2021-2023 Biennium Internal Budget Proposal Narrative
Division: Academic Affairs

Evaluation Criteria: Proposals will be evaluated on every aspect of this template. It is highly recommended that the narrative portion touch on each area. Proposals forwarded to UPRC by unit leaders will be discussed at UPRC and authors are encouraged to attend so that they may answer questions and provide clarification.

Meeting the Needs of Washington Citizens: Expanding Access for Pre-Healthcare Students

☐ This is a revised version of a previously submitted budget proposal.
If box is checked please briefly outline any significant changes and/or indicate why it is being resubmitted.

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Statement of Purpose: *(What is the challenge or opportunity being addressed? How does the proposal address this challenge or opportunity? Limit response to 1 page – please link to any existing reports, data, supplemental materials, etc.)*

This internal budget request aims to establish the infrastructure needed to increase the capacity for students interested in preparing for healthcare careers at WWU. **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[1].** In addition, the current pandemic has increased the interest in pre-health majors (students with pre-health attributes increased from 883 to 1060 from Fall 2019 to Fall 2020; medical school applications have increased 18% nationally over the past year, the so-called 'Fauci Effect'). 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[2]. 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[3]. To reflect on WWU's student community this academic year, 31% are first generation, 28% are Students of Color, and 24% are Pell-eligible (https://wp.wwu.edu/sos/students/). WWU is well poised to help the needs of the state by providing diverse graduates ready to enroll in such programs, but needs additional resources.

[1] Source: "A Skilled and Educated Workforce 2017 Update"; Washington Student Achievement Council, the State Board for Community and Technical Colleges, and the Workforce Training and Education Coordinating Board
[2] "A Skilled and Educated Workforce" p. 15
[3] Source: "Current Trends in Medical Education"; Association of American Medical Colleges

Currently, pre-health students at WWU are limited by access to pre-health courses, and overly strained advising resources. This proposal would make important strides to remedy both of these problems. Pre-health students at Western fall in one of two main categories: 1) those majoring in a discipline in which the degree requirements include most of the courses required for their professional aspirations, and 2) those majoring in other disciplines who take pre-health courses on top of their major requirements (there is no single degree at WWU that covers all the pre-requisites to apply to medical school). Because of increased demand on the courses required for either or both groups of students, access challenges cause many difficulties for these students: extended times to graduation, insufficient access to 300-level courses prior to the 400-level courses they are intended to support, and limited access to majors well suited for pre-health students. **Biology and Chemistry can help with the increased interest in pre-health preparation and need for well-qualified and diverse people in allied health professions. In order to address emergent supply and demand discrepancies in both departments, we request 4 new tenure-track positions (2 in Biology and 2 in Chemistry), new technical and professional advising staff, 2 new graduate TA lines in each department, and remodeling of lab and office spaces in both the Biology building and Morse Hall to accommodate these new hires.** These steps will allow us to increase the enrollment capacity of specific bottleneck courses in Biology and Chemistry (BIOL 321-4, CHEM 471-4) that are currently limiting Western's ability to produce graduates ready to pursue careers in healthcare. One element of this proposal is to expand access to courses in Biology and Chemistry that are taken by students in a wide array of pre-health pathways, and the other is to provide a more streamlined degree path (Biochemistry BA; recently approved by ACC) for meeting pre-medicine and other allied healthcare career requirements. The newly developed Biochemistry BA will increase the total number of Biochemistry graduates by 50%; given that both the Biology and Chemistry programs assess GPA metrics during the major admission process, expanding major seats plays a critical role in fostering inclusive excellence in these programs. **The Biochemistry BA degree will also have the intended effect of allowing community college transfer students to complete a comprehensive, cross-disciplinary degree related directly to pre-healthcare coursework in two years once enrolled at WWU, representing a sustainable 2+2 degree pathway for this increasing population of WWU students.**

Anticipated Outcome(s):

Our proposal will result in the following outcomes. Most generally, it will increase the number of pre-health graduates through several pathways. If funded, we will increase the number of majors in Biochemistry BS and BA degrees from 32 to 48, increase the capacity in other majors that require supporting courses in Biology and Chemistry, and streamline time-to-degree for many students interested in pre-healthcare, including transfer students. For example, funding this proposal will increase enrollment for the following courses:
BIOL 321 (+60; 2 sections), BIOL 323 (+60; 2 sections), BIOL 324 (+24; 2 sections)
CHEM 471 (+40), CHEM 472 (+40), CHEM 473 (+40), CHEM 474 (+32). Increased professional pre-health advising will increase the retention of and support for a greater diversity of pre-health students. Increasing the capacity of the Biochemistry BA will provide a more efficient path to graduation for pre-health students (this degree was designed in part to streamline

student progress towards completing required curriculum for medical and allied health professional schools), which will help reduce the time to graduate, especially for transfer students, and increase retention of financially strained students.

Metrics: *(How will outcomes be measured? Please include current data points and goals. If this proposal will have any impact on the Overall Metrics included in the university's strategic plan, please indicate which specific ones here.)*

We can directly measure most of the outcomes. For example, the increased number of students in the Biochemistry majors and number of seats in supporting pre-health courses. Some of the other outcomes are indirectly measured. The total number of pre-graduates should increase if this proposal is funded, but other factors also affect this number that are independent of this proposal—thus it is an informative but not a perfect metric for success. Lastly, we expect the retention of historically excluded students from pre-health majors. We expect this to occur from hiring faculty that are trained to support a diversity of students, more sophisticated and targeted advising of pre-health students, and a larger and more diverse pre-health community that will reduce the experience of isolation and increase peer support.

