

As part of the West Virginia University Board of Governor's Rule 2.2 Program Review process, the WVU Provost's Office required that a single Program Review Self-Study Form be completed on behalf of all identified programs in the department or unit. This Program Review Self-Study Form was to be submitted to the Provost's Office by end of day on August 1, 2023. The Provost's Office reviewed the submitted Program Review Self-Study Forms in early August.

Self-Study content is unvetted by the Provost's Office. As such, the WVU Provost's Office cannot attest to the accuracy of any data, analyses, or statements provided within. Also, redactions were made where warranted for the protection of individual identities around sensitive information.

Q1.1.
BOG Program Review Self-Study Form

This is the self-study form that will be completed in support of the summer 2023 academic transformation program portfolio review.

Only one program review self-study is to be submitted per unit; all of the unit's *programs* will be covered by one self-study.

Q1.2. Select the appropriate academic unit under review.

College

Department or School

Q1.3. List all of the unit's programs.

Example:

- BA Biology
- BS Biology
- MS Biology
- PhD Biology

Q1.4. Name and Email of the person completing the self-study

Name

Vladislav Kecojevic

Email Address

vlad.kecojevic@mail.wvu.edu

Q1.5. How were faculty given the opportunity to contribute to, review and provide feedback on this self-study?

A letter from the Provost Office was shared with all faculty and staff in civil and environmental engineering on July 10, 2023. The meeting among the Dean of Statler College, Associate Deans and all faculty and staff in civil and environmental engineering was held on July 12, 2023, and the meeting of the faculty and staff in mining engineering took place on July 13, 2023. A self-study draft report was prepared by the Associate Department Chair and shared with all faculty and staff for their review, feedback and contribution. The revised report was sent to faculty and staff for final comments. After that, a final report was submitted to the Dean of the Statler College for his review.

Q2.1. Explain how the unit and its programs contributes to WVU's [mission](#).

This response is limited to 7500 characters, approximately 2 single spaced pages.

The Wadsworth Department of Civil and Environmental Engineering (CEE) offers an undergraduate degree, Bachelor of Science in Civil Engineering (BSCE). The curriculum is structured such that a student can focus on their areas of interest by taking courses offered in the areas of construction, environmental and water resources, geotechnical, structures, or transportation engineering. A new undergraduate degree program in Environmental Engineering was recently approved by the Board of Governors, and is a degree option available for students starting in the Fall 2023 semester. The Wadsworth Department program was re-accredited in 2022. The Wadsworth Department of Civil and Environmental Engineering participates with the Mining Engineering Department to offer students the option to earn a dual degree in BSCE and a Bachelor of Science in Mining Engineering (BSMinE). The Department also offers the degree of Master's of Science in Civil Engineering (MSCE), and in conjunction with the Benjamin M. Statler College of Engineering and Mineral Resources, the Master's of Science in Engineering (MSE.), and the Doctor of Philosophy (PhD) degrees with emphases in Civil Engineering. Faculty and researchers in the Department conduct cutting-edge and cross-disciplinary research within the Statler College, WVU, and other institutions that addresses global and national issues, and the program supports the land-grant mission of WVU. The Department also hosts programs (e.g., WV Local Technical Assistance Program, Appalachian Community Technical Assistance and Training) that serves the State of West Virginia by providing training workshops and educational materials to agencies and the public.

Q3.1.
Resources, Revenue, and Expenses

The purpose of this section is to ensure the accessibility and adequacy of the unit's infrastructure and resources and its financial viability.

Responses in this section are limited to 7500 characters or approximately 2 single spaced pages.

Q3.2. Has the unit experienced significant issues with any of the following during the past five years?

By "significant," we mean issues that interfere with either the unit's ability to deliver its programs to its students or the students' ability to complete those programs in a timely manner.

	Yes	No
Ability to schedule required classrooms	<input type="radio"/>	<input checked="" type="radio"/>
Access to adequate technological infrastructure	<input type="radio"/>	<input checked="" type="radio"/>

Access to adequate technological support



Access to adequate physical infrastructure (labs, performance spaces, etc.)



