
Successful Pathways to Educational Opportunities at Evergreen

376 The Evergreen State College

Decision Package : PL-N5, Baccalaureate Computer Science Backlog

Budget Period: 2015-17

Budget Level: Policy Level

Agency Recommendation Summary Text

The Evergreen State College seeks funding to support current demand in computer science, with a focus on enhancing recruitment and retention of students of color and women. If funded, this package would build on Evergreen's quality STEM undergraduate programs taught within interdisciplinary learning communities. The investment would provide three key components required to successfully move students, in particular students of color and women, through in the area of computer science: (1) support for a permanent project team and faculty, (2) additional financial aid, and (3) development of an annual curriculum summit.

Fiscal Detail:

Operating Expenditures	FY 2015-16	FY 2016-1	Total
001-1 State General Fund	\$499,067	\$499,067	\$998,134
149-6 Operating Fees	-0-	-0-	-0-
<i>Total Cost</i>	\$499,067	\$499,067	\$998,134
FTE's	3.0	3.00	3.00
A - Salaries	217,582	217,582	435,164
B - Employee Benefits	61,485	61,485	122,970
C - Contracts	0	0	0
E - Goods & Services	30,000	30,000	60,000
G - Travel	10,000	10,000	20,000
J - Equipment	50,000	50,000	100,000
N-Grants (financial aid)	130,000	130,000	260,000
<i>Total Objects</i>	\$499,067	\$499,067	\$998,134

Package Description

Background:

The Bureau of Labor Statistics predicts that in the next six years the demand for computer programmers will exceed the supply by at least one million. Washington is a leader nationwide in job openings requiring postsecondary education in computer science. At the same time national demographic trends project that women and people of color will make up a substantial part of the workforce population. Despite this demographic trend, women and people of color still remain underrepresented in the area of computer science.

To meet the explosive demand for computer science degrees and education in Washington, institutions must promote and provide opportunities to earn a degree for students underrepresented in this field.

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Current Situation:

Evergreen is a leader in meeting the demand for STEM degrees. During the period 2007-08 to 2012-13, Evergreen's high demand degrees rose by 10.3%. In fall 2013, 29% of total degree seeking undergraduates at Evergreen were enrolled in high-demand science programs. While at Evergreen students are engaged in faculty-directed research on: HIV and related retroviruses, biodegradable plastics and polymers, climate change and its impact on insect biodiversity, computer science programming for environmental applications, and the use of microphages for disease prevention and treatment.

Upon graduation Evergreen's STEM graduates find success in both the professional and academic sectors. Evergreen graduates work in private industry around the state and nationally for companies such as Boeing, GlaxoSmithKline, 3M, and Intralytix. Additionally, Evergreen graduates pursue careers as entrepreneurs in their own businesses; in the healthcare industry; and for federal and state agencies such as the USDA and the Washington departments of Natural Resources, Fish & Wildlife, and Ecology. Fourteen percent of Evergreen alumni are employed in "high demand" science fields within one year of graduation. Furthermore, among the four comprehensive baccalaureate institutions in Washington, Evergreen's undergraduate enrollment represents 11.8% of the total undergraduate enrollment, yet Evergreen produces the second highest percentage of students who go on to get their doctorates in the STEM fields (31%).

Despite Evergreen's overall success in the area of STEM, in recent years the College has faced an inability to meet the student and industry demand for computer science. In fall 2013 Evergreen double-enrolled its computer science offerings and experienced a waitlist of 50 full-time students. In fall 2014 enrollment shows a similar pattern. In addition, institutional data shows that Evergreen is challenged in serving in particular students of color and women within this field. For example, currently women are 53% of Olympia undergraduates, but are only 15% of computer science enrollments.

Proposed Solutions:

Increasing the number of computer science educated students in the workplace, requires high-quality instruction within the field of computer science. At the same time, the advancement of computer science combined with current demographic trends requires institutions to seek opportunities to retain and reach out to underrepresented populations within the field of computer science.

Evergreen is committed to meeting current demand and reaching out to more students to consider computer science, in particular students of color and women. This package would serve to meet the intersection between state workforce needs and an existing unmet student demand in computer science at Evergreen. Finally, this package would build on Evergreen's record of success with recruiting and retaining underrepresented students.

If funded this package would provide \$500k per year of the biennium to meet student demand in the field of computer science to be measured based on retention and completion outcomes. This package would provide Evergreen with the ability to focus on increasing retention and outreach in the area of computer science; increase the number of students who complete in the area of computer science; strengthen

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undergraduate opportunities for students of color and women in this field; integrate student support, especially advising and career development, within these academic disciplines; and provide undergraduate research and industry opportunities.

This package would build on Evergreen's quality STEM undergraduate programs taught within interdisciplinary learning communities. The investment would provide three key components required to successfully move students through in the area of computer science, in particular students of color and women: (1) \$360K to support the addition of three new faculty and support budgets to permanently establish a committed project team and faculty, (2) \$130k of additional financial aid to support financial access for students, in particular students of color and women, and (3) \$10k to support annual curriculum summits to engage faculty to ensure that curriculum delivery is inclusive and cutting-edge and to re-evaluate the program to ensure the program is meeting identified outcomes.

