sound recovery efforts.

Reference Documents

- Expanding Prehealthcare Capacity.xlsx

IT Addendum

Does this Decision Package include funding for any IT-related costs, including hardware, software, (including cloud-based services), contracts or IT staff?
No
Agency Recommendation Summary

This proposals seeks to help feed the workforce for Washington’s clean energy economy, bolster sustainability and entrepreneurship initiatives by creating a BS degree in Energy Science and Technology as part of WWU’s Institute for Energy Studies (IES). The proposal would also reduce STEM bottlenecks and student access issues, and expand energy research and outreach by hiring new faculty who would both support the new program and work in existing departments, including engineering, physics, geology, environmental science/studies and management. This proposal will add faculty expertise in building science, energy efficiency, electric power and utility planning, as well as support place-bound students on the Peninsulas and transfer students from 2-year colleges.

Fiscal Summary

<table>
<thead>
<tr>
<th>Object of Expenditure</th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>FY 2022</th>
<th>FY 2023</th>
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<td>$530</td>
<td>$1,098</td>
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Package Description

The WWU Institute for Energy Studies (IES) addresses the critical need, here in Washington, for postsecondary degrees that combine the fields of science, technology, economics, business management and public policy to prepare the next generation of leaders and managers for a rapidly evolving energy sector.

Data confirm the need for a trained clean energy workforce in the state. Today, Washington employs over 117,000, or 3.4% of the total state workforce, in energy, as shown in Table 1. Also, more than 70% of employers in both energy efficiency and electric power generation report difficulty hiring employees for their workforce.

Table 1. Current Washington energy employment, total jobs and percentage of Washington workforce

<table>
<thead>
<tr>
<th>Category</th>
<th>Total Jobs</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Efficiency</td>
<td>62,519</td>
<td>1.8%</td>
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<tr>
<td>T&amp;D+storage</td>
<td>31,930</td>
<td>0.9%</td>
</tr>
<tr>
<td>All renewable</td>
<td>12,272</td>
<td>0.4%</td>
</tr>
<tr>
<td>All fossil</td>
<td>6,262</td>
<td>0.2%</td>
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<tr>
<td>Nuclear</td>
<td>281</td>
<td>0.0%</td>
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<tr>
<td>All other</td>
<td>3,787</td>
<td>0.1%</td>
</tr>
<tr>
<td>All energy</td>
<td>117,051</td>
<td>3.4%</td>
</tr>
</tbody>
</table>

Preparing graduates to enter the workforce in clean energy is not simply a matter of expanding our traditional academic programs. According to national and regional industry leaders, policy makers, business owners and innovators, emerging clean energy engineers, scientists, and the business workforce need to better understand energy policy. Policy makers and entrepreneurs need to understand the science and technology on which the industry is based. And all professions need to understand principles of economics and business management. To meet this need,
the IES is building a comprehensive, interdisciplinary energy program for undergraduate students, unique in the country, that can distinguish WWU among its peers and help make Washington a leader in this pivotal field.

The timely problem and opportunity is the need to provide a unique, interdisciplinary energy curriculum for undergraduate students by adding faculty resources to enable WWU to offer a Bachelor of Science (BS) degree in Energy Science and Technology. The curriculum is designed in collaboration with the Institute for Energy Studies advisory board (IES), consisting of regional experts from private, public, and non-profit sectors, to meet workforce needs in Washington’s emerging clean energy economy. IES advisory board members have made it clear that an interdisciplinary approach to educating energy-sector employees is required, to supply the skills needed in today’s market. Also, campus-wide survey work concluded that an energy-focused undergraduate program at WWU would a good fit for potential majors and minors.

Today, student interest is demonstrated by the growing enrollment in all of our energy programs. Our existing programs include about 32 courses offered under the ENRG (Energy) rubric. Enrollment is currently about 30 students in the energy BA, 24 students in the Electrical Engineering (EE) BS, 15 students in the new Business & Sustainability BA, and 6 students in self-designed majors. Additionally, approximately 42 students are enrolled in the Energy Policy and Energy Science minors. Most ENRG courses are at or near capacity and ever more students are seeking an energy BS degree option. To date, a self-designed BS through the Husky College of the Environment is the only option for students to pursue a BS in the energy field. Some students opt for the BA, some try EE but don’t get accepted, and others look elsewhere.

In order for Western to continue preparing students for careers in the emerging clean energy economy, the near essential step is to add a BS degree in Energy Science and Technology, with course offerings on topics such as building science, energy efficiency, and renewable power systems, based on the IES advisory board’s recommendations. The expanded curriculum will fill knowledge and skill gaps in the key half of the energy system, the demand-side, where capturing the energy efficiency resource is a growing business opportunity and an urgent environmental imperative, especially in the Pacific Northwest. As shown in Figure 1, the addition of the BS degree will fill the key gap to complete our “portfolio” of interdisciplinary degrees in energy systems.

The purpose of this initiative is to continue building a unique, interdisciplinary undergraduate curriculum in energy studies, adding the in-demand BS degree, and expanding energy-related research and outreach to the campus and broader community. It will build on the existing BA degree in Energy Policy & Management, the energy concentrations in Electrical Engineering (EE) and Business & Sustainability, and minors in Energy Science and Energy Policy. Funding this proposal will also add faculty expertise in fields such as building science, energy efficiency, electric power and utility planning.

To realize the BS degree in Energy Science and Technology, we also need to reinforce the educational infrastructure in related disciplines, especially STEM fields such as physics, geology, environmental sciences and engineering, which provide key prerequisite courses. Meanwhile, the introduction of new courses with interdisciplinary energy content, plus the addition of a Management faculty position, provide a timely opportunity to introduce energy management and planning content into the growing WWU programs in Business & Sustainability and in Entrepreneurship & Innovation.

Consultation with industry advisors on the IES advisory board identified key fields where Western should add faculty expertise: electric power systems, building energy science, fuel energy resources, energy policy, and energy/carbon management. They also observed opportunities to link with on-going activities in WWU’s Advanced Material Science & Engineering (AMSEC) program and new programs such as Entrepreneurship & Innovation. Based on this input, this proposal would supply the needed faculty to these fields as follows:

- Physics or chemistry professor, shared with the AMSEC program, for energy processes and materials and prerequisite courses in energy systems science
- Geology professor for science of geothermal and fuel energy resources
- Electrical Engineering professor for major and prerequisite courses in electric energy and internet-of-things, which links to buildings and controls
- Environmental Engineering professor for building science and energy/carbon management
- Environmental Studies professor for energy policy and link to Business & Sustainability
- Management professor for energy/carbon management, and link to Business & Sustainability and Entrepreneurship & Innovation programs

This initiative supports the global clean energy transition and the need for deep decarbonization economy-wide, which comprise a transformational, “Grand Challenge” of our time. Closer to home, it will prepare graduates to meet the future workforce needs of Washington’s emerging clean energy economy. We are building a comprehensive, interdisciplinary energy program for undergraduate (and Masters) students, which can distinguish WWU among its peers and help make Washington a leader in this pivotal field.

The IES is also unique in that it has a focus on energy efficiency as a resource at the undergraduate level, beyond the level of technical colleges (who provide relevant instruction on HVAC and other efficiency-related topics). WWU’s IES is an emerging leader in serving Washington’s clean energy workforce at a professional/managerial level for the largest energy employer, building our largest clean energy resource (and supporting energy, economic and climate security).

The proposed decision package is the best option to address the current need, because the requested faculty resources would address multiple key goals, including the following:

- Complete the needed BS degree in Energy Science and Technology
- Continue building an integrated curriculum in interdisciplinary energy studies
- Relieve bottlenecks in key STEM fields and expand STEM education in Washington
- Help meet the future workforce needs of Washington’s emerging clean energy economy
- Expand energy-related research and outreach to the campus and broader community
- Provide a foundation for future graduate degrees in the energy field
The groups that would benefit from fulfilling this proposal include the following:

- Undergraduate students: The in-demand BS degree in Energy Science and Technology would be available, and there would be additional access to key (mostly STEM) prerequisite and major courses.
- Potential graduate students: New TA-ships would be available and additional research areas would be opened; future graduate degrees in energy would become a possibility.
- Current WWU faculty: New colleagues would bring additional expertise and collaboration potential, and would help meet demand for in-demand courses, such as STEM prerequisites.
- Non-tenure-track instructors: Demand for these instructors would be diminished somewhat.
- Current staff: Increasing administrative workloads would be supported better.
- Current and future Washington State employers seeking qualified professionals.

The requested faculty positions will enable WWU to establish a BS degree in Energy Science and Technology, increase enrollment in the other majors, minors and concentration, and add sections of required and STEM prerequisite courses. As of Spring 2018, WWU energy program enrollment is approximately:

- 30 students in the Energy Policy & Management BA, 7 graduating
- 24 students in the energy concentration in Electric Engineering BS, 8 graduating
- 15 students in the new energy concentration in Business & Sustainability BA
- 6 students in self-designed energy majors via Huxley College, 2 graduating
- 30 students in Energy Policy minor, 11 graduating
- 12 students in Energy Science minor, 5 graduating

The needed resources to establish a BS degree in energy, support STEM access and expand energy research and outreach is six full-time, tenure-track faculty instructors in engineering, physics, geology, environmental science, environmental studies and management. Like all Institute for Energy Studies faculty hired to date, each would be 50% in ENRG and 50% in a “home” department.

Today, student interest is demonstrated by the growing enrollment in all of our energy programs, which is occurring despite the relative lack of visibility of an interdisciplinary program that lacks the reputation and outreach infrastructure of an established college. More specifically, we are seeing more students express interest in an energy BS degree, and some are realizing this interest now and 50 years from now.

Note that the proposed 2013 decision package requested two more faculty positions (in engineering and physics) than were actually funded at that time. WWU still needs at least these two positions to have the minimum necessary resources to establish a BS degree in Energy Science and Technology. However, adding only these two positions to complete the energy BS degree would limit our ability to cover the needed prerequisite courses, to fully develop the BS degree, to enable potential graduate degrees, and to capture new opportunities in academic programs, research and outreach. It would also require heavy reliance on non-tenure-track instructors for core courses. We are recruiting some such instructors and, so far, it has proven challenging to recruit qualified NTT instructors who can base in Bellingham to teach in the program.

In 2009, WWU’s Provost coordinated a faculty taskforce to explore the student interest and feasibility of establishing an energy curriculum on campus. Part of this effort involved a 2010 planning workshop, comprised of local and national energy experts, to advise Western regarding how an interdisciplinary energy curriculum could meet the workforce needs of the energy sector now and 50 years from now.

As of Spring 2018, WWU energy program enrollment is approximately:

- 12 students in Energy Science minor, 5 graduating
- 30 students in Energy Policy minor, 11 graduating
- 6 students in self-designed energy majors via Huxley College, 2 graduating
- 30 students in the Energy Policy & Management BA, 7 graduating

The hiring process for the new faculty positions and the staff position would begin as soon as possible, starting in fall 2019, with the goal of having most or all the new hires on board by fall 2020. The TA positions would begin in fall 2019 and fall 2020. As noted above, once the new faculty are in place, we anticipate producing about 30 graduates per year in the new BS degree and the existing BA degree, and an average of about 24 students per year in each of the two minors, and a similar number in each of the two energy-related concentrations. In addition, the new faculty would enable teaching about 12 additional courses per year in (mostly STEM) prerequisites and General University Requirement courses to better serve students and reduce their time to degree.

The groups that would benefit from fulfilling this proposal include the following:

- Non-tenure-track instructors: Demand for these instructors would be diminished somewhat.
- Current WWU faculty: New colleagues would bring additional expertise and collaboration potential, and would help meet demand for in-demand courses, such as STEM prerequisites.
- Undergraduate students: The in-demand BS degree in Energy Science and Technology would be available, and there would be additional access to key (mostly STEM) prerequisite and major courses.
- Potential graduate students: New TA-ships would be available and additional research areas would be opened; future graduate degrees in energy would become a possibility.
- Current WWU faculty: New colleagues would bring additional expertise and collaboration potential, and would help meet demand for in-demand courses, such as STEM prerequisites.
- Non-tenure-track instructors: Demand for these instructors would be diminished somewhat.
- Current staff: Increasing administrative workloads would be supported better.
- Current and future Washington State employers seeking qualified professionals.

The requested faculty positions will enable WWU to establish a BS degree in Energy Science and Technology, increase enrollment in the other majors, minors and concentration, and add sections of required and STEM prerequisite courses. As of Spring 2018, WWU energy program enrollment is approximately:

- 30 students in the Energy Policy & Management BA, 7 graduating
- 24 students in the energy concentration in Electric Engineering BS, 8 graduating
- 15 students in the new energy concentration in Business & Sustainability BA
- 6 students in self-designed energy majors via Huxley College, 2 graduating
- 30 students in Energy Policy minor, 11 graduating
- 12 students in Energy Science minor, 5 graduating

Addition of the new faculty hires from the proposed decision package will enable WWU to produce about 30 graduates per year in both the new BS degree and the existing BA degree, an average of about 24 students per year in each of the two minors, and a similar number in each of the two energy-related concentrations. In addition, the new faculty would enable teaching about 12 additional courses per year in (mostly STEM) prerequisites and General University Requirement courses to better serve students and reduce their time to degree.