How does this proposal align with your departmental/divisional strategic priorities? *(Please reference specific items from the recently completed departmental/divisional strategic plan and attach a copy.)*

Both Biology and Chemistry share the strategic goals of better supporting and increasing the capacity for pre-health students. Both departments are severely space and resource limited but see a great need to expand access and increase the diversity of students interested in pre-health degrees.

How does this proposal support the University Mission and Strategic Objectives? *(Please refer to the 2018-2025 Strategic Plan and indicate which core theme(s) this proposal will help achieve.)*

Advancing Inclusive Success:

- Promotes greater equity and inclusion in STEM by 1) increasing capacity in biochemistry, which is currently capped (32 students/year) well below the demand for the degree program (there were almost 50 applicants for those 32 spots in 2020), 2) increasing access to courses required for pre-health students and therefore capacity in other majors, 3) and also by reducing time to degree for students interested in healthcare professions. Increased access is a way to help address inequities caused by institutional racism and discrimination.

- Creating a larger and more diverse community of pre-health student by increasing the expertise of faculty and advisors that can support a more diversity student body
- Strengthening professional pre-health advising to help students that require guidance to plot their course to success.

Increasing Washington Impact:

- Increases Western's ability to serve the needs of the state by contributing to the education and training of future health care professionals.
- More actively engages Western in solving health-related issues facing society.
- 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.

Enhancing Academic Excellence:

- Provides a B.A. Biochemistry degree option with a shorter path to completion than the current B.S. Biochemistry degree; specifically, creates a viable 2-year degree completion option for transfer students with an interest in postgraduate healthcare programs.
- Expands access to high-demand STEM courses and to Biology and Chemistry minors for the campus community.
- Provides clear paths to high demand professional careers.

What are the consequences of not funding this proposal?

This year, the Biochemistry major and all Biology programs were only able to accept 67% and 60%, respectively, of the qualified students that applied to each major. Without the ability to increase capacity, we expect to turn away about 50% of the qualified and interested students in the next few years (to provide clarity, this equates to ~135 total students who must find another major). These are students who have prepared for a major and now must change course. This greatly elevates the stress on our students, compromises their heath, increases their time to graduate, decreases their probability of graduating with a degree, increases the resources needed to support and advise students. All of these are counter to WWU's goals and commitment to WA citizens. In addition, although both departments are working hard to address equity and inclusion in our departments, limited access to our majors is a huge problem. We are nearly certain to see a large increase in the number of students interested in pre-health (the so-called 'Fauci Effect'), and therefore majors in Biology and Chemistry. We need to address this demand to serve the citizens of Washington, and fulfill our commitment to improving equity, inclusion, and diversity at WWU.

What alternatives were explored?

Over the past several years, Biology and Chemistry have worked to address issues of access for pre-health students. Biology and Chemistry submitted a decision package in the last budget cycle that was ultimately grouped with two other decision packages and partially funded. Ultimately, Biology and Chemistry received only a fraction of the support needed to address access issues for pre-health students. We are therefore seeking this funding to address the ever-worsening access issues that have been acknowledged at the university and state levels.

Which units (departments, colleges, etc.) will be involved?

College of Science and Engineering; Biology and Chemistry Departments

Equipment needed:

Startup funds.

For major (>$25k) purchases, please provide the following information.

Item:

Click here to enter text

Purpose:

Click here to enter text

Cost:

Click here to enter text

Anticipated Useful Life:

Click here to enter text

Replacement Cost if any:

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Human Resources *(Complete the table below adding additional rows if necessary)***:**

Position Title	*Total Headcount*	*Total FTE*	*Salary and Benefits per FTE*	*Total Cost*
Biology instructional support staff	*1*	*1*	*$72,613*	*$72,613*
Chemistry instructional support staff	*1*	*1*	*$72,612*	*$72,612*
Teaching Assistant Positions	*2*		*$15,956*	*$31,912*
Biology tenure-track faculty	*2*	*2*	*$100,474*	*$200,947*
Chemistry tenured-track faculty	*2*	*2*	*$94,553*	*$189,106*
Pre-Health Professional Advisor	*1*	*1*	*$76,792*	*$76,792*

Table above should match data on budget spreadsheets submitted with this proposal. Complete the spreadsheet to get salary, benefit, and total cost amounts. Contact your division budget officer with questions.

Operating & Maintenance Costs (include service contracts, installation costs, etc.):

$13,000 operating costs.

Space Requirements:

What type of space is needed for this proposal? (e.g., private office, lab space, group work/study space, etc.)

Two cubical spaces for teaching assistants, office space for a pre-healthcare advisor, desk space for instructional support staff, and four faculty office/lab spaces.

What features must this space have? (e.g., fume hoods, plumbing, 3-phase power, etc.)

Offices and research labs need to match with existing labs in each department.

What needs can be accommodated within your existing space?

Without money to renovate and create space, we are unable to hire any faculty.

How much new space will be required?

We are requesting funds to create 4 new faculty office/lab spaces.