Narrative Justification and Impact Statement

What specific performance outcomes does the college expect?

To meet student demand in the field of computer science and demonstrate improved enrollment, retention and completion of undergraduates, in particular students of colors and women, in computer science.

Performance Measure Detail

Demonstrate an increase in the enrollment of students in the field of computer science. Demonstrate an increase in the retention and enrollment of the number of students of color and women in the field of computer science.

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

Evergreen's Year Three Self-Evaluation accreditation report advances the goal to improve the breadth and depth of learning at the College. To meet this goal Evergreen is committed to improving students' demonstrated ability to use qualitative, quantitative and creative modes of inquiry. The most recent data illustrates that while 98% of undergraduates' transcript show evidence that the expectation for qualitative modes of inquiry was met, only 77% met the expectation for quantitative inquiry and 83% met the expectation for creative modes of inquiry. This package directly responds to work of the College to improve and focus, in particular, on increasing quantitative and creative modes of inquiry in the curriculum.

Reason for Change

Despite Evergreen's overall success in the area of STEM, the College, in recent years, has faced an inability to meet the student and industry demand for computer science. In fall 2013 Evergreen double-enrolled its computer science offerings and experienced a waitlist of 50 full-time students. In fall 2014 enrollment shows a similar pattern. In addition, institutional data shows that Evergreen is challenged in serving students of color and women within this field. For example, currently women are 53% of Olympia undergraduates, but are only 15% of computer science enrollments. Increasing the number of

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computer science educated students in the workplace, requires high-quality instruction within the field of computer science. At the same time, the advancement of computer science combined with current demographic trends requires institutions to seek opportunities to retain and reach out to underrepresented populations within the field of computer science. This package would serve to meet the intersection between state workforce needs and an existing unmet student demand in computer science at Evergreen.

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

This package directly supports the goals identified in the Governor's Results Washington for a world-class education by providing access to an education that prepares Washingtonians for a healthy and productive life through the development and attainment of skills necessary to succeed in school, a career and in communities in the 21st century. The successful enrollment, retention and completion of students is critical in Evergreen's current success to meet the state's goals for higher education. More specifically, the enrollment, retention and completion of students in the area of computer science assists the College in meeting the Governor's priorities as follows:

- Evergreen serves as a national model for student engagement, quality teaching, applied learning and educational innovation.
- Evergreen ranks as high-performing for level of academic challenge the National Survey of Student Engagement (NSSE).
- Evergreen's undergraduate enrollment represents 11.8 percent of the total undergraduate enrollment among Washington's four comprehensive baccalaureate institutions and it produces the second highest number of STEM doctorates (31 percent).
- One year after graduation, 78 percent of 2012 Evergreen graduates were employed and 21 percent were attending graduate or professional school.
- In the last nine years Evergreen has received National Science Foundation grants for STEM, including scholarships totaling approximately \$1.9 million.

Does the decision package make key contributions to statewide results? Would it rate as a high priority in the Priorities of Government Process?

This package directly contributes to 1.3a, 2.3, and 2.3a goals identified in Washington Results. If funded this package will increase the number of students enrolled in STEM in the public baccalaureate sector and through the retention of students in this area will increase attainment of degrees to meet the 2023 goals identified in Washington Results, especially in the STEM fields.

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

This package would serve to meet the intersection between state workforce needs and an existing unmet student demand in computer science at Evergreen, in particular students of color and women.

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Impact on Clients and Services:

This package would provide the College with the ability to meet the student and industry demand for computer science. In fall 2013 Evergreen double-enrolled its computer science offerings and experienced a waitlist of 50 full-time students. In fall 2014 enrollment shows a similar pattern. In addition, institutional data shows that Evergreen is challenged in serving in particular students of color and women within this field. For example, currently women are 53% of Olympia undergraduates, but are only 15% of computer science enrollments.

Impact on other state programs:

No impact to other state programs.

What alternatives were explored and why was this alternative chosen?

In prior years Evergreen has implemented efforts to meet the student demand for computer science within existing resources (i.e. faculty, financial aid). The result has compromised the ability for the College to successfully meet demand, retain and complete students in computer science. This package would provide the College with the resources necessary to meet student demand for computer science, to reach out to underrepresented populations in this field with a focus on women and students of color, and focus on the retention and completion of students within this field.

What are the consequences of not funding this package?

The consequences of not funding this package is the inability of the College to meet the student and industry demand for computer science.

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

No impact to the state's capital budget.

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

No changes would be required.

Expenditure and Revenue Calculations and Assumptions

Revenue Calculations and Assumptions:

Expenditure Calculations and Assumptions:

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

All expenditures reflected in this package are ongoing costs.