MISSISSIPPI STATE UNIVERSITY
JAMES WORTH BAGLEY COLLEGE OF ENGINEERING

DAVE C. SWALM SCHOOL OF CHEMICAL ENGINEERING

carbon	helium	neon	tungsten	sulfur
6	2	10	74	16
C	He	Ne	W	S
12.011	4.0026	20.180	183.84	32.065

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ABET is not a four-letter word.

by Dr. Julie Jessop

ABET is coming to campus this fall. What is ABET you ask? ABET is the Accreditation Board for Engineering & Technology. ABET ensures that our engineering programs meet specific quality standards. Did you know that, in order to obtain your Professional Engineer (PE) license, you must have a degree from an ABET accredited program?

ABET evaluates engineering programs every 6 years. Our last visit was in Fall 2017. In the meantime, the CHE faculty have been continuously assessing our undergraduate chemical engineering program and making improvements to it. We are ensuring that, upon graduation, our students have acquired the skills they need to be successful in the chemical engineering profession. These *Student Outcomes* (SOs) include competencies in problem solving, design, communication, ethics, teamwork, experimentation, and lifelong learning. The SOs establish a foundation for our graduates to achieve the *Program Educational Objectives* (PEOs). These PEOs include finding employment in a chemical engineering-related field, applying communication and technical skills to better society, pursuing additional education, becoming leaders, and maintaining high ethical and safety standards.

As part of the ABET visit, our chemical engineering program has been assigned a Program Evaluator (PEV). The PEV will review the documentation we provide describing our program and demonstrating our SO evaluation process. During the visit, the PEV will tour the Swalm laboratories and classrooms and meet with faculty and students. They will write a report of their findings that will be used by ABET to determine our eligibility for continued ABET accreditation. After the visit, there will be a lengthy due process and deliberation by ABET. The final decision will not be announced until August 2024.

Preparing for an ABET visit requires a lot of hard work. However, the end result is worth it. The CHE faculty are committed to providing a chemical engineering degree in which our students and alumni can take much pride. Having a B.S. from an ABET accredited program confirms that we have done just that.

For more information about ABET and the SOs and PEOs of our program, visit: https://www.che.msstate.edu/accreditation/.

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TO STAY INFORMED:

Keep up with news in the Swalm School of Chemical Engineering by following us at che.msstate.edu

A Summer to Remember

We talked to a couple of students about their summer work experiences. One question we had was,

What was the most valuable part to you?

Here's what they had to say:

Kaitlyn Kirksey, *L'Oreal*

I know the personal and professional connections I made this summer will last me throughout my career.

Cannon Clark, *Packaging Corporation of America*

I gained experience in using macros to automate and accelerate company spreadsheets.

"Farm Boy" Still Planting Seeds

Alumni Spotlight:
Ray Dillon ('77)

Key Involvement

- *Dean's Advisory Board*
- *Tau Beta Pi*
- *Swalm School Alumni Mentoring Program*

by Nathan Keen

There are three steps to success in your career, according to chemical engineering alumnus Ray Dillon:

1. Have a farm-boy work ethic.
2. Get a great education.
3. Apply that in the business world.

Sounds simple enough, right? Well, that's what he did at least. I had the opportunity to talk with Mr. Dillon a few weeks ago, so let's dig in deeper to see how he did it and what he's up to now.

Growing up on a small farm in Tylertown, MS, Mr. Dillon was surrounded by pigs, cows, and corn. He learned the importance of hard work from his family.

He decided to attend Mississippi State University to study chemical engineering. The work ethic and expectations he gleaned from home helped him to learn in school and receive an internship with pulp and paper company Crown Zellerbach in Bogalusa, LA. Not long after, his attitude and knowledge landed him a job offer at that same Bogalusa mill.

Within a decade, he was serving as general manager of the Pine Bluff, AR, facility for Gaylord Container Corporation (Crown Zellerbach's successor). This move was relatively short-lived, though, as he was promoted to the senior management team of Gaylord in Chicago. His career was moving fast, but he remained focused on those values from the farm and understanding from school.