The needed resources to establish a BS degree in energy, support STEM access and expand energy research and outreach is six full-time, tenure-track faculty instructors in engineering, physics, geology, environmental science, environmental studies and management. Like all Institute for Energy Studies faculty hired to date, each would be 50% in ENRG and 50% in a “home” department.

Today, student interest is demonstrated by the growing enrollment in all of our energy programs, which is occurring despite the relative lack of visibility of an interdisciplinary program that lacks the reputation and outreach infrastructure of an established college. More specifically, we are seeing more students express interest in an energy BS degree, and some are realizing this interest now and 50 years from now.

Note that the proposed 2013 decision package requested two more faculty positions (in engineering and physics) than were actually funded at that time. WWU still needs at least these two positions to have the minimum necessary resources to establish a BS degree in Energy Science and Technology. However, adding only these two positions to complete the energy BS degree would limit our ability to cover the needed prerequisite courses, to fully develop the BS degree, to enable potential graduate degrees, and to capture new opportunities in academic programs, research and outreach. It would also require heavy reliance on non-tenure-track instructors for core courses. We are recruiting some such instructors and, so far, it has proven challenging to recruit qualified NTT instructors who can base in Bellingham to teach in the program.

In 2009, WWU’s Provost coordinated a faculty taskforce to explore the student interest and feasibility of establishing an energy curriculum on campus. Part of this effort involved a 2010 planning workshop, comprised of local and national energy experts, to advise Western regarding how an interdisciplinary energy curriculum could meet the workforce needs of the energy sector now and 50 years from now.

One of the questions the group addressed was whether a combination of minors or technical certificates would meet industry needs, and the overwhelming response was that it would not. The consensus from this meeting was that other options might meet some technical needs (e.g., a technical certificate in wind power) but would not provide the workforce need for managers and analysts with a broad and deep understanding of the energy sector that includes science, technology, and policy. WWU now has in place a BA degree in Energy Policy and Management, plus, two minors and two concentrations, and the essential next step in order to continue preparing students for the workforce is a BS degree in Energy Science and Technology.

Additionally, a 2011 survey of student interest in energy classes and majors revealed strong demand for general energy education. The survey included all sophomores and all graduating seniors. Analysts with a broad and deep understanding of the energy sector that includes science, technology, and policy. WWU now has in place a BA degree in Energy Policy and Management, plus, two minors and two concentrations, and the essential next step in order to continue preparing students for the workforce is a BS degree in Energy Science and Technology.

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Additionally, a 2011 survey of student interest in energy classes and majors revealed strong demand for general energy education. The survey included all sophomores and all graduating seniors. Survey results showed that an overwhelming majority (75% – 80%) of those who responded (n=500) indicated that an energy-related program was a good fit for WWU and would be, or would have been, of interest to the student as a primary degree or minor. The proposed positions will bolster WWU’s capabilities in general energy education, for example, helping provide energy-related skills to WWU’s prestigious annual contingent of Peace Corps volunteers.

Today, student interest is demonstrated by the growing enrollment in all of our energy programs, which is occurring despite the relative lack of visibility of an interdisciplinary program that lacks the reputation and outreach infrastructure of an established college. More specifically, we are seeing more students express interest in an energy BS degree, and some are realizing this interest via a self-designed BS through Huxley College.

As we have worked to build and expand the program, several attempts have been made to secure internal funding to support the addition of new faculty lines in the IES. To date, however, internal funding has not been available to accomplish the needed expansion.

The consequences of not funding this package are significant. Western would not be able to offer the interdisciplinary BS degree that stakeholders have identified as a key to our state’s ability to fully capitalize on the opportunities presented by the emerging clean technology / green energy economy. The best-case scenario would be a 2-4 year delay in offering the needed BS degree.
Failure to support the program now will also reduce Western's ability to continue leveraging private funding to help build the energy program and complete the integrated curriculum. Current industry stakeholders have made substantial gifts to help establish the program, and they are expressing interest in continuing to provide private support to the program in the future. These partners see their potential investment as part of a private-public partnership to help shape and guide the future of our state’s economy.


Assumptions and Calculations

Expansion or alteration of a current program or service:
Not applicable

Detailed assumptions and calculations:
See attached spreadsheet

Workforce Assumptions:
See attached spreadsheet

Strategic and Performance Outcomes

Strategic framework:
This proposal directly addresses the strong STEM focus of the postsecondary goals in the Governor’s World Class Education-Goal Map, by enabling an innovative, new STEM degree program and adding capacity for STEM prerequisite courses and other STEM majors. More specifically, the IES targets workforce needs of Washington’s clean energy economy, which is also at the top of the Governor’s Results Washington priority list.

We are working to expand outreach to regional 2-year colleges to enable diverse transfer students to study energy at WWU, for example via our recently-completed articulation agreement with Bellingham Technical College. Our initiatives to offer an energy minor, and eventually energy majors, via distance learning to place-bound students on the Peninsulas expands STEM access and promotes diversity.

Our interdisciplinary IES programs also improve access by providing clearer context for STEM education than traditional engineering education, as they are designed to relate specifically to students’ perceived future in a decentralized, clean energy economy. By teaching engineering topics like energy efficiency and electric power to student cohorts with intermediate levels of math/science preparation, we are making essential technical and analytic skillsets more accessible to a broader range of aspiring students.

Our stated goal, and emerging impact, is educating students to meet current and future workforce needs of Washington’s emerging clean energy economy, which encompasses the first three central priorities in the Governor’s policy agenda (and the topic of his book!). The Governor’s interest is further demonstrated by his appearance at WWU to keynote the IES’ 2nd Annual Energy Symposium in April 2017, hosted by IES.

WWU University Mission:

The IES contributes to student success and academic achievement, and makes a positive impact in Washington and the world, by implementing an integrated, interdisciplinary curriculum with the appropriate balance between a whole-system perspective and a practical toolkit, using the campus and community as a laboratory to provide practical, relevant, service-oriented experiences, consistent with WWU core values. It contributes to WWU’s inclusive, student-centered university by supporting sustainability initiatives and adding energy literacy to the training of graduates who can put such tools to use in many worthwhile pursuits, including the Washington clean energy workforce.

WWU Strategic Plan Goals:

Expand student access (WWU goal 1A): The proposed faculty will help cover prerequisite STEM courses and ease access issues in STEM majors. Our integrated energy curriculum will foster solid technical, analytic and management tools, and will be accessible to students of diverse backgrounds and preparation levels, who seek practical educational opportunities that specifically relate to their perceived future in a decentralized, clean energy economy. The BS in Energy Science and Technology will be more accessible and flexible than, for example, an engineering degree.
Work across disciplines (1B): The IES is an inherently interdisciplinary, multi-college collaboration that is designed to be interdisciplinary in the right way: broad and deep. To refute the perception (e.g., by employers) of graduates with interdisciplinary majors as generalists, focused on debating problems, not designing solutions, IES programs aim to prepare graduates with solid technical and communication skills, which complement the energy-related expertise needed for the workforce in Washington's emerging clean energy economy. The IES is working, not only across disciplines, but across the traditional structure of the university, to build a program that develops strong analytic skills embedded in broader, system-level understanding and design thinking. This model harnesses the campus and community as a laboratory, via collaboration with campus facilities, local government and energy firms.

Educational experiences beyond the classroom (1D and 2C) and community engagement (2G): The IES leverages strengths of WWU to enable a unique student experience, via our emphasis on collaborative and experiential learning, engaging undergraduates in research, service learning, a global perspective, and a sustainability focus, on-campus and off. In particular, treating the campus and community as our living laboratory for Energy Science and Technology, provides hands-on student involvement in collaborative project work with Facilities Management, the Office of Sustainability and others. The IES’ collaboration with the IDEA Institute’s Entrepreneurship & Innovation program gives WWU students opportunity to support the clean energy transition in Bellingham and surrounding areas, supported by technical tools from IES and managerial and leadership training from the IDEA Institute.

Knowledge and skills for a dynamic world (1E) to create conditions for people and planet to thrive (2F): The IES curriculum, especially the BS degree, is designed to support the future Washington State workforce, which currently needs to bolster its capability to serve a “new energy economy” that emphasizes clean energy sources, energy efficiency, smart systems, and entrepreneurial solutions. Our unique, interdisciplinary model addresses the current and emerging needs identified by our advisory board, based on its members’ extensive experience in industry, government and non-profit sectors, and our shared vision of a transition to a sustainable, efficient, clean energy economy.

Engage respectfully with place (2A) and advance sustainability (2E): While IES studies the entire energy system, which is necessary for understanding energy at a whole-systems level, the topical emphasis in the BS degree courses will be on clean energy solutions such as energy efficiency and integration of renewable energy sources. The contribution of IES to sustainability and the clean energy transition is based on our collaborative work to advance energy efficiency on campus and in the community. While we work locally, the IES curriculum and our collaborative education model aim to build global citizenship and connect individual and business decisions to global impacts, for example via a new IES course in Energy, Climate and Rural Development, which now qualifies as a General University Requirement course.

Performance outcomes:
The expected outcome will be an integrated energy curriculum that is interdisciplinary in the right way: educating graduates to be broad and deep, with solid analytic and communication skills to complement energy-related expertise that regional experts have identified as essential to the workforce needs of Washington’s emerging clean energy economy.

The Institute for Energy Studies advisory board has been very clear that the current model of training and educating energy-sector employees is inadequate, and that an interdisciplinary approach is required to supply the skills needed in today’s market. And while these potential employers appreciate WWU’s well-rounded graduates, they are skeptical of existing interdisciplinary programs and expect deeper technical and business analytic tools in the skillset of graduates, i.e., they want them to be broad and deep.

The proposed faculty capability will enable us to fill this need. The interdisciplinary BS in Energy Science and Technology addresses unmet need for workforce skills identified by our advisory board. It fulfills demand from savvy students who recognize this need and, at present, can undertake a self-designed BS degree through Huxley College as the next-best option for energy students to pursue a BS in energy. We also have graduating students asking about graduate degree options, and a few are pursuing energy-related graduate studies via Huxley College. The new faculty resources will also provide a foundation for building formal graduate degrees in the energy field in the future.

Moreover, the proposed positions will help improve student access in key STEM fields and expand STEM education in the state of Washington. The new BS degree will be a STEM program, with prerequisites in several STEM fields. Adding the proposed faculty resources will relieve bottlenecks in preparing students for advanced STEM and interdisciplinary courses, and build capacity to conduct STEM research and involve undergraduate students in research. Each position will be 50% in a “home” department, most of which are STEM fields, and new faculty would teach courses that ease access issues in prerequisite STEM courses and major requirements.

As the energy program at WWU becomes more complete, we are better able to support place-bound students on the Peninsulas by expanding our course offerings, via distance learning, to Peninsula campuses. They can now access the energy policy minor and could potentially complete our entire degree programs. We can also expand outreach to 2-year colleges (e.g., BTC, SVC, WCC, Shoreline) to build pathways for diverse
students to transfer, adequately prepared, to a 4-year degree program in energy at WWU, for example via a recently-signed articulation agreement with BTC.

The current proposal delivers efficiency by leveraging current WWU capabilities in several innovative ways. It enhances the multi-college collaboration on which the IES is built, and it leverages our model of sharing faculty lines with existing colleges and departments to help relieve bottlenecks in STEM and interdisciplinary coursework. As we build an energy BS degree, we will also expose more science and engineering students to opportunities in, for example, Global Studies or Entrepreneurship & Innovation. While courses in an Energy Science and Technology BS will utilize available resources such as the new Alpha Technologies Electrical Engineering Laboratory, we will also harness our existing physical plant and tap the WWU Facilities Management team to enable hands-on student learning, for example in campus buildings that are in the process of on-going energy efficiency upgrades to the buildings and their equipment.

The proposed decision package helps mitigate undesired effects of the expansion of a new program by providing the resources needed to meet enrollment demand, reduce bottlenecks in key prerequisite courses, and establish a BS degree that completes the energy curriculum “portfolio,” with a degree that students are seeking and our industry advisors are calling for. Our interdisciplinary approach also mitigates the risk of creating yet another academic silo, whose courses are not accessible to most students. Instead, each of our majors and minors draw on tools and methods from at least three different colleges, and most energy courses are designed to be accessible to a range of students with a modest degree of prerequisite course preparation.

