AccessEngineering Case Study: Environmental Engineering Education

Situation

According to the U.S. Bureau of Labor Statistics, employment of environmental engineers is projected to grow 8 percent from 2016 to 2026\(^1\). The number of open positions for water resource engineers is projected to grow 20% in the next 10 years\(^2\).

In order to thrive in their future careers, today’s environmental engineering students need to build a range of skills, including critical thinking and problem solving. Tomorrow’s working engineers will be faced with such challenges as escalating environmental and climatic concerns, a growing global population, and an aging environmental infrastructure, to name a few. The most successful engineers will be able to draw on an array of sources to develop innovative solutions for these challenges.

How can environmental engineering students develop the skills they need to succeed on the job?
Solution

**AccessEngineering** delivers world-renowned, interdisciplinary engineering content integrated with analytical teaching and learning resources such as calculators, graphs, videos, tables, and data visualization tools.

Dr. Prahlad N. Murthy is Associate Dean and Professor of Environmental Engineering in the College of Science & Engineering at Wilkes University. He uses AccessEngineering on a daily basis and requires his students to use it to prepare for class and complete assignments.

Dr. Murthy asks his students to research specific topics on AccessEngineering, such as wastewater treatment, so that they are prepared for class discussions. “Wastewater treatment involves some opinionated issues,” he says, “so it helps to point students to one resource where they can find credible information from a variety of sources.”

For example, one click on the activated sludge section of the Wastewater Treatment Curriculum Map results in more than 85 links to a variety of resources on AccessEngineering. Students can explore relevant sections from key environmental engineering handbooks such as *Design of Municipal Wastewater Treatment Plants: WEF MOP No. 8*, and *Handbook of Environmental Engineering Calculations*, 2nd Edition. Students can also easily click through to tables, graphs, examples, videos, and figures as well as interactive calculators like Activated Sludge Aeration Tank Calculations, which automates the calculation of activated sludge aeration tank size requirements, blower size requirements, and values for operational parameters.
Results

AccessEngineering prepares students to solve real-world problems and makes curriculum planning easy for faculty. Visual tools like videos and interactive graphs help Dr. Murthy’s students understand key concepts. His students are more prepared for class discussions and are able to tackle open-ended problems using the resources available on AccessEngineering.

Dr. Murthy has used it to supplement his syllabus with new topics, and has encouraged all engineering faculty members at Wilkes University to use AccessEngineering, too. “I wish I had used it earlier. I really enjoy it. I am happy to have AccessEngineering at my disposal,” says Dr. Murthy.
To receive your FREE, no obligation 30-day institutional trial subscription to AccessEngineering, simply click the button below or contact us at:

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1.888.307.5984 (US)
614.759.3663 (Outside the US)

REFERENCES

1https://www.bls.gov/ooh/architecture-and-engineering/environmental-engineers.htm
2https://www.environmentalscience.org/career/water-resource-engineer