Narrator:

The Missouri State Journal, a weekly program keeping you in touch with Missouri State University.

Nicki Donnelson:

People make trash. In an ideal world, much of it would be recycled and none of it would threaten the environment. The proper systems must be in place to protect public health and improve sustainable solutions. That's where engineers can help. I'm Nick Donnelson. Today, as my guest on the Missouri State Journal, I have Dr. Matt Pierson. He is the Mace/Turblex Engineering Professor at Missouri State University. He begins by telling us about the role of engineers in society.

Dr. Matt Pierson:

One of the biggest things with engineers is to try and build things as efficiently and inexpensively as possible, but that creates a safety challenge. And so, there’s a feedback where people need to check and make sure the designs are safe. People say, or engineers like to say, that we save more lives than doctors because of things like sanitation and public health, in addition to housing. So, engineers are vital to a vibrant society. I think a lot of people consider engineers to just be desk job people, and while there’s plenty of people that are engineers that work at a desk, really, a big part of their job is communicating their design, and implementing the design, and communicating the stakeholders or overseeing construction.

Nicki Donnelson:

Through regular volunteer excursions, Pierson gives his students opportunities to see how engineers can directly impact communities. The MSU Student Chapter of the American Society of Civil Engineers adopted a section of Jordan Creek five years ago. He tells us more.

Dr. Matt Pierson:

We have adopted a stream for the past five or six years. It's downtown, Jordan Creek from Main Street to Fort Street. So, this is the section of Jordan Creek that goes from right past downtown. So, all the trash from downtown ends up in this creek, and when there’s a flood, the trash spills out into the banks. Um, so, it’s a really good opportunity for students to make the community better, but it’s also a really interesting learning environment because, as civil engineers, one thing that we’ll try to do is actually trap trash. So, we have a real laboratory where there’s all these different things that trap trash. So, there’s an old foundation with a hole in it and that traps trash, the concrete doesn’t trap trash. And then there's a lot of vegetation that does trap trash. So, the students are exposed to different types of surfaces and how those interface with the flow of trash and water. This is an extracurricular thing that our Student Chapter of the American Society of Civil Engineers has done. It’s, uh, volunteer. We, we try to get students from all the different, uh, cohorts, so from freshman to seniors, and often times we’ll invite community members and other people to try and socialize with the students, to try and get to know each other and establish connections between our students and the, and the community.

Nicki Donnelson:

While students take notice of the trash, the structures and systems that are allowing it to flow and pollute the streams, students are met, also, with the human element. Pierson explains.

Dr. Matt Pierson:

One of the bigger picture things about this particular site is that there’s a lot of homeless population in this area. And so, the whole time that we’re cleaning up trash, some of the trash that we’re cleaning up is actually from people that live there, and they don’t have trash service. So, I think something that students don’t really expect to see when they get there is this, uh, local population and, and challenge for the city and how that would interface with planning and development of the city.

Nicki Donnelson:

To accommodate the growing number of students interested in engineering at Missouri State, the Cooperative Engineering Program, which is a partnership with Missouri University of Science and Technology, recently dedicated newly constructed engineering facilities at the Robert W. Plaster Free Enterprise Center. Pierson shares about the expansion.

Dr. Matt Pierson:

The new facilities at the Plaster Center downtown offer us a great opportunity to expand engineering into a different area. So, we’ve added mechanical engineering, we have civil and electrical engineering, but these new spaces are going to allow us to do more tests, more labs, more hands-on experience. These types of laboratory experiences are really able to connect what’s happening in the classroom to the practice of engineering in its application.

Nicki Donnelson:

Giving students new opportunities is important to Pierson. In addition to the new facilities and the cleanup efforts, Pierson tells us more about other community projects his students have undertaken.

Dr. Matt Pierson:

There’s a community trail network called Dirt 66 that’s being built at Fellows Lake. It’s a bunch of mountain bike trails, and due to COVID, we weren’t able to have a student design competition, so we wanted to try and develop a new type of, uh, activity. So, what we did was we came up with a concept to build a bridge out of recycled materials and found a place for the bridge on the trails and, uh, between me and several of the students, we were able to put a small bridge into place, but we had a lot of partners that, that were able to make it go, and I think the students got a lot out of it. I know I did.

Nicki Donnelson:

That was Dr. Matt Pierson. I’m Nicki Donnelson for the Missouri State Journal.

Narrator:

For more information, contact the Office of University Communications at 4 1 7 8 3 6 6 3 9 7.