Rather than creating a silo, the IES is building bridges across many of the existing academic disciplines at WWU and out into our surrounding community. By combining the proposed technical expertise in the IES with core WWU strengths in collaborative, experiential learning, involving undergraduates in research and community engagement, and innovative approaches to sustainability, we can realize the following key aspirations and linkages:

• Building an undergraduate curriculum that is interdisciplinary in the right way: broad and deep.
• Treating the campus and community as our living laboratory for experiential learning, via hands-on student involvement in projects supporting a campus-wide commitment to sustainability and efficiency.
• Linking to WWU’s Business & Sustainability and Entrepreneurship & Innovation programs, to prepare graduates as founders of new enterprise and disrupters of existing business, while laying a foundation for a future graduate business degree in energy.
• Expanding outreach to WA 2-year colleges (e.g., BTC, SVC, WCC, Shoreline) and supporting place-bound students on the Peninsula campuses via distance learning.
• Innovating in STEM education, i.e. bringing engineering topics like energy efficiency and electric power to student cohorts with intermediate levels of math/science preparation.
• Working to fill the skill gap in the demand-side of the energy system – advancing energy efficiency is a growing business and employment opportunity and urgent environmental imperative.
• Advancing energy literacy and numeracy at all levels of instruction, including preparation of the prodigious annual contingent of WWU Peace Corps volunteers and introducing a general education course in energy for development.

Performance metrics for the existing IES programs are just beginning to emerge. Among our current major, minors and concentrations, only the Energy Policy minor has been in place more than two years. Our existing programs include about 32 courses offered under the ENRG rubric. Recent course enrollment is summarized as follows:

• 2015-16 AY - 478 registrations for energy courses by 339 students
• 2016-17 AY - 688 registrations for energy courses by 457 students
• 2017-18 AY- 891 registrations for energy courses by 557 students
• In total 1,353 individual students registered for energy courses during this timeframe

As noted above, Spring 2018 enrollment in WWU energy programs is approximately:

• 30 students in the Energy Policy & Management BA, 7 graduating
• 24 students in the energy concentration in Electric Energy Engineering BS, 8 graduating
• 15 students in the new energy concentration in Business & Sustainability BA
• 6 students in self-designed energy majors via Huxley College, 2 graduating
• 30 students in Energy Policy minor, 11 graduating
• 12 students in Energy Science minor, 5 graduating

For the proposed program expansion, the initial metrics will include the following:

• Courses offered and students registered in energy courses generally, and especially in the new BS courses in building science, energy efficiency, renewable energy, electricity systems and utility planning, etc.
• Students enrolled and graduating in the BS in Energy Science and Technology (30 per year expected)
• Incremental enrollment in existing energy (ENRG) courses, majors, minors and concentrations

Longer-term performance will be based on the following metrics, once an IES alumni tracking function has been established:

• Students placed in energy-related internships before and after graduation
• Graduates employed in energy-related positions, including throughout Washington State
• Graduate employment, accomplishment and satisfaction after 5 years

Other Collateral Connections

Intergovernmental:
While the main activity of the IES is education of undergraduate students, our collaborations include outreach and partnership with local government, principally the City of Bellingham (CoB). We have placed a series of energy interns with CoB since 2014, and a number of students are conducting collaborative projects with CoB on energy efficiency, with supervision from IES faculty. Our students and faculty also work at times on energy-related projects with the Port of Bellingham and with Whatcom, Skagit, Snohomish and Chelan Counties. In addition, our faculty are available as a technical resource for state government in the areas of energy technology, policy and business.

Stakeholder response:
The Institute for Energy Studies and its proposed, integrated curriculum have strong support from influential utilities and firms in the regional energy industry, including Snohomish PUD, Puget Sound Energy, Seattle City Light, Bonneville Power Administration, Ingersoll Rand/Trane Corp., McKinstry Corp., University Mechanical, Alpha Technologies, Microsoft, Global Smart Energy, Alaska Airlines, Boeing, Glosten Associates, APCO Worldwide, Bullitt Foundation, and Climate Solutions.

Legal or administrative mandates:
Not applicable

Changes from current law:
Describe in detail any necessary changes to existing statutes, rules or contracts. Where changes in statute are required, cabinet agencies must provide agency request legislation as an attachment to this DP and submit it through BATS.

State workforce impacts:
Not applicable

State facilities impacts:
The proposal calls for office and classroom space for six instructors, a professional staff office, and laboratory space for up to three new faculty in Science and Engineering. The availability of new space will depend on the timetable for construction of the science building that is beginning design under the recently-enacted capital budget. The IES was allocated classroom, office and meeting space in the proposed Environmental Studies building renovation, and we anticipate having space in the new science building if that is the capital project that moves forward.

Although the curriculum will include field and laboratory work and instruction, we do not anticipate needing new, dedicated lab space for all of the proposed positions. A limited amount of lab work could be accommodated in lab space allocated to the “home departments” of our cross-listed courses, such as Engineering and Environmental Science, while Geology and AMSEC faculty will likely need new lab space.

Our primary strategy for hands-on work is to employ our “campus as a living lab.” This approach takes advantage of the fact that campus buildings, and many in the surrounding community, offer case studies of the type of energy-system analysis, design and retrofit needs that exist throughout the real-world building stock. The WWU Facilities Management team is ready to engage with us in academic instruction tied to their on-going energy efficiency upgrades of campus buildings. Hands-on learning regarding residential buildings could use various sites in the local community. There are additional technical facilities that could be used at the Technology Development Center at the Port of Bellingham, in collaboration with Bellingham Technical College.

Puget Sound recovery:
Not applicable
Reference Documents
- Energy Science & Tech BS Degree.xlsx

IT Addendum
Does this Decision Package include funding for any IT-related costs, including hardware, software, (including cloud-based services), contracts or IT staff?
No
Agency Recommendation Summary

This proposal addresses the need to expand Western’s Electrical Engineering (EE) program by increasing access to meet student demand and the needs of the state while supporting the program’s on-going efforts to improve equity and inclusion. It is the first of two phases in WWU’s long-range plan that will more than double the number of EE graduates. This proposal provides faculty and staff support to increase student access by more than 30% by introducing a new computer engineering concentration. On-going strategic partnerships with local industry combined with linked and related state capital projects will be leveraged to meet help Western meet STEM space needs required for this EE expansion.

Fiscal Summary

*Dollars in Thousands*

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Package Description

The State of Washington’s continued role as an innovator in such fields as autonomous vehicles and electrification of vehicles, aerospace, machine learning, and the Internet of Things (IoT) depends on the development and maintenance of a robust workforce pipeline. The primary purpose for the expansion of WWU’s Electrical Engineering program is to meet the needs of the state and respond to student demand by providing increased access.

Primary employers such as Boeing, Amazon, Microsoft, Fluke, and PACCAR have been impacted by the emerging demand for devices and systems connected to each other and to the cloud along with autonomous control. Theses IT companies are expanding into home and industrial automation devices and the two transportation groups now have to consider reliability and security implications of connected and autonomous systems. Engineers that understand these systems are in great demand and WWU has a track record of producing graduates prepared to enter the Washington state workforce. The proposed program concentration in Computer Engineering will help meet growing employer demand by preparing more graduates with these skills.

In 2013 the state supported the transition of Western’s engineering technology programs to fully-accredited programs in electrical engineering, manufacturing engineering and plastics and composites engineering. The transition was successfully completed with our first EE graduates in spring 2016 and the official announcement of ABET-EAC accreditation in 2017.

As shown in the graph below of total EE students—majors and pre-majors— since this transition, student demand for the Electrical Engineering program has increased rapidly. In 2016, there were had 49 applications for 25 spots, and in 2017, there were 74 applications for 35 spots. Western is expecting the same trend for this year’s admissions process with 60-100 pre-majors applying for 36 spots. Without expanding the capacity of our
program, WWU will be forced to continue turning away students who have high potential to become well-prepared engineers. In addition, our demographic data show that students from underrepresented groups are turned away at a disproportionately higher rate, and expanding our program would do much to aid the University's ongoing effort to address this equity issue.

This document outlines the proposed expansion of Western’s Electrical Engineering program to help meet growing student and employer demand by increasing student access and adding a computer engineering concentration. This proposal represents the first phase in a two phase growth plan over the next nine years that will expand access from 36 graduates per year to up to 90 graduates per year and add a Master’s degree program in Electrical Engineering, which will increase access and research and development opportunities for students, as well as increase potential intersections with regional industry. The long-term plan includes funding packages for the 2019-21 biennium and the 2023-25 biennium for faculty and student support, and a major capital project to meet space needs for both Electrical Engineering and Computer Science. Existing strategic partnerships with local industry will play a major role in this expansion.

Phase One – 2019-21 biennium. This proposal will increase student access to electrical engineering by more than 30% with an increase of 3 faculty in the EE program and 1 faculty in the Computer Science department, and an additional instructional technician. It requires, at least, an additional 5,300asf including a computer engineering and undergraduate research lab, faculty offices, and classroom space. It will include a new Computer Engineering concentration to address the needs described above.

This proposal will reduce the number of qualified students currently turned down in the EE admissions process. Data shows the students turned away are disproportionately from underrepresented groups. There is a 25% reduction in the percentage of female, minority, first generation students after the competitive admissions process. This undermines the programs efforts to provide a more equitable and inclusive environment.

This expansion will increase graduation efficiency as it provides multiple paths to the degree. Currently if a student misses a course(s) due to an internship or study abroad experience, or does not satisfactorily complete a course, he or she must wait a year to get back into the sequence. This expansion increases the program size enough to allow for two tracks per year, which will help students that do not come to Western calculus-ready for the degree by offering a delayed track instead of waiting a full year.

Phase Two – 2023-25 biennium. The second step in the growth plan completes the program goal of 90 students per year and 16 faculty, and is dependent on 25,000asf of total space. It is intended to be coupled with a capital proposal for a new building, such as a new EE/CSCI building, to be available by the 2024-25 academic year. Another outcome of this phase is a new Master’s degree program in Electrical Engineering, the addition of which will substantially increase the support and infrastructure for research and development within the program, and concurrently increase the impact of the program on regional industrial R&D partnerships. Of the 90 total students and depending on student demand, industry interest, and State needs, the numbers will be 72-78 undergrads and 12-18 graduate students.
The only other alternative explored is to keep the program at its current size or other more gradual or accelerated growth plans. This plan allows for a long-term growth plan that maintains the strengths of the current program. The benefits to the program in this proposal are not dependent on the phase #2 part of the long range plan. It can be successful by itself. The consequence of not funding this package is to not support, and therefore delay, the strategic goals and governor’s priorities presented above.

Assumptions and Calculations

Expansion or alteration of a current program or service:
Not applicable

Detailed assumptions and calculations:
See attached spreadsheet

Workforce Assumptions:
See attached spreadsheet

Strategic and Performance Outcomes

Strategic framework:
This proposal directly supports the Governor’s Results Washington by increasing STEM and high-demand enrollments in 4-year colleges. This prepares students for good-paying careers in key industries throughout the state from agriculture and maritime to clean energy and aerospace.

It also indirectly supports the Governor’s Sustainable Transportation priority by preparing students for autonomous vehicles and electrification.

This proposal directly impacts the implementation of Western’s Strategic Goal #1 by providing access to an active teaching and learning environment to prepare students to successfully solve societal problems in an area of state need. It is an agile alignment of the curriculum in response to growing student interests and changing state needs. It also increases support for scholarship, research, and creative activity that helps answer important questions and solve societal problems.

By preparing students to contribute to local industry and organizations, this proposal directly supports Western’s Strategic Goal #2. Specifically, Section F to “give all students educational experiences both in and beyond the classroom that help them develop the knowledge, skills, and abilities to nurture and create the conditions for people and planet to thrive.” and, The proposal also supports Section G of the University’s strategic plan to increase engagement between Western and local communities.

In addition, the proposed expansion impacts WWU’s Strategic Goals #3 and #4 by increasing equity in support of providing a more collaborative and inclusive environment.

Lastly, the proposed activities contribute directly to one of the WWU strategic success indicators, namely, increasing Washington impact. By expanding access to a high-demand program, and by expanding the overlap of Western’s expertise with the needs of regional industry, this proposal increases the impact of Western on both the pipeline of talent at multiple levels and strategic partnership ecosystem of the state.

Performance outcomes:
Performance measures include the number of EE graduates per year (48 for Phase One and up to 90 for Phase Two), percentages of underrepresented groups (showing no reduction in percentage from pre-major to major), and successful employment or enrollment in a graduate program in the field. Additionally, this proposal will provide access to student research opportunities, resulting in scholarship publications and grants.

Other Collateral Connections

Intergovernmental:
Not applicable

Stakeholder response:
This proposal has been developed under the advice of, and has be approved by, the Electrical Engineering Industrial Advisory Committee. Companies represented in this group include Fluke, Boeing, Amazon, Alpha Technologies, Synapse, PNNL, PACCAR – PTC, PACCAR-Kenworth, Cypress Semiconductor, Deako, and the Port of Seattle.