Mr. Dillon earned an MBA from the University of Chicago during this time, demonstrating his belief in lifelong learning. You might ask why he went back to school then and not sooner. I did too. His answer? He was better off getting real-world engineering and business experience first. Then he went back, received his degree, and continued learning. He quoted businessman and widely respected investor Warren Buffett: "The best investment you can make is in yourself."

Ultimately, each industry professional's job is to take his or her skills and turn those into products and profits. Mr. Dillon continued this pursuit as Executive Vice President of Gaylord until its sale in 2002. About a year later, he began a role as President and CEO of Deltic Timber Corporation and served for 13 years.

Now he has begun his "second career" of giving back and providing guidance. He was a Director of Stone Bank in Little Rock, AR, until its sale, and he has served as Chairman of the Board for America's Car Mart in Rogers, AR. He also has represented an international paper company as its U.S. project consultant. Mr. Dillon participates in activities with Boy Scouts of America, the Arkansas Sheriffs' Youth Ranches, Methodist Family Health, and the University of Arkansas for Medical Sciences (UAMS) Cancer Institute. As always, he enjoys learning by reading more books today than he ever has.

Mr. Dillon has loved reengaging at MSU. He is a member of the Dean's Advisory Board and is involved in the student chapter of Tau Beta Pi engineering honor society. One thing he is especially passionate about is opening doors and connecting people to the university. He recently hosted Dassault Falcon Jet on a visit to MSU. The company needed new talent, and MSU needs as many potential employers as possible. Dassault representatives were thoroughly impressed; one even said, "I never would've believed this at Mississippi State University." This visit resulted in the institution of a new co-op program and the hire of a mechanical engineer from MSU.

The Swalm School Alumni Mentoring Program is another place where Mr. Dillon has connected, working one-on-one with a student to provide advice on school and the transition to a career. One tip he has for all students: Start your financial planning now, and invest in your future "the first day you go to work."

And for all of us: never stop working, learning, and applying. That's how seeds will grow.

CORNY CORNER

Which is heavier: butane or water?

Looking Ahead: *A Note from Our Co-Presidents*

Lucie LeBlanc & Marian Waltman

Hi everyone!

My name is Lucie LeBlanc, and I am serving as one of your co-presidents for the 2023–2024 MSU AIChE chapter. I am a rising senior from Brookhaven, MS. I have been on co-op with Dow Chemical for three semesters. I am currently finishing my co-op term as a production engineer in Hayward, California, this summer, and I will be returning to Mississippi State University this fall. I am honored to be elected to the role of co-president, and I am excited to engage more students to join our great community.

My name is Marian Waltman, and I am also serving as one of your co-presidents for the 2023–2024 MSU AIChE chapter. I am also a rising senior from Brookhaven, MS! I am currently working my second co-op term with Dow Chemical in St. Charles, LA as an improvement engineer. I have been a member of AIChE since freshman year, and I am beyond excited for this role. I look forward to working with everyone and seeing what great work we can accomplish this upcoming year!

We are humbled to accept this elected position. We have been partners in crime since sophomore year of high school. If you see one of us, the other is not far behind. We have worked together through trials and tribulations, and we are thrilled to use our teamwork and friendship to lead the AIChE chapter this school year!

AIChE has provided us with a community of role models and friends that have guided us to success within our academic careers, community outreach, and personal goals. Through AIChE's events, such as the resume review workshop, company info sessions, and outreach events, our members have been able to land competitive co-op positions. AIChE also hosts study parties within the Swalm student lounge, and we align with different professors and students to select pre-test nights during the semester to provide dinner and tutors. Furthermore, AIChE has an Alumni Mentoring Program that pairs a student with an alumnus or alumna for guidance into the corporate world.