Q3.3. Describe the issues the program has faced in the area(s) identified above.

This question was not displayed to the respondent.

Q3.4. Data have been provided on the unit's last three years of tuition revenue, expenses, and net revenue. Address any negative net revenue or any significant changes (positive or negative) to unit's net position.

Revenue by department is the actual tuition revenue, net of any discounting, paid by students taking courses in course subject codes affiliated with the department.

Expense by department is the actual unrestricted, operating expenditures by department within the functions of instruction and academic support.

Net revenue is the revenue minus the expense.

Identification of "Significant: Negative Net Revenue changes were identified during this review. Specifically, the data provided indicate over \$2M negative net revenue for CEE in the last three years. According to the data definition found at [academic-transformation-data-definitions_july-10-2023.pdf](#) (wvu.edu), the Total Expenses include all activity on the department's state and overhead accounts, and revenue used in the analysis includes only tuition. The negative net revenue is to be addressed by the followings: 1. CEE will start to offer the new degree program in Environmental Engineering, which is expected to increase student enrollment. There are no additional hires to be made for the new program. 2. The expenses used in the analysis include startup packages, which are not permanent costs. The Department has virtually eliminated these costs from the departmental budget going forward through the transfer of the budgets to college Foundation funding and the elimination of support from the Provost's Office. 3. Two senior faculty members (Professors Siriwardane and Halabe) recently retired from WVU and no additional hires are being made. This faculty reduction will directly reduce the departmental expenses. 4. The data model used for revenues and expenses includes all expenses, but only tuition revenue. CEE faculty recently secured significant research grants including: two NSF CAREER awards and several on addressing domestic production of rare earth elements production and supply chain. Returned research overhead of ongoing and these new research grants should offset the identified expenses and bring the budget deficit nearer to zero.

Q4.1.

Faculty Composition and Productivity

Responses should be concise but also specific and supported by evidence. Responses in this section are limited to 7500 characters or approximately 2 single spaced pages.

Specific data definitions for these metrics are available on the [Academic Transformation](#) webpage.

Q4.2. Data have been provided on the unit's faculty full-time equivalency (FTE) to the median of all majors for fall 18 to fall 22.

Address any differences in the unit's student to FTE ratio and the institution's student-to-faculty ratio of 18-to-1 per IPEDS reporting for academic year 2021-2022.

The Total Faculty FTE for 2023 used in the analysis was 20. This is an error, noting that Professors Siriwardane retired in August 2022 and Halabe in December 2022. The retirements reduced the total faculty FTE to 18 for 2023 (not including the interim chair, Dr. Vladislav Keckojevic). With the total faculty FTE of 18, the FTE Ratio 1 should have been 16.7. This FTE Ratio is slightly lower than the institution's ratio 18-to-1. The Wadsworth Department primarily offers courses for CEE students and not service courses, which results in a lower ratio for CEE.

Q4.3. This question is optional and required only if a unit's doctoral programs are under review.

Data have been provided on the unit's tenure-track / tenured FTE to doctoral student headcount ratio across all of the unit's doctoral programs.

Address any differences in the unit's doctoral student to tenure-track and tenured faculty FTE ratio to the institutional expectation of 2-to-1.

The CEE Ph.D. program is exempted from review.

Q4.4. Data have been provided that show the changes to the unit's total number of faculty over the review period. Data have also been provided that show the total student headcount enrolled in all of the unit's programs over the same period of time as well as a three-year trend in student credit hour (SCH) production.

Explain the relationship between the change in the number of faculty in the unit and the change in the units total headcount enrollment and SCH production trends.

The student credit hours (SCH) were 5,608, 5,636, and 4,791 for 2020, 2021, and 2022, respectively, which show an SCH change of -817 for the period of 2020-2022. The decrease was mostly due to the decrease in enrollment in 2022. The total faculty FTE for 2023 should have been 18 (instead of 20 used in the previous analysis), and it is a reduction from 20 total faculty FTE in 2020.

Q4.5. Data have been provided that shows the unit's research expenditures per the Higher Education Research and Development Survey (HERD).