Legal or administrative mandates:
Not applicable

Changes from current law:
Not applicable

State workforce impacts:
Not applicable

State facilities impacts:
The successful implementation of this expansion requires, at least, an additional 5,800ASF including a computer engineering and undergraduate research labs, faculty offices, and classroom space. The full expansion requires a major capital project included in WWU’s capital plan to build a new building that includes at least 25,000ASF for Electrical Engineering such as a new EE/CSCI building, to be available by the 2024-25 academic year. It is expected that strategic partnerships with local industry will play a major role in this expansion.

Puget Sound recovery:
Not applicable

Reference Documents
• Electrical Engineering Expansion.xlsx

IT Addendum
Does this Decision Package include funding for any IT-related costs, including hardware, software, (including cloud-based services), contracts or IT staff?
No
Agency Recommendation Summary
As jobs in the modern economy continue to evolve and skills required to be successful in the workforce continue to transform, the need for career-connected learning to fulfill the promise of higher education has never been greater. This proposal will allow Western Washington University to implement an enhanced and expanded Career Services program, with the capacity to provide comprehensive and targeted individualized services to support every student in achieving their career potential. The proposed program will produce tangible results, including increased internship rates, improved job placement performance, and enhanced engagement with employers to help meet workforce demands and support a thriving state economy.

Fiscal Summary

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Package Description
Overview
In recent years, the value of higher education has become a topic of national debate, with significant attention paid to the question of employment outcomes – especially as the underemployment rate among recent graduates has exceeded 40%\(^1\). Increasingly, students and other stakeholders (including families, employers, and legislators) expect to see significant occupational returns on their investments in Western. In fact, 98% of students identify “improved job prospects” as an important reason for attending Western\(^2\). Students and their families expect a diploma from Western will lead to careers with a salary sufficient to pay off student loans and gain financial independence. Furthermore, employers and legislators expect Western to provide workforce-ready talent to meet growing industry needs and contribute to our state economy, as 89% of Western graduates remain in-state\(^4\).

Career Services can play a vital role in helping Western realize these critical results, strengthening the education-to-industry pathway and helping each student to achieve their career potential, but requires increased resourcing and staffing to do so. Currently, Career Services at Western has a staff of only three career counselors to provide career support for nearly 16,000 students. The work of the career counseling staff includes helping undeclared students to explore career pathways and assisting declared majors to connect with internship and employment opportunities. With three career counselors serving the entire student population, the staff-to-student ratio is approximately 1:5000. In attempting to support students from all seven colleges of the university, career counselors can do little more than serve as generalists with limited ability to develop industry-specific job market knowledge and contacts. Furthermore, maximum capacity for each career counselor is 1,000-1,500 student appointments per year – meaning even generalized services are only available on an individual basis to approximately one-quarter of the student population each year.

This newly proposed initiative will allow Western to move beyond this limited and generalized model to implement a robust and specialized Enhanced Career Services program, with the capacity to provide individualized support for every student from admissions to graduation and beyond. Within this new program, support in exploring career pathways will be made available to every undeclared student as an integrated step in the academic advising process; specialized assistance in connecting with internship and employment opportunities will be available to every declared student through dedicated college-based Career Specialists; and ongoing services will be available to recent graduates through a cutting-edge Young Alumni program. A chart outlining and further detailing this service model is included below.

Proposed Career Services Model

The proposed initiative will allow Western to transition from a traditional model of Career Services to an enhanced model with embedded, integrated, and specialized services to meet the unique needs of students in each college.

This shift will increase student access to individualized career services and improve student internship and job placement performance by increasing capacity and embedding services to support every student in every college. Enhanced Career Services will become a central component of the student experience, with integrated services to meet students where they are, and specialized services to take them where they want to go. Below is an overview of the services and areas of emphasis within this model for each phase of the student life cycle:

Enhanced Career Services will be presented as a central value proposition for recruiting new students. Detailed employment outcomes and workforce data will be made available to all prospective students to highlight potential career paths. Newly admitted students will be connected with Academic/Career Advisors during orientation programs to encourage advance career planning.

All first-year students (including transfer students) will receive career counseling as an embedded component of the Academic Advising experience, to ensure they receive career guidance while making important academic planning decisions. Academic/Career Advisors will highlight career paths appropriate to the interests and skills of each student, emphasizing the critical importance of job fit in career planning.

As students progress toward declaring a major, Academic/Career Advisors will continue to emphasize career opportunities in the academic planning process, supporting students in pursuing programs aligned with their individual career goals. As soon as students begin their major coursework, they will be connected with Career Specialists in their respective colleges to ensure cohesive, continuous and industry-specific support.
Dedicated Career Specialists in each college will work with declared students to identify appropriate coursework and co-curricular experiences to support each student’s individual career goals, with heavy emphasis on pursuing internship opportunities and forming industry/organizational connections.

As students move toward graduation, Career Specialists will provide specialized support in securing career opportunities – including mock interviews, resume workshops, and search assistance. Students will also be encouraged to connect with alumni for meaningful networking and professional development opportunities through the Alumni Early Engagement program.

Career support will continue to be available to students after graduation through the Young Alumni program and other targeted initiatives, to provide ongoing assistance and networking opportunities for alumni seeking to advance their careers.

Staffing

In order to implement this model, two additional Academic/Career Advisors will be hired to provide capacity to expand advising services to include career exploration programming, as well as to accommodate every undeclared student. Three current Career Counselor positions will be transitioned into Career Specialist roles, and eight additional Career Specialists will be hired, to be assigned to specific colleges to provide capacity for specialized services for every declared student in each college’s programs (including the Graduate School, with multiple Career Specialists assigned to larger colleges to ensure students have access). With the ability to focus on a targeted population, Career Specialists will be able to provide truly customized services, developing a deep understanding of their students’ interests and abilities, along with job market knowledge and industry contacts. Within each college, Career Specialists will play a vital role in creating customized connections and communities to support student success.

The proposed staffing changes will shift the staff-to-student ratio from approximately 1:5000 to approximately 1:1300 (see Caseload Assumptions below), creating the capacity necessary to provide individual and specialized support to every student – while still allowing time for career fairs, classroom presentations, and group workshops. The scope of the Assistant Director of Career Services role will be realigned to provide support to Career Specialists in developing programming and services, hosting and marketing career events, and obtaining appropriate professional development. An Office Assistant III position will also be hired to provide necessary administrative support for the significantly enlarged Career Services Center staff. Additionally, funds have been allocated in this proposal to provide state-of-the-art training and certification for Career Specialists, as well as to invest in cutting-edge software to equip Career Specialists with the expertise and technology necessary to provide comprehensive support to all students.

Furthermore, the proposed initiative will also create a strong Employer Services program to increase connections with employers and generate employment and internship opportunities for students. The current Manager of Employer Relations role will be transitioned into an Assistant Director of Employer Services position, to oversee employer relations and support the work of two additional new positions, an Employment Coordinator and an Internship Coordinator. These coordinator roles will work closely with employers, Alumni Association and Foundation staff (including the Manager of Corporate Partnerships), and the Career Specialists in each college to maximize connections with employers and to generate critical employment and internship opportunities for students. The Employment Coordinator will also be responsible for monitoring and analyzing workforce data and trends, to provide relevant and timely information to Academic/Career Advisors, Career Specialists, and college leadership to anticipate and cultivate employment prospects for graduates and alumni.

Considerations

The consequences of failing to fund this proposal include:
The proposed initiative reflects contemporary national best practices for Career Services – the number of decentralized and hybrid programs has increased by over 200% over the past 10 years\(^5\), as a growing number of colleges have abandoned the outdated centralized approach. A wide variety of alternative service models were considered in the development of this proposal, but no other models appear to offer such profound benefits to students, the institution, and the state. Furthermore, this proposal is designed to maximize leveraging of existing resources – including reconfiguring five existing positions – while minimizing the burden on students by avoiding the implementation of any new fees. Western’s leadership is confident the proposed initiative represents the most effective approach to increasing job placement performance for students and furthering our contributions to the state economy.

Sources


Assumptions and Calculations

**Expansion or alteration of a current program or service:**
Not applicable

**Detailed assumptions and calculations:**

**Calculations**

The positive budget, staffing, and caseload impacts of funding this proposal include for FY 2020:

<table>
<thead>
<tr>
<th>New Staffing</th>
<th>Total FTE</th>
<th>Salaries</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic /Career Advisor</td>
<td>2.0</td>
<td>$102,168</td>
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<tr>
<td>Career Specialist</td>
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<td>Employment Coordinator</td>
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<tr>
<td>Internship Coordinator</td>
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<td>$20,161</td>
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<td>Assistant Director of Employer Services (position upgrade)</td>
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<td>$1,792</td>
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<td><strong>Total New Staffing</strong></td>
<td><strong>13.0</strong></td>
<td><strong>$650,002</strong></td>
<td><strong>$266,343</strong></td>
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See the Staffing section under Program Description for more information about each new employee type. Note that there will be no new FTE for the Assistant Director position as it is an upgrade of an existing position within the office.

**Goods & Services**

<table>
<thead>
<tr>
<th></th>
<th>Cost</th>
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<tbody>
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<tr>
<td>Equipment &amp; Technology</td>
<td>$45,000</td>
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<tr>
<td>One Time Trainings for new employees</td>
<td>$21,750</td>
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</table>
Travel for 12.0 new professional staff positions is estimated at $30,000 for FY 2019 to cover travel to meet with employers and build networks as well as professional development for employees.

New staffing will significantly decrease career counselor caseload as shown below.

<table>
<thead>
<tr>
<th>CAREER COUNSELOR CASELOAD</th>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career Counseling Staff</td>
<td>3.0</td>
<td>13.0</td>
</tr>
<tr>
<td>Students</td>
<td>16,233</td>
<td>16,558</td>
</tr>
<tr>
<td>Career Counseling Staff : Student Ratio</td>
<td>1 : 5,411</td>
<td>1 : 1,274</td>
</tr>
</tbody>
</table>

See attached spreadsheet for additional information.

**Workforce Assumptions:**
See above and attached spreadsheet for additional information.

**Strategic and Performance Outcomes**

**Strategic framework:**

**Strategic Outcomes**

The proposed initiative directly relates to our Governor's priorities to create a world-class education system and a prosperous economy by "providing every Washingtonian a world-class education that prepares him or her for a healthy and productive life, including success in a job or career." (Results Washington 2018) Specifically, this initiative will support Results Washington goal 1.3i, which calls for an increased percentage of postsecondary graduates from 4-year colleges employed within one year of graduation.

Additionally, this initiative directly supports 2018-2024 institutional goals. The initiative supports Western's goal to serve the needs of the state by providing talent for regional employers and preparing students to effectively contribute to evolving societal needs, as well as our goal to strengthen student services to ensure professional success and expand networks between students, staff, faculty, and alumni. The initiative will also increase key metrics in the 2018 Strategic plan, including post-graduation placement rate, high-impact co-curricular/extra-curricular activities, and economic mobility and satisfaction.

Furthermore, this initiative will build on Western's strengths in the areas of student success, collaboration, and co-curricular offerings; address challenges related to resources, staffing, and student support; support opportunities for partnerships and increased collaboration; and limit threats in the areas of recruitment and retention. Finally, approximately $626,350 in current funding will be leveraged to support this initiative (see "Calculations" section above).

**Performance outcomes:**

**Performance Outcomes**

As a result of the proposed initiative, excess credits and time to degree will decrease, reducing student debt. Internship rates will increase, resulting in improved job placement performance, as internship experience is strongly correlated with an 8-13% increase in post-graduation job placement performance. Through receiving specialized support, students will find better jobs faster and at higher starting salaries, with significant benefits to the state economy, as 80% of Western graduates enter the Washington workforce. Employers will hold Western in high regard, as the Enhanced Career Services program will become a mark of distinction. Furthermore, this program will become a central value proposition for Western to recruit the highest quality students possible. Most importantly, graduates will be better prepared to obtain financial stability and experience long-term fulfillment in their professional work lives.

Specifically, Western will focus on the following key performance metrics, placing heavy emphasis on achieving target rates:

<table>
<thead>
<tr>
<th>Performance Metric</th>
<th>Current Rate</th>
<th>Target Rate</th>
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</thead>
<tbody>
<tr>
<td>% of students graduating with internship experience</td>
<td>43%</td>
<td>70%</td>
</tr>
<tr>
<td>% of students employed within two quarters of graduation</td>
<td>77%</td>
<td>80%</td>
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<tr>
<td>% of graduates employed in field-related industries</td>
<td>70%</td>
<td>75%</td>
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</tbody>
</table>

**Other Collateral Connections**
Intergovernmental:
Increased job placement performance will benefit the interconnected city, county, and state economies.

Stakeholder response:
Employers across the state will benefit from better prepared graduates to meet critical workforce needs.

Legal or administrative mandates:
Not applicable

Changes from current law:
Not applicable

State workforce impacts:
While the proposed initiative should not impact bargaining agreements or current salary levels, increased job placement performance will enhance and support the local and state workforce.