AIChE will continue serving the community through our numerous outreach programs. Our K-12 STEM outreach programs include Girl Scouts Day and Skate Odyssey. On these days, we develop hands-on science experiments to perform with the young students to give them insight into STEM concepts. Furthermore, AIChE hopes to host more advanced experiments for high school students to pique their interest in chemical engineering. AIChE also will participate in another bed build for Bedz 4 Kidz to provide for needy children in the Golden Triangle.

AIChE will participate again in the Homecoming Banner Competition to hopefully capture first place for the second year in a row! AIChE will continue to host crawfish boils, football tailgates, trivia nights, and kickball games for our students. We aim to create a comfortable, accepting community this upcoming school year, and we cannot wait for the fall semester.

Hail State!

What do you do at work?

Co-op Highlight from the Refinery

By Ethan Bryan

My name is Ethan Bryan, and I am a 5th year senior at Mississippi State, majoring in Chemical Engineering. I just finished my 2nd term of my co-op at Ergon Refining this summer. My experiences gave me a ton of knowledge from people in our line of work.

I was assigned a few projects that helped me grow as a student and also as a future engineer. Some of these projects consisted of making a Process Indication (PI) page, a production modeling spreadsheet, and Visio drawings for new operators in the refinery.

My favorite thing from this past term was that I could ask anyone for help or advice without feeling like I was intruding on their space or time. Any question I had was answered, and I always felt like I had things to do, even when I had no specific projects assigned. Overall, I would say taking a co-op is definitely beneficial towards advancing your technical skills and knowledge of how the processes work. The time that will be given up for the co-op terms is trivial when compared to the substantial experience gained from working for a good company.

"Any question I had was answered."

Technical Writing… with a Twist

Study Abroad in the Home of Pretzels

by Katelyn Woodard

The *Technical Writing* course (GE 3513) is one of the Study Abroad courses offered through the Bagley College of Engineering. Traditionally this course covers the writing skills of technical descriptions, the design and use of technical graphics, technical presentation skills, and engineering ethics. It essentially serves as a communications class targeted to engineering majors. The version of the class offered in Munich, Germany still covers all these topics but adds in activities and specific topics to help students explore Germany more and connect with the rich history in the city.

The class itself was led by Dr. Ed Dechert this semester, who works in the Career Center along with teaching *Technical Writing*, and it was made up of engineering students from all the departments. I was the only Chemical Engineering student on this trip, so it did allow me a unique opportunity to link the class content to both the chemical engineering major and to my personal co-op and internship experiences.

While the course content itself generally followed the content of the classes taught in Starkville, the part of the course covering engineering ethics shifted to the historical case study of Nazi Germany. It was an extremely dark time in human history, but the trips to the Dachau Concentration Camp Memorial Site and the Munich Documentation Center on National Socialism put into perspective the importance of ethical codes and a personal ethical system. This unit in the course pushed both introspection and interdisciplinary ties among the students and was a great opportunity for personal education and growth, despite how hard it was at moments.

There were also some more lighthearted group trips to help students get more familiar with Munich as a whole. On the second day of the program, everyone—including Dr. Dechert—took a bike tour of the city. Some of the paths we took on that tour I still used when walking to the city center, so I would call it worth it even after realizing how much my biking skills have dropped in the past five years. We even took a tour of an independent brewery, the Ayinger Private Brewery, which was a special treat as a chemical engineer and an amazing location for any students getting their first factory tour.

One of the major writing assignments was focused around writing a travel guide for Munich, so I got a chance to apply my own experiences, and possibly my own regrets, to make a writing piece where I could have been the audience at some point. It was a great opportunity to practice considering the audience for a piece of writing and to keep me accountable in writing a travel journal (another major assignment for the class).

With the shortened course length of about 4 weeks, there was a faster turnaround in writing and presenting assignments; however, nothing was unreasonable, and there were ample opportunities for feedback on my work. There was plenty of time on the weekends and even after class to explore not only Munich, but many parts of Europe. I personally decided to focus my extra time on Germany, visiting Augsