

Benefits of environmental engineering at psu berks

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Tuition Comparison of Pennsylvania Universities offering Environmental Engineering 8 ABSTRACT The purpose of this report is to persuade Penn State board members to explore the idea of starting an environmental engineering bachelor's degree program which can be started and completed at Penn State Berks. The benefits of this possible program have been analyzed and are explained in this report. Environmental engineering has degree. The world needs more environmental engineers, and Penn State Berks can lead the way in educating students to provide a more sustainable future by implementing an environmental engineering degree program.

Purpose The goal of this report is to persuade Penn State board members to explore the idea of starting an environmental engineering bachelor's degree program which can be started and completed at Penn State Berks.

Background People throughout the world are constantly seeking new and improved ways to provide life's necessities. This mindset of progress has led to major technological advancements and an improved quality of life for many.

However, the world we live in today and the resources it supplies cannot continue to sustain itself with added elution from technology, human population growth, and other harmful practices which humans carry out daily. So, who will be there to solve existing environmental problems and prevent future problems from happening? Environmental engineers.

DISCUSSION What Does an Environmental Engineer Do? According to the Bureau of Labor Statistics, an environmental engineer uses engineering skills along with knowledge of soil science, biology, and chemistry to create solutions to environmental problems in today's world.

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Much of this is focused towards problems involving recycling, public health, water and air pollution, and waste management (Occupational Outlook Handbook). People in this career field are in charge of cleaning up the messes that others have made to sustain a healthy living environment. Water pollution, air pollution, overpopulation and climate change may be some of the top environmental problems of the world, but Dean Crosses, a graduate student from the University of New Orleans sees a bigger crisis.

He explains that apathy is the world's biggest environmental problem, by stating that " A clear indicator of our foremost problem is that world leaders seldom acknowledge, let alone propose solutions to, environmental problems" (Gibbons). Environmental problems will not improve until the public shows interest in protecting the environment, and Penn State Berks can be on the forefront of these issues by starting an environmental engineering degree program. The main reason that Penn State Berks should consider starting a degree program in environmental engineering is the tremendous recent growth in the field.

According to the Bureau of Labor Statistics website, environmental engineering has a projected growth rate of 22% through the year 2020 (Occupational Outlook Handbook). When compared to the overall growth rate for all occupations through 2020 (14%), this is a much faster than average growth (Occupational Outlook Handbook). Figure 1 shows a graphical representation of the projected growth figures for environmental engineers in America. According to the United States Military Academy, this high

growth rate is the second largest of any engineering discipline, signifying the America's need for environmental specialists (Buttes).

Figure 1, Projected Growth Rate for Environmental Engineers Source: Bureau of Labor Statistics This rapid growth in the field should continue for decades to come, as the US Military Academy explains that there is a major shift in emphasis in environmental thinking. Environmental engineers will begin looking towards the future to prevent problems, rather than simply managing and controlling the problems that already exist. Therefore, there will be a continuous demand for students who earn degrees in the field (Buttes). Another important aspect to consider is the recent push for green initiatives in automotive and energy businesses.

Environmental engineers lead the way in designing energy efficient hybrid cars and cleaner power generation, creating a more sustainable world while maintaining performance. These fields should continue to grow as people gain more interest in these safer alternatives. The positive job outlook and important future opportunities for environmental engineering is why CNN Money ranked the field in the "top 10 best jobs for future growth in America" in 2011 (Tickler, Lee, Satiata). Why Berks? Environmental engineers are clearly in high demand, but why is Penn State: Berks Campus the right place to offer a degree in the field?

There are many reasons why Penn State Berks is a perfect candidate. First, and most importantly, as of spring, 2013 there are only two public campuses in all of Pennsylvania which offer a program to complete a bachelor's degree in environmental engineering or environmental systems engineering. These

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include Penn State Harrisburg in the central part of the state and Penn State University Park in the Penn State system and is therefore very close to many major cities such as Philadelphia, New York, Washington D. C. And Baltimore.

These cities are often the focus of an environmental engineers work, because of high pollution levels, and water demands. The location of Penn State Berks is also advantageous to an environmental program because of its close proximity to several local sites. The campus in Wyoming sits directly next to the Telephone Creek Valley. This could provide an area to study stream and other wildlife ecosystems in environmental engineering courses. This creek is supplied by the larger Schuylkill River, which flows through the medium sized city of Reading.

This city could offer a place to study areas with high pollution levels, and introduce students to urban environmental engineering. Yet another benefit of the location of Penn State Berks is its closeness to Blue Marsh Lake, which could provide an area to study land and aquatic wildlife systems, as well as other environmental aspects. All of these possible points of interest are located within ten miles of the Penn State Berks campus. Figure 2 shows a map locating the points of interest discussed with their relation to Penn State Berks.

Figure 2, Environmental Study Areas around Berks Blue Marsh Lake Penn State Berks City of Reading Telephone Creek Source: Google Maps Another reason to consider Penn State Berks for the site to offer an environmental engineering major is the recent construction of the Gauge Technology and Innovation Building. This incredibly innovative building, which utilizes

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rainwater collection yeasts and heat recovery systems, was finished in 2012 and has been awarded several awards for its environmentally safe design. One of these awards is the LED (Leadership in Energy and Environmental Design) gold-level certification.

Penn State Berks is the first Penn State branch campus to earn this award, signifying the campus's interest in the environment (Gauge Building Awarded LED Green Award). There is no better place to learn about the environment than in one of the most innovative, environmentally-friendly buildings in the entire Penn State system. Finally, Penn State offers an affordable education to Pennsylvania residents. There are eight private universities throughout the state which offer a degree in environmental engineering or a closely related field, however with their high tuition, these are often out of the question for many students.

There is no reason that more public schools shouldn't offer this degree program for students. Table 1 shows the approximate annual in-state tuition fees for all schools in Pennsylvania offering a degree in environmental engineering or a closely related field. Penn State leads the Pennsylvania schools offering an environmental engineering degree. Table 1, Tuition Comparison of Pennsylvania Universities offering Environmental Engineering University | Annual Tuition (Approximate) | Penn State University | \$13, 900 | Cannon University | \$26, 526 | SST.

Francis university | \$28878 | Wilkes university | \$29426 | Drexel university | \$36, 090 | Lehigh University | \$42, 220 | Violation University | \$42, 890 | University of Pennsylvania | \$43, 566 Carnegie Mellon University | \$45, 760

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Source: Big Future- College Search Potential environmental engineers need an affordable place to earn a degree, and Penn State Berks is the ideal campus. Benefits for Penn State Not only would the students at Penn State Berks benefit from an environmental engineering degree, but the reputation of Penn State would improve in the eyes of the community.

Being environmentally concerned is a positive form of advertising, just ask any politician. An environmental engineering degree program could serve as a type of advertising for the campus to show that they care about sustaining a safe living environment for generations to come. Also, students from all over the eastern part of Pennsylvania would be more interested in attending Penn State Berks with this new major. It could be the selling point to many future students, as it provides a smaller campus which many favor over large campuses such as University Park.

Penn State would benefit greatly from the implementation of an environmental engineering degree program. CONCLUSION Offering a bachelor's degree in environmental engineering at Penn State Berks would be extremely beneficial to students and the Penn State system. The location of the campus provides a perfect area to implement the program in the rapidly growing field. Without educated environmental engineers, America and the world will find itself in increasing danger with unsustainable living conditions, which leave the future uncertain.