State facilities impacts:
Existing facilities will be leveraged to offset impacts related to workplace needs.

Puget Sound recovery:
Not applicable

Reference Documents
- Enhancing Career-Connected Learning.docx.xlsx

IT Addendum

Does this Decision Package include funding for any IT-related costs, including hardware, software, (including cloud-based services), contracts or IT staff?
No
Agency Recommendation Summary
Washington is facing a critical shortage of new teachers, especially in four high needs areas: special education, mathematics, science, and English language learning. At the same time, Western Washington University’s teacher preparation programs are currently at or near full capacity, creating waitlists for students to access programs that will certify them to become teachers. School principals, the Office of the Superintendent of Public Instruction, the Professional Educator Standards Board, the Washington Association for the Council of Teacher Education, and state legislators are focused on increasing the number of Washington teachers. Western Washington University, supported and encouraged by the entities, proposes to bring 200 additional teachers into high needs/critical shortage areas each year. As a public institution approved to certify teachers, WWU’s College of Education is mandated to help alleviate the K-12 teacher shortage.

Fiscal Summary

<table>
<thead>
<tr>
<th>Operating Expenditures</th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>FY 2022</th>
<th>FY 2023</th>
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<td>$4,488</td>
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<td>58.5</td>
<td>58.5</td>
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<td>Average Annual</td>
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<tr>
<td>Obj. B</td>
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<tr>
<td>Obj. E</td>
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<td>$965</td>
<td>$986</td>
<td>$1,008</td>
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<tr>
<td>Obj. G</td>
<td>$75</td>
<td>$53</td>
<td>$55</td>
<td>$56</td>
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Package Description
The State of Washington is facing a critical shortage of new teachers. This first became evident in the 2014-15 academic year when school districts were facing shortages of substitutes because many of them had been pressed into full-time service. More recently, the shortage of teachers for the state has become a focal area of attention from the Office of the Superintendent of Public Instruction (OSPI), the Professional Educator Standards Board, the Washington Association for the Council of Teacher Education, and various state legislators from around the state.

This shortage is due in part to increases in retirements and attrition within the profession (nearly 50% of all teachers leave teaching within the first five years of employment). The shortage increase was exacerbated by the state-wide funding requirement to lower class sizes in grades K-3. This creates a need for an additional 2500 new teachers each year for the next three years just to meet the class size reduction. Before the class size reduction, school districts hired 2860 new teachers and all the teacher education programs in the state only produced 2485 combined.

According to a survey of Principals by the OSPI:
90% said they were “in crisis” or “struggling” to find qualified teachers;
80% had employed individuals on emergency teaching certificates;
74% reported that, in the past week, they had been required to cover a classroom because a substitute was not available; and,
29% reported that they still had teacher positions that were not filled after the start of the academic year.

A trend is also emerging that shows shortages of teachers are more prevalent in urban centers and remote/rural school districts. Additionally, shortages are exacerbated in historically high needs areas such as special education, mathematics, all of the sciences, and teachers endorsed to teach English language learners (ELL). Washington state is part of a national teacher shortage experiencing a point of crisis, especially in these same shortage areas.

WWU’s Woodring College of Education (WCE) proposes to increase the number of teachers it prepares by 200 each year. This will be a focused increase, by specifically preparing teachers in the identified shortage areas of mathematics, sciences, English language learners, and Special Education. Western sees an opportunity to address an important gap in the need for teachers by scaling up the production of new teachers, and as a public institution, we feel a deep mandate to help alleviate the state’s impending shortage of teachers in the K-12 system. The College intends to be a key contributor to the development of future teachers into those areas of the state school system that most need them.

This proposal will build out current programs and does not include purchasing supplies or requesting extensive capital building projects. Many of these programs will utilize existing space and programs in place at our off-campus sites in Bremerton and Everett. That being said, expenses in services and support will be incurred. We recognize the pressing need and stand ready to expand our academic program offerings; however, we cannot expand without additional human and fiscal resources as we are at, or nearly at, maximum capacity in our current teacher preparation programs. In reviewing our current fiscal and human resources, it is impossible to simply increase the number of individuals who we bring into our programs. We also recognize that our student service and academic units on campus also will not also be able to increase capacity without additional resources. We are strategically utilizing our off-campus sites to reach non-traditional and diverse students outside of Bellingham, and to help alleviate pressure from campus programs.

This proposal seeks to utilize additional recruitment and retention specialists who will attract and engage potential students, work to engage them in the university and programs, and help them persist in becoming a successful teacher in Washington state. Specifically, these positions will lead and direct focused recruitment into careers in Secondary Education, Early Childhood Education, Special Education, Science, Mathematics, English Language Learning, and Elementary Education. These specialists will lead a strategic and robust recruitment program focusing on students at the university, but also in community colleges and high schools. Once recruited, these specialists will help with retention efforts to ensure that students succeed in endorsement and certification coursework, and are successful in completing their exit exams.

Faculty play a significant role in attracting and keeping a diverse population of teachers, as well as in providing current and relevant instruction and supervision. We propose additional faculty who will instruct courses in the certification side of our programs (learning the skills and art of teaching), as well as in the endorsement side of our programs (learning the concepts, knowledge and skills that will be learned in specific K-12 classes). Faculty will be from a combination of tenure-track and non-tenure-track ranks. Non-tenure track faculty are only engaged in teaching, and bring a focus that allows for excellent classroom learning and modeling on best teaching practice. Tenure track faculty also engage in research and scholarship related to learning and education. In addition to excellent teaching, they provide relevant research and up-to-date theories about learning and teaching. Tenure track faculty are important for recruiting, retaining, and advising students because they are more involved in the long-term development and implementation of our programs. Although the labor of support staff is often hidden, their contributions are critical to the success of every teacher education program.

You will notice in the budget and description that we are proposing to expand our programs on the main campus in Bellingham as well as our “outreach sites” in Everett and Bremerton. Using multiple sites allows for more teachers to be prepared in locations close to their home and community and best serves place-bound students. WWU and the Woodring College of Education have a sense of deep commitment to serving the regional communities near our campuses. Each site has strengths that we will build on when increasing the number of teachers. For example, we are well situated to prepare teachers in each of the focus areas (Science, Mathematics, Special Education, English Language Learning) at our main campus. The Everett site prepares teachers who are dual endorsed in elementary education and special education. This is also the focus of our Bremerton site, with the addition of an early childhood education program (certifying teachers for grades P-3). We are also building on our existing models for delivering what is referred to as “Alternative Routes” to teacher certification. These routes allow for returning and/or non-traditional students to obtain a license to teach, because courses are offered at different time (e.g., weekends and evenings) and programs are sequenced slightly differently (e.g., blocked courses; grouping P-12 classroom experiences). These programs are a great benefit to future teachers and to schools, but they are labor intensive and demanding on faculty/staff time. This proposal looks to expand these routes and provides an account of what will be needed to increase the number of students in our high-quality alternative route programs.

The negative consequences of not funding this proposal is that a shortage of qualified teachers will persist across the state. The flood gate to unprepared or poorly qualified individuals to be assigned teaching positions out of need will be quite negatively felt academically, economically, and politically. To meet the state’s need for teachers, we simply need to prepare more teachers for careers in the classroom. Since Western is currently at our capacity to do this, we need to increase our program size, number of faculty, and number of support staff. The main alternative to this is to
provide more resources to alternative routes to teaching certification. This is exactly what this proposal is suggesting, in addition to bolstering the traditional approach. Since teacher certification is governed by the Washington State Professional Educator Standards Board, we do not have any other alternatives to this proposal.

Assumptions and Calculations

Expansion or alteration of a current program or service:
Not applicable

Detailed assumptions and calculations:
See attached spreadsheet

Workforce Assumptions:
See attached spreadsheet

Strategic and Performance Outcomes

Strategic framework:
Goal 1 of the Governor’s priorities is a world-class education for Washington students. This proposal, by increasing the number of highly trained teachers for Washington’s schools, will provide essential resources toward the fulfillment of that goal. This proposal will provide support for both Early Learning and K-12 sections of the Governor’s Goal 1 priorities of Access and Success.

Western’s mission emphasizes its commitment to positively impacting the State of Washington. WWU’s strategic plan includes objectives on expanding access to our programs, and having the agility to respond to state needs. Also included as an objective is expanding access to affordable, quality education at all locations that Western serves. Finally, Western desires to enroll, retain, and graduate increasing numbers of first-generation students and students from underrepresented groups. This proposal will help Western accomplish all these objectives.

Performance outcomes:
Goal 1: Increase the capacity of the university to recruit and retain an additional 200 students into teacher education programs each year. This goal supports the achievement of the other goals.

Goal 2: Increase the capacity at the Western’s Teacher Education Outreach Program Sites – Increase the number of Special Education/Elementary Education dual endorsed teachers by 50 at these WWU sites by forming additional cohorts through the Teacher Education Outreach Programs.

Goal 3: Increase the number of Early Childhood Educators by 25 by creating an additional cohort.

Goal 4: Alternate Routes to Elementary Teacher Certification will prepare 25 additional elementary teachers with an English Language Learner endorsement.

Goal 5: Alternative Routes to Special Education/Elementary Education Dual Endorsement to prepare 25 additional teachers.

Goal 6: Special Education/Elementary Education Dual Endorsement (Grades K-12) on campus in Bellingham to prepare 45 additional teachers.

Goal 7: Increase the number of STEM teachers in Secondary Education by 30 (15 additional mathematics teachers and 15 additional science teachers). This total number will grow to 40 during the ensuing years.

Goal 8: Evaluation and Assessment for State Indicator-based Model to measure the success of these teacher preparation programs.

The success of this proposal will be directly measured by the increase in teachers that are prepared at WWU each year. Goal #1 calls for recruiting 200 additional students in the teacher education programs across all of the sites, and Goals 2-7 state the specific allocation of these additional students at the Bellingham campus and at off-site locations. What follows are the endorsement areas for the additional teachers that will be prepared with a Washington state teaching license/certificate (and the corresponding goals):

- 120 Elementary Education/Special Education Dual Endorsed (Goals 1, 2, 5, 6, 8)
- 25 Elementary Education with English Language Learners endorsement (Goals 2, 4, 8)
- 25 Early Childhood Education (Goals 2, 3, 8)
- 30 Secondary Education Mathematics or Science Endorsed (moving to 40 after the initial year) (Goals 2, 7, 8)
All students are tracked for performance in the Woodring Information System. This includes quarterly analysis of recruitment efforts, progress through the programs to ensure retention, logs of time spent in schools, meeting state certification requirements, and passing state mandated tests (e.g., Teacher Performance Assessment (edTPA), Washington Educators Skills Test (WEST-E)).

Other Collateral Connections

Intergovernmental:
The greatest request for teacher education programs to describe their efforts to scale up the production of new teachers is coming from the Office of the Superintendent of Public Instruction (OSPI), the Professional Educator Standards Board (PESB), the House Education Committee (led by Representative Santos), and other legislators around the state. School district personnel (e.g., school principals) and the teacher union (Washington Education Association) are expecting a strong commitment and quick action from higher education to address the teacher shortage across the state by making specific efforts to increase the number of new teachers.

The results of the OPSI Principal survey confirm these requests and the stated need for increasing the number of prepared teachers for the state. Two anecdotes from within our region may be helpful here: Due to a shortage in available teachers, the Superintendent of Burlington-Edison claimed that in one week she had to be the substitute teacher in both a kindergarten class and a high school chemistry class; and, the human resources director at Everett School District stated that she had 60 people teaching on emergency credential (individuals who may or may not have a college degree and who have not explored the many elements of being an effective, equitable, and skilled teacher). Both individuals have spoken with us about how we might scale up the production of new teachers.

Stakeholder response:
This involves no non-governmental stakeholders.

Legal or administrative mandates:
Not applicable

Changes from current law:
Not applicable

State workforce impacts:
Not applicable

State facilities impacts:
This proposal will require additional office space for faculty and staff who are operating out of the Bellingham campus of WWU. Existing space on campus will be insufficient. Those programs that are currently operating at extension/outreach sites in Bremerton and Everett should be able to access additional office and classroom space.

Puget Sound recovery:
Not applicable

Reference Documents
- Increasing Number of Teachers in WA.xlsx

IT Addendum

Does this Decision Package include funding for any IT-related costs, including hardware, software, (including cloud-based services), contracts or IT staff?
No
Agency Recommendation Summary

- Western took possession of the 13,280 square foot (SF) Poulsbo Sea Discovery Center and Aquarium in January 2018 in support of the Western on the Peninsula academic program.
- During the 19-21 biennium Western anticipates taking occupancy of a new 25,000 SF Support Services Facility, and approximately 2,000 SF of new space to support our Student Multi-Cultural Center.