Does this data capture all of the unit's research expenditures? If not, explain the difference here and provide evidence of additional research expenditures below.

The data provided show a total of \$2,734,497 external research expenditures for 2022 for CEE. An independent analysis was conducted using the research expenditure data file posted by WVU Sponsored Projects Administration on their website: <https://financialservices.wvu.edu/sponsored-research-accounting/grants-accounting/sponsored-expenditure-files>. The total CEE expenditure for June 2022 was \$3,142,329 excluding anything that may have been processed through the WVU Foundation

Q4.6. Upload evidence of research expenditures here.

Q5.1.
Student Enrollment and Graduation History

Responses in this section are limited to 7500 characters (approximately 1.5 single spaced pages). Responses should be concise but also specific and supported by evidence.

Specific data definitions for these metrics are available on the [Academic Transformation](#) webpage.

Q5.2. Data have been provided on all of the unit's program's student enrollment trends.

That data includes:

4-year median fall enrollment (fall 18 through fall 21);
Fall 2022 change from 4-year median (in headcount and in percentage).

Units should address any programs with enrollment below the median for the program level or which has experienced a negative change in enrollment.

The data provided show that the CEE department had a median enrollment of 247.5 for the period of Fall 2018 – Fall 2021. The Fall 2022 enrollment at 185 is 25% lower than the 4-year median. The offering of the new degree program in Environmental Engineering starting in fall 2023 is expected to reverse the decreasing trend of enrollment.

Q5.3. Data have been provided on the unit's three-year trend in student credit hour (SCH) production.

Units should address any programs with a negative trend in SCH production.

The data provided indicate a SCH change of -817 from 2020 to 2022. The drop was mostly due to the enrollment decrease. The offer of the new Environmental Engineering program without making additional hires and several junior faculty assuming full teaching loads are expected to reverse the SCH decreasing trend. In addition to the existing CE course, two new EnvE courses are offered in fall 2023 and three new EnvE courses have been scheduled for spring 2024. Offering of these new courses and additional EnvE courses in the future are expected to increase SCH. Opportunities exist for CEE faculty to offer new courses (e.g., Environment and Climate Change) to non-CE students.

Q6.1.

Assessment of Learning and Program Improvement

The Provost's Office will review the self-studies from the most recent Board of Governor's five-year program reviews for this section.

Units may provide updated information below if they so choose.

Q6.2. Provide the unit's plans or ideas to make significant changes to its operations, structure, offerings, or personnel in order to reduce its costs or improve its efficiency.

Provide any significant changes to the department's program curricula, its assessment of learning practices, or any other improvements that have been made since the department's programs completed their most recent Board of Governor's five-year review.

The new Environmental Engineering program has been approved by the Board of Governors and made available as a degree option for existing and incoming students starting in fall 2023. In addition to the existing CE courses, a total of 11 new EnvE courses will be developed and offered for the new degree program. The new degree program will be offered without making additional hires of faculty. The increased teaching loads and expected increased student enrollments will substantially improve the performance metrics and unit efficiency for CEE.

Q6.3. The program may provide additional evidence of program improvement here.

Q7.1. The unit may provide any additional context or information about the unit's programs here.

The Wadsworth Department of Civil and Environmental offer courses and training in the design, construction, and maintenance of various structures such as buildings, bridges, roads, dams, airports, and water and wastewater systems. Our program at WVU is critically important for preparing workforce to support infrastructure development and maintenance for the State and the U.S. The Bureau of Lab Statistics projects 6.9% employment growth for civil engineers between 2021 and 2031.

Q7.2. You may use this section to provide any additional evidence referenced in the program review.

Q7.3. You may use this section to provide any additional evidence referenced in the program review.

Q7.4. You may use this section to provide any additional evidence referenced in the program review.

Q8.1.

Thank you for completing your self-study for the West Virginia University Board of Governors program review. You may now submit the survey and your self-study will be passed on to the Provost's Office for review.

Location Data

Location: [REDACTED]

Source: GeolIP Estimation