Fiscal Summary

<table>
<thead>
<tr>
<th>Operating Expenditures</th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>FY 2022</th>
<th>FY 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fund 001 - 1</td>
<td>$165</td>
<td>$610</td>
<td>$1,069</td>
<td>$1,541</td>
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<tr>
<td>Total Expenditures</td>
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<tr>
<td>Biennial Totals</td>
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</tr>
</tbody>
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Package Description

Facilities Management exists for the sole purpose of maintaining, repairing, and operating state assets in which the academic mission is accomplished. This request is based on recent state funding of new square footage, and is expected to cover the actual costs of utilities, building and utility maintenance, custodial and ground services, and operations/maintenance support.

1. **Western on the Peninsula**: In January 2018, Western acquired the 13,280 square foot (SF) Poulsbo Sea Discovery Center and Aquarium in support of the Western on the Peninsula program. This acquisition expands and strengthens Western’s partnership with the city of Poulsbo, local school districts and tribal communities, as well as providing Western students on the Kitsap and Olympic Peninsulas an opportunity to learn, teach, and do research in an exciting new environment. The Sea Discovery Center and Aquarium provides classroom spaces as well as a resource for the public to learn about Puget Sound and the Salish Sea marine life.

2. **Support Services Facility**: This project would construct a 25,000 square foot building on the vacant land owned by the university at 25th Street and Taylor. The new building would accommodate various departments that require proximity to campus but do not need to be located on campus, thus freeing up space for critical academic functions in the core of campus. The following departments could be accommodated: Environmental Health & Safety, Human Resources, Facilities Development & Capital Budget, Facilities Management administration, Business Services, and Accounting Services. Assuming occupancy in the second year of the coming biennium, the operating costs will be needed in the second year of the biennium.

3. **Multi-Cultural Center**: In FY2019, Western will add approximately 2,000 square feet of State funded space on its main campus to support a larger student funded multi-cultural student center. The operating costs will be recurring and required for the entire biennium.

Assumptions and Calculations

Expansion or alteration of a current program or service:
Not applicable

Detailed assumptions and calculations:
1. **Western on the Peninsula**:
FY20 need is $10.74/SF * 13,280 = $142,627
FY21 need is $11.06/SF * 13,280 = $146,906
FY22 need is $11.39/SF * 13,280 = $151,259
FY23 need is $11.73/SF * 13,280 = $155,774
Total recurring need for the 2020-21 biennium = $  432,131
Total recurring need for the 2022-23 biennium = $1,037,300

2. Support Services Facility:
FY21 need is $11.06/SF * 25,000 = $276,500
FY22 need is $11.39/SF * 25,000 = $284,750
FY23 need is $11.73/SF * 25,000 = $293,250
Total recurring need for the 2020-21 biennium = $  276,500
Total recurring need for the 2022-23 biennium = $1,415,750

3. Multi-Cultural Center:
FY20 need is $10.74/SF * 2,000 = $21,480
FY21 need is $11.06/SF * 2,000 = $43,600
FY22 need is $11.39/SF * 2,000 = $66,380
FY23 need is $11.73/SF * 2,000 = $89,840
Total recurring need for the 2020-21 biennium = $  65,080
Total recurring need for the 2022-23 biennium = $156,220

Workforce Assumptions:
Not applicable

Strategic and Performance Outcomes

Strategic framework:
Supporting Western's academic mission is essential to Western's efforts in providing a WORLD CLASS EDUCATION and ensuring taxpayer dollars are spent in a manner consistent with EFFICIENT, EFFECTIVE GOVERNMENT. All academic endeavors require and benefit from adequately maintained and operated facilities. In addition to valuing the excellence we have at Western, our strategic plan includes objectives to provide and maintain support and infrastructure for academic activities in a variety of ways.

Performance outcomes:
Funding will allow Western to maintain facilities to the level required to conduct the instruction and research that make Western a thriving academic setting for faculty and students.

Other Collateral Connections

Intergovernmental:
Not applicable

Stakeholder response:
Not applicable

Legal or administrative mandates:
Not applicable

Changes from current law:
Not applicable

State workforce impacts:
Not applicable
State facilities impacts:  
Not applicable

Puget Sound recovery:  
Not applicable

**IT Addendum**

Does this Decision Package include funding for any IT-related costs, including hardware, software, (including cloud-based services), contracts or IT staff?  
No
Agency Recommendation Summary

The cost of utility commodities: electricity, natural gas, water, sewer and storm water increases annually. Even as consumption is reduced through dedicated energy saving initiatives, the per unit rates charged by commercial providers continue to increase. The total cost for these commodities exceeds the value of energy saved. Estimating a 3% annual increase in commodity costs, an inflationary increase to the utility budget is requested. WWU estimates an additional $113,428 in FY2019-20 and $230,259 in FY2020-21 to maintain its utility budget.

Fiscal Summary

<table>
<thead>
<tr>
<th>Operating Expenditures</th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>FY 2022</th>
<th>FY 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fund 001 - 1</td>
<td>$114</td>
<td>$231</td>
<td>$351</td>
<td>$475</td>
</tr>
<tr>
<td>Total Expenditures</td>
<td>$114</td>
<td>$231</td>
<td>$351</td>
<td>$475</td>
</tr>
<tr>
<td>Biennial Totals</td>
<td></td>
<td></td>
<td></td>
<td>$826</td>
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</table>

<table>
<thead>
<tr>
<th>Object of Expenditure</th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>FY 2022</th>
<th>FY 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obj. E</td>
<td>$114</td>
<td>$231</td>
<td>$351</td>
<td>$475</td>
</tr>
</tbody>
</table>

Package Description

All academic activities depend on the delivery and use of utilities such as heat, electricity, natural gas. No academic mission can be completed without the provision of one or more of these commodities. The cost of utility commodities is a non-discretionary expense. Rates are set by the respective providers, or current market factors, and are generally not negotiable. Lack of funding for inflation on utilities will require the reallocation of funds from activities directly completing the academic mission.

Assumptions and Calculations

Expansion or alteration of a current program or service:
Not applicable

Detailed assumptions and calculations:
- $3,780,933 * 3.0% = $113,428
- $3,894,361 * 3.0% = $116,831
- $4,011,192 * 3.0% = $120,336
- $4,131,528 * 3.0% = $123,946

Workforce Assumptions:
Not applicable

Strategic and Performance Outcomes

Strategic framework:
Supporting Western’s academic mission is essential to Western’s efforts in providing a WORLD CLASS EDUCATION and ensuring taxpayer dollars are spent in a manner consistent with EFFICIENT, EFFECTIVE GOVERNMENT. Western’s Strategic Plan includes many goals that are intended to contribute toward the “World class education-Goal Map”. Attainment of those goals requires the provision of utility commodities to the buildings in which the academic mission is completed.

Performance outcomes:
Continuing provision of utility commodities to Western Washington University buildings will allow activities supporting the academic and research activities of the institution to continue.
Other Collateral Connections

Intergovernmental:  
Not applicable

Stakeholder response:  
Not applicable

Legal or administrative mandates:  
Not applicable

Changes from current law:  
Not applicable

State workforce impacts:  
Not applicable

State facilities impacts:  
Not applicable

Puget Sound recovery:  
Not applicable

IT Addendum

Does this Decision Package include funding for any IT-related costs, including hardware, software, (including cloud-based services), contracts or IT staff?  
No
Agency Recommendation Summary

Maintain buying power of the goods & services portion of Facilities Management budget is critical for maintaining Western’s infrastructure. For the past four fiscal years, the average annual rate of inflation for construction materials in the Puget Sound area was 4.17%. Industry experts recommend planning for 3.5%-4% annual increases for the foreseeable future. Using 3.5% as a conservative escalation rate, in order to maintain current levels of buying power, the $1.9M FM Goods and Services budget (non-labor) will need a recurring increase of $66,500 in FY2019-20 and an additional $68,828 in FY2020-21 for a total biennial increase of $201,828.

Fiscal Summary

Dollars in Thousands

<table>
<thead>
<tr>
<th>Operating Expenditures</th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>FY 2022</th>
<th>FY 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fund 001 - 1</td>
<td>$67</td>
<td>$136</td>
<td>$207</td>
<td>$281</td>
</tr>
<tr>
<td>Total Expenditures</td>
<td>$67</td>
<td>$136</td>
<td>$207</td>
<td>$281</td>
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<tr>
<td>Biennial Totals</td>
<td>$203</td>
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Object of Expenditure

<table>
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<tr>
<th>Object of Expenditure</th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>FY 2022</th>
<th>FY 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obj. E</td>
<td>$67</td>
<td>$136</td>
<td>$207</td>
<td>$281</td>
</tr>
</tbody>
</table>

Package Description

Facilities Management exists for the sole purpose of maintaining, repairing, and operating state assets in which the academic mission is accomplished. Over the past few biennia, state appropriations have fully funded a core skilled work force in Facilities Management charged with maintaining and operating an increasingly complex inventory of buildings, utilities, and distribution systems. In the current biennium, 82% of the facilities operating budget is labor, and the remainder is goods and services. In order to ensure the full productivity and effectiveness of the state funded work force, Facilities Management must be able to purchase a very predictable level of materials, services, and training as it fulfills its obligation to be stewards of the taxpayers’ dollar.

If the goods and services budget does not receive inflationary adjustments, the buying power of that steady state budget is effectively reduced to 93% of current capability every biennium. Facilities Management will need to prioritize the backlog in maintenance needs and requests in a manner that will result in:

- The deferment of critical preventative maintenance
- The subsequent shifting of costs to the capital budget due to lack of preventative maintenance
- Delays in making repairs impacting customer (faculty, student and staff) satisfaction
- Negative impact on recruitment of students when visiting campus
- Negative impact on retention of students impacted by regular disruption of services.
- Ultimately, positions will not be filled in order to free up funds to pay for materials – which exacerbates the consequences already listed.

FM is requesting annual inflationary adjustments to its goods and services budget in order to be able to maintain the current level of service to campus.

Assumptions and Calculations

- Expansion or alteration of a current program or service:
  Not applicable
Detailed assumptions and calculations:
- $1,900,000 * 3.5% = $66,500
- $1,966,500 * 3.5% = $68,828
- $2,035,328 * 3.5% = $71,237
- $2,106,565 * 3.5% = $73,730

Workforce Assumptions:
Not applicable

Strategic and Performance Outcomes

Strategic framework:
Supporting Western's academic mission is essential to Western's efforts in providing a WORLD CLASS EDUCATION and ensuring taxpayer dollars are spent in a manner consistent with EFFICIENT, EFFECTIVE GOVERNMENT. All academic endeavors require and benefit from adequately maintained and operated facilities. In addition to valuing the excellence we have at Western, our strategic plan includes objectives to provide and maintain support and infrastructure for academic activities in a variety of ways.

Performance outcomes:
Requested funding will allow Western to have adequately maintained and operational facilities that support the instruction and research activities of the institution.

Other Collateral Connections

Intergovernmental:
Not applicable

Stakeholder response:
Not applicable

Legal or administrative mandates:
Not applicable

Changes from current law:
Not applicable

State workforce impacts:
Not applicable

State facilities impacts:
Not applicable

Puget Sound recovery:
Not applicable

IT Addendum

Does this Decision Package include funding for any IT-related costs, including hardware, software, (including cloud-based services), contracts or IT staff?
No
<table>
<thead>
<tr>
<th>Agency Name</th>
<th>Fee Code</th>
<th>Name of Fee</th>
<th>Is a bill required?</th>
<th>Z-Draft # (or Pending)</th>
<th>New, Increased, Continued?</th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>Tied to Expenditure Change?</th>
<th>Fee Payer Position</th>
<th>Explanation of Change</th>
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<tr>
<td>380 Western Washington University</td>
<td>2200</td>
<td>Services &amp; Activity Fee</td>
<td>NO</td>
<td>NO</td>
<td>Increased</td>
<td>86,000</td>
<td>87,000</td>
<td>Increase in resources and/or program cost</td>
<td>Agency Initiated</td>
<td>Increase in resources and/or program cost with a 2.0% increase for self-supporting funds</td>
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<tr>
<td>380 Western Washington University</td>
<td>2300</td>
<td>Other Mandatory Fee</td>
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<td>217,000</td>
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<tr>
<td>380 Western Washington University</td>
<td>3100</td>
<td>On-Campus Lab &amp; Course Fees</td>
<td>NO</td>
<td>NO</td>
<td>Increased</td>
<td>57,000</td>
<td>58,000</td>
<td>Increase in resources and/or program cost</td>
<td>Agency Initiated</td>
<td>Increase in resources and/or program cost with a 2.0% increase for self-supporting funds</td>
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Additional Comments

Incremental Revenue
Dollars in Thousands

<table>
<thead>
<tr>
<th>Agency</th>
<th>Fee Code</th>
<th>Name of Fee</th>
<th>Z-Draft # (or Pending)</th>
<th>New, Increased, Continued?</th>
<th>FY 2020</th>
<th>FY 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>380</td>
<td>2200</td>
<td>Services &amp; Activity Fee</td>
<td>NO</td>
<td>NO</td>
<td>86,000</td>
<td>87,000</td>
</tr>
<tr>
<td>380</td>
<td>2300</td>
<td>Other Mandatory Fee</td>
<td>NO</td>
<td>NO</td>
<td>213,000</td>
<td>217,000</td>
</tr>
<tr>
<td>380</td>
<td>3100</td>
<td>On-Campus Lab &amp; Course Fees</td>
<td>NO</td>
<td>NO</td>
<td>57,000</td>
<td>58,000</td>
</tr>
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## Working Capital Reserve

**Agency:** 380 Western Washington University  
**Session:** 2019-21 Regular  
**Version:** WWUREQ21 WWU 2019-21 Budget Request 2

*Units in Thousands*

<table>
<thead>
<tr>
<th>FUND</th>
<th>FUND TITLE</th>
<th>RECOMMENDED ENDING FUND BALANCE</th>
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<tbody>
<tr>
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**Date Run:** 9/20/2018 11:25:47AM
# Federal Funding Estimates

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<th>Agency</th>
<th>Federal Fiscal Year</th>
<th>State Fiscal Year</th>
<th>State Match Amounts</th>
<th>State Match Source [001-1, XXX-1, etc.]</th>
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<td>FY 2021 3,423</td>
<td>FY 2022 3,423</td>
<td>FY 2023 3,423 336,328</td>
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<td>FY 2023 000 1,702</td>
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* Catalog of Federal Domestic Assistance  
Updated Sept 2018
## NON-BUDGETED LOCAL FUND SUMMARY

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<tr>
<th>FUND CODE</th>
<th>FUND NAME</th>
<th>7/1/17 FUND BALANCE</th>
<th>6/30/19 ESTIMATED FUND BALANCE</th>
<th>2019-21 ESTIMATED REVENUES</th>
<th>2019-21 ESTIMATED EXPENDITURES</th>
<th>6/30/21 ESTIMATED FUND BALANCE</th>
</tr>
</thead>
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<td>113,213,350</td>
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<td>211,504,829</td>
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<td>Other Internal Services</td>
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<td>528</td>
<td>Parking</td>
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<td>3,722,204</td>
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<td>570</td>
<td>Other Enterprises</td>
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<td>Housing and Dining</td>
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<td>G. Robert Ross Endowment</td>
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<td>846</td>
<td>Scholarship</td>
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<td>849</td>
<td>Perkins and Other Loan Funds</td>
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<td>Endowment Funds</td>
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<tr>
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<td>17,961,043</td>
<td>2,438,407</td>
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</table>

* This column must agree with the 6/30/17 CAFR balance.

* Central Stores is being discontinued at Western
## Locally-Authorized Salary Increases

### Estimated Cumulative Value
Of Locally-Authorized Salary Increases
Initially Reported As GF-S or Operating Fee Expenditures on CIM

*(Dollars in Thousands)*

**Institution:** Western Washington University

<table>
<thead>
<tr>
<th></th>
<th>Non-Represented Employees</th>
<th>Represented (Collectively-Bargained) Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Specify Bargaining Unit)</td>
<td>(Specify Bargaining Unit)</td>
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<tr>
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<tr>
<td>FY 17</td>
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<td>FY 18</td>
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<td>FY 19</td>
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<tr>
<td>TOTAL</td>
<td>$3,591</td>
<td></td>
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</tbody>
</table>

*Please report only the estimated cumulative value of (a) the locally-authorized amounts in excess of the standard state-funded salary increases in the biennial budget; that (b) were reported as a GF-S or 149-6 cost on your institution's most recent CIM submission.*

Non-represented employees includes faculty and pro staff.
### ATTACHMENT A-2

#### Collective Bargaining Agreement Summary (Classified, Faculty and Exempts)

Institution Name: Western Washington University

<table>
<thead>
<tr>
<th>Barg Unit Code</th>
<th>Bargaining Unit Title</th>
<th>FY 1</th>
<th>FY 2</th>
<th>FY 3</th>
<th>FY 4</th>
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<tr>
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<td>FY 4</td>
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</tr>
</tbody>
</table>

### Footnotes:

1. **General Wage Increase**
   - Increases to Each Specific Job Classes
   - Compression/Equity Increase
   - Footwear Reimbursement
   - Additional Vacation
   - Temporary Pay Increase
   - Pay & Salary Increase

2. **Special Skills Pay**
   - Increases for IT Bargaining
   - Special skills pay
   - Job differentials
   - Locality or geographic pay

3. **Assignment Pay**
   - Assignment pay

4. **Seniority Pay**
   - Seniority pay (increase after certain years in job class)

5. **Compression/Equity Increase**
   - Compression/Equity increase

6. **Footwear Reimbursement**
   - Footwear Reimbursement

7. **Additional Vacation**
   - Additional vacation time

8. **Temporary Pay Increase**
   - Temporary Pay Increase

9. **Pay & Salary Increase**
   - Pay & Salary Increase

10. **Special Skills Pay**
    - Special skills pay

### Definitions:

- **End Date (if Any)**
- **Bargaining Unit Title**
- **Pay Increase Element**
- **Effective Date**
- **Contractual/Local Act**
- **Bargaining Unit Total**
- **Payable/Actual**

### Notes:

- All budgeted accounts used by higher ed institutions are listed here. You can delete any columns not pertinent to your agency.

- Bargaining Unit Total: $5,473,260
- Pay Increase Element: $5,042,995
- Effective Date: 7/1/2019
- Contractual/Local Act: $4,662,074
- Payable/Actual: $4,210,453

---

**End Date (if Any)**

**Bargaining Unit Title**

**Pay Increase Element**

**Effective Date**

**Contractual/Local Act**

**Payable/Actual**

---

**End Date (if Any)**

**Bargaining Unit Title**

**Pay Increase Element**

**Effective Date**

**Contractual/Local Act**

**Payable/Actual**

---

**End Date (if Any)**

**Bargaining Unit Title**

**Pay Increase Element**

**Effective Date**

**Contractual/Local Act**

**Payable/Actual**
## State-Supported Tuition Waivers by Purpose

For the most part, state-supported waivers are outlined in RCW 28B.15.910(1),(2) and (4).

### Institution: Western Washington University

#### Purpose for Granting RCW The Waiver

<table>
<thead>
<tr>
<th>Purpose for Granting</th>
<th>RCW</th>
<th>FY 2017</th>
<th>FY 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Residents</td>
<td>Non-Residents</td>
<td>Residents</td>
</tr>
<tr>
<td></td>
<td>Headcount</td>
<td>$ (actuals)</td>
<td>Headcount $</td>
</tr>
<tr>
<td>UNDERGRADUATE STUDENTS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children of Police/Firemen</td>
<td>28B.15.380</td>
<td>3.3</td>
<td>20,981</td>
</tr>
<tr>
<td>Veteran</td>
<td>28B.15.621</td>
<td>67.7</td>
<td>445,696</td>
</tr>
<tr>
<td>Diversity</td>
<td>28B.15.740</td>
<td>143</td>
<td>298,496</td>
</tr>
<tr>
<td>Gender Equity</td>
<td>28B.15.740</td>
<td>173</td>
<td>769,159</td>
</tr>
<tr>
<td>Merit</td>
<td>28B.15.740</td>
<td>368.7</td>
<td>999,112</td>
</tr>
<tr>
<td>Financial Need</td>
<td>28B.15.740</td>
<td>1342.3</td>
<td>2,199,999</td>
</tr>
<tr>
<td>Other</td>
<td>28B.15.740</td>
<td>12.3</td>
<td>37,159</td>
</tr>
<tr>
<td><strong>Subtotal State-Support</strong></td>
<td></td>
<td>2110.3</td>
<td>$4,770,602</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GRADUATE STUDENTS</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Teaching Assistants</td>
<td>28B.15.014</td>
<td>55</td>
<td>$159,255</td>
<td>8</td>
</tr>
<tr>
<td>Graduate Service Appointments</td>
<td>28B.15.615</td>
<td>144.7</td>
<td>$967,000</td>
<td>8.7</td>
</tr>
<tr>
<td>Veteran</td>
<td>28B.15.621</td>
<td>0.3</td>
<td>$38</td>
<td>0</td>
</tr>
<tr>
<td>Gender Equity</td>
<td>28B.15.740</td>
<td>2</td>
<td>$9,395</td>
<td>2</td>
</tr>
<tr>
<td>Financial Need</td>
<td>28B.15.740</td>
<td>0</td>
<td>$0</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>28B.15.740</td>
<td>23.7</td>
<td>$145,495</td>
<td>1</td>
</tr>
<tr>
<td><strong>Subtotal State-Support</strong></td>
<td></td>
<td>225.7</td>
<td>$1,281,183</td>
<td>19.7</td>
</tr>
</tbody>
</table>

**TOTAL STATE SUPPORT**

<table>
<thead>
<tr>
<th></th>
<th>FY 2017</th>
<th>FY 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents</td>
<td>Non-Residents</td>
<td>Residents</td>
</tr>
<tr>
<td>Headcount</td>
<td>$ (actuals)</td>
<td>Headcount $</td>
</tr>
<tr>
<td>2336</td>
<td>$6,051,785</td>
<td>125.4</td>
</tr>
</tbody>
</table>

**NOTE:** Please enter unduplicated headcounts and revenues waived in the cells above. In instances in which a student qualifies for multiple waivers (e.g. a veteran enrolled in excess of 18 credits), please count the student and include all operating fees waived on their behalf on the first row applicable to their situation.
### Non-State-Supported Tuition Waivers by Purpose

Non-state supported waivers are described in RCW 28B.15.915 and 28B.15.910(3).

**Institution: Western Washington University**

<table>
<thead>
<tr>
<th>Purpose for Granting The Waiver</th>
<th>RCW</th>
<th>FY 2017 Residents</th>
<th></th>
<th>FY 2017 Non-Residents</th>
<th></th>
<th>FY 2018 Residents</th>
<th></th>
<th>FY 2018 Non-Residents</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Headcount</td>
<td></td>
<td>$ (actu als)</td>
<td></td>
<td>Headcount</td>
<td></td>
<td>$ (actu als)</td>
<td></td>
</tr>
<tr>
<td>Other Waiver Programs</td>
<td>28B.15.915</td>
<td>800</td>
<td>1007.7</td>
<td>$1,256,172</td>
<td>$6,309,521</td>
<td>1023</td>
<td>1153.7</td>
<td>$1,532,232</td>
<td>$7,071,736</td>
</tr>
<tr>
<td><strong>Subtotal Non State-Support</strong></td>
<td></td>
<td>800</td>
<td>1007.7</td>
<td>$1,256,172</td>
<td>$6,309,521</td>
<td>1023</td>
<td>1153.7</td>
<td>$1,532,232</td>
<td>$7,071,736</td>
</tr>
<tr>
<td><strong>GRADUATE STUDENTS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Waiver Programs</td>
<td>28B.15.915</td>
<td>25.3</td>
<td>71</td>
<td>$80,999</td>
<td>$1,010,289</td>
<td>32.3</td>
<td>68.7</td>
<td>$101,103</td>
<td>$1,076,950</td>
</tr>
<tr>
<td><strong>Subtotal Non State-Support</strong></td>
<td></td>
<td>25.3</td>
<td>71</td>
<td>$80,999</td>
<td>$1,010,289</td>
<td>32.3</td>
<td>68.7</td>
<td>$101,103</td>
<td>$1,076,950</td>
</tr>
<tr>
<td><strong>TOTAL NON STATE SUPPORT</strong></td>
<td></td>
<td>825.3</td>
<td>1078.7</td>
<td>$1,337,171</td>
<td>$7,319,810</td>
<td>1055.3</td>
<td>1222.4</td>
<td>$1,633,335</td>
<td>$8,148,686</td>
</tr>
</tbody>
</table>

**NOTE:** Please enter unduplicated headcounts and revenues waived in the cells above. In instances in which a student qualifies for multiple waivers (e.g. a veteran enrolled in excess of 18 credits), please count the student and include all operating fees waived on their behalf on the first row applicable to their situation.
## Financial Aid from Non-State Sources

**Institution: Western Washington University**

<table>
<thead>
<tr>
<th>Source</th>
<th>FY 2016</th>
<th></th>
<th>FY 2017</th>
<th></th>
<th>FY 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Headcount</td>
<td>$ (actuals)</td>
<td>Headcount</td>
<td>$ (actuals)</td>
<td>Headcount</td>
</tr>
<tr>
<td>Federal Grants</td>
<td>4,056</td>
<td>16,680,284</td>
<td>4,000</td>
<td>16,335,690</td>
<td>4,265</td>
</tr>
<tr>
<td>Federal Student Loans (Stafford)</td>
<td>7,167</td>
<td>47,251,066</td>
<td>6,953</td>
<td>45,271,464</td>
<td>6,811</td>
</tr>
<tr>
<td>Federal PLUS Loans (Parent and Graduate)</td>
<td>1,779</td>
<td>21,815,082</td>
<td>1,688</td>
<td>20,659,461</td>
<td>1,607</td>
</tr>
<tr>
<td>Private Grants*</td>
<td>1,046</td>
<td>2,526,246</td>
<td>1,060</td>
<td>2,538,007</td>
<td>1,135</td>
</tr>
<tr>
<td>Private Loans</td>
<td>394</td>
<td>4,489,745</td>
<td>479</td>
<td>5,255,901</td>
<td>482</td>
</tr>
<tr>
<td>Three and One Half or Four Percent Set Aside**</td>
<td>1,776</td>
<td>4,506,010</td>
<td>1,708</td>
<td>4,817,779</td>
<td>1,642</td>
</tr>
<tr>
<td>Other</td>
<td>1,191</td>
<td>3,937,481</td>
<td>1,181</td>
<td>3,816,850</td>
<td>1,223</td>
</tr>
</tbody>
</table>

* Private Grants: Grants or loans funded with contributions, endowment funds, foundation resources, or other private sources under the institution's control funds from RCW 28B.15.067(1), (9) and (10).

** RCW 28B.15.031 requires a minimum of four percent of operating fees be retained by four-year institutions of higher education and a minimum of three percent of operating fees be retained by the community and technical colleges for the purposes of RCW 28B.15.820.
## Cumulative Undergraduate Student Loan Debt at Graduation

**Institution:** Western Washington University

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Total Students Receiving Bachelor's Degree</th>
<th>Number Receiving Bachelor's Degree with Loan Debt*</th>
<th>Percentage of those receiving Bachelor's Degrees Who Have Loan Debt*</th>
<th>Mean Loan Debt* at Graduation</th>
<th>Median Loan Debt* at Graduation</th>
<th>Total Loan Debt* for All Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-12</td>
<td>3,146</td>
<td>1,811</td>
<td>57.56%</td>
<td>19,869</td>
<td>19,500</td>
<td>35,982,322</td>
</tr>
<tr>
<td>2012-13</td>
<td>3,281</td>
<td>1,885</td>
<td>57.45%</td>
<td>19,969</td>
<td>20,169</td>
<td>37,641,410</td>
</tr>
<tr>
<td>2013-14</td>
<td>3,117</td>
<td>1,831</td>
<td>58.74%</td>
<td>20,456</td>
<td>20,124</td>
<td>37,455,419</td>
</tr>
<tr>
<td>2014-15</td>
<td>3,139</td>
<td>1,855</td>
<td>59.09%</td>
<td>21,403</td>
<td>21,000</td>
<td>39,702,370</td>
</tr>
<tr>
<td>2015-16</td>
<td>3,256</td>
<td>1,849</td>
<td>56.79%</td>
<td>18,352</td>
<td>16,998</td>
<td>33,933,357</td>
</tr>
<tr>
<td>2016-17</td>
<td>3,353</td>
<td>1,638</td>
<td>48.85%</td>
<td>14,800</td>
<td>12,000</td>
<td>24,242,241</td>
</tr>
<tr>
<td>2017-18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Loan information for 2017-18 will be available October 2018</strong></td>
</tr>
</tbody>
</table>

*Loan debt from Federal, State or Private loans received while attending this institution.
**Please submit separate forms for Maintenance Level vs. Performance Level requests. At ML, institutions may propose ongoing state support for facilities constructed or expanded with bond or cash assistance in the state capital budget. Performance Level decision packages may be submitted and considered for (1) instructional facilities constructed with financing contracts authorized in the state capital budget; or (2) instructional or research facilities constructed with non-state funds.**

**Institution:** Western Washington University

**Total gross square feet of campus facilities supported by State Funds:**

**Total net assignable square feet supported by State Funds:**

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Capital Budget Project Code</th>
<th>Total Project Gross Square Feet*</th>
<th>Gross Square Feet Replaced by Project</th>
<th>Projected Occupancy Date</th>
<th>Projected Percentage of Year Occupied</th>
<th>Proposed State-Supported Cost Per Square Foot**</th>
<th>Requested State Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Discovery Center</td>
<td></td>
<td>13,820</td>
<td>1,820</td>
<td>1/1/2018</td>
<td>100%</td>
<td>100%</td>
<td><strong>$184,427</strong></td>
</tr>
<tr>
<td>Support Services Building</td>
<td></td>
<td>25,000</td>
<td>1,820</td>
<td>7/1/2019</td>
<td>0%</td>
<td>100%</td>
<td><strong>$276,500</strong></td>
</tr>
<tr>
<td>Multi Cultural Center</td>
<td></td>
<td>1,825</td>
<td>1,825</td>
<td>7/1/2019</td>
<td>100%</td>
<td>100%</td>
<td><strong>$39,785</strong></td>
</tr>
</tbody>
</table>

*If building square footage exceeds by more than 5% the amount identified in the project C-2 that was submitted to OFM and the Legislature prior to the session during which construction funding was appropriated, please explain why in the “Expenditure and Revenue Calculations” section of the decision package.

**Please identify and explain the basis for the proposed rate per square foot, by component function, in the table below. If this cost exceeds your institution’s actual FY 12 cost per square foot for the function, please explain why.**

<table>
<thead>
<tr>
<th>Component</th>
<th>Proposed Rate per GSF</th>
<th>FY 20</th>
<th>FY 21</th>
<th>Estimation Basis for Proposed Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>091 - Utilities</td>
<td>$1.82</td>
<td>$1.87</td>
<td></td>
<td>Based on $/SF received in 17-19 biennium with 3% inflation rate</td>
</tr>
<tr>
<td>092 - Bldg &amp; Utilities Maintenance</td>
<td>$4.10</td>
<td>$4.22</td>
<td></td>
<td>Based on $/SF received in 17-19 biennium with 3% inflation rate</td>
</tr>
<tr>
<td>093 - Custodial &amp; Grounds Svcs.</td>
<td>$3.03</td>
<td>$3.12</td>
<td></td>
<td>Based on $/SF received in 17-19 biennium with 3% inflation rate</td>
</tr>
<tr>
<td>094 - Ops &amp; Maintenance Support</td>
<td>$1.79</td>
<td>$1.84</td>
<td></td>
<td>Based on $/SF received in 17-19 biennium with 3% inflation rate</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$10.74</strong></td>
<td><strong>$11.06</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency</td>
<td>Program</td>
<td>Subprogram (only used for DSHS in Program 030 and 040)</td>
<td>Account and Approp Title</td>
<td>Auditor</td>
</tr>
<tr>
<td>------------------------------</td>
<td>---------</td>
<td>------------------------------------------------------</td>
<td>--------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>380-Western Washington University</td>
<td>001-1</td>
<td>General Fund-State</td>
<td></td>
<td>51.00%</td>
</tr>
<tr>
<td>380-Western Washington University</td>
<td>149-6</td>
<td>Inst of Hi Ed-Operating Fees Acct-Non-Appr</td>
<td></td>
<td>49.00%</td>
</tr>
</tbody>
</table>
**Chapter 11 - Central Service Charges, Risk Management and Self-Insurance**

**Premiums (2019-21 Operating Budget Instructions) - Western Washington University**

### Risk Management and Self-Insurance Premiums

An ERM update must be submitted. "Agencies must submit an ERM update with their budget submittal and to DES's Office of Risk Management (ORM). The update should be a one-page submittal describing three major risks that could affect the agency’s ability to achieve its strategic objectives/goals on time and any existing or proposed initiatives the agency has to address these risks."

<table>
<thead>
<tr>
<th>ENTERPRISE RISK</th>
<th>RESPONSE STRATEGY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Competitive Compensation to Sustain Excellence</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Context</strong>: Western Washington University Strategic Plan 2018-2024, Strategic Goal #3(E) - Provide competitive compensation and professional development for student employees, staff, and faculty.</td>
<td>Higher education is a talent based industry, and the ability to provide the highest quality instruction, research and services to students and other stakeholders requires competitive compensation to attract and retain quality faculty and staff.</td>
</tr>
<tr>
<td><strong>Narrative</strong>: Western's greatest strength is its outstanding student employees, staff, and faculty who deliver its quality education and a broad range of programs to students that lead to their professional and academic careers. Western's employees are the core of the University's considerable strengths to meeting the critical needs of the state of Washington and beyond. Although the economy has mostly recovered, Western is still feeling the lingering effects of the Great Recession on its employee staffing, compensation, and workforce maintenance (i.e. aging workforce).</td>
<td>Western has made significant progress during previous legislative sessions in terms of legislative appropriations for compensation. Western also made internal reallocations to extend significantly beyond what was appropriated. However, the hole we are in occurred over several difficult biennia, so a multi-biennia strategy is required to recover. So, in order to maintain the excellence of Western, compensation continues to be Western's top priority in its efforts to accomplish its Strategic Plan.</td>
</tr>
</tbody>
</table>

### Improve Campus Diversity, Inclusion and Climate

**Context**: Western Washington University Strategic Plan 2018-2024, Strategic Goal #4 - Western will pursue justice and equity in its policies, practices, and impacts (A thru F) 

**Narrative**: 

**Diversity**: Although Western continues to increase its numbers of faculty, staff, and students from underrepresented groups, that progress has reached neither the level nor the velocity desired. Competition for faculty, staff, and students from underrepresented groups is strong. This factor is likely to become stronger, at least in terms of students, as the trend of underrepresented groups forming an increasingly high percentage of high school graduates continues. 

**Climate**: Western views itself and is viewed for the most part as a welcoming and affirming community. However, perceptions of the campus climate reported by faculty, staff, and students from underrepresented groups are not as positive as is desired. The reputational effect may very well contribute to difficulty in attracting people from underrepresented groups, and the perceptions may contribute to difficulty in retention. 

**Western has moved forward with the following initiatives:** 

Western has created two groups that are working to further to advance diversity and inclusion at Western. The *Commission on Gender Equity* provides advice and recommendations related to promoting gender equity, parity, and inclusivity related to hiring, professional advancement, leadership development, salary equity, and student success. The *Council for Equity, Inclusion and Social Justice* (formally the President's Taskforce on Equity, Inclusion and Diversity) identifies structural barriers to equity, inclusion and social justice at Western and recommends policies and practices that help create and sustain a more just and inclusive community. Both groups will advise university leaders, and make recommendations on university policies, practices, and programs to enact constructive change in these areas. 

Western is working with Native American tribes in the area to develop a *Tribal Relations Liaison Position* that develop and sustain more meaningful and authentic relationships with the Native American tribes. 

Western has appointed a new LGBTQ+ *Director* to facilitate, coordinate and provide oversight to LGBTQ+ activities and resources for all students, faculty and staff. 

The *Provost's Diversity and Inclusion Hiring Initiative* was established to recognize the need to hire, retain, and advance faculty who are committed to effectively educating and mentoring Western’s increasingly diverse student body.
## Strengthen Health of Information Technology (IT) and Communication Systems

**Context #1:** Western Washington University Strategic Plan 2018-2024, Strategic Goal #1(G) - Provide technological and other academic infrastructure to support curricular innovation, research, scholarship, and creative activity, civic engagement and social justice. Increasing Washington Impact “...we must prepare our students to be successful in a continuously changing work and social environment, where technology and automation are driving employment trends, and significantly changing the nature of work and relationships.

**Context #2:** State of Washington Enterprise Technology Strategic Plan, Enterprise Architecture and Efficient & Effective Government - Goals of consolidating services, maximizing our buying power, modernizing our infrastructure, increasing capacity to manage information, and identifying common business practices that can be supported by shared solutions.

**Narrative:** Western’s 10 year old networking infrastructure and 35 year old telephone system are both end-of-life technologies and no longer receiving software and security updates from their vendors. As a result, Western is experiencing an increasing number of network and phone outages. Most recently, phone calls were having difficulty reaching Western’s University Police Dispatch for over 12 hours. Secure, reliable and up-to-date technology is more essential than ever in higher education in order to support our educational mission and our residential campus life-safety responsibilities.

Western seeks to upgrade and replace its end-of-life systems:

**Network Refresh:** Because all modern technology systems require a robust, secure, high-performance data network to deliver their services, Western will need network equipment upgrades to enhance all IT-related or IT-dependent services on our campus. The upgrades allow Western to adopt higher bandwidth between facilities, to implement new networking and security protocols, to accommodate growth in both wired and wireless network services, and to support the convergence and consolidation of multiple networks on campus into a single secure, resilient, and scalable enterprise network. This provides the necessary technological foundation for Western to accomplish its Strategic Plan.

**Telephone Replacement:** Supporting the existing Nortel PBX and its related components is time consuming and expensive, and no longer reflects modern service operations. Maintaining crash cart equipment, batteries, fiber connectivity and separate copper network, and incurring the high cost of time and materials for any equipment failure, is detrimental to Western’s ability to accomplish its Strategic Plan. Western is seeking a complete overhaul of its communication system.

**2018-24 Strategic Plan:**

**State of Washington Enterprise Technology Strategic Plan:**
https://ocio.wa.gov/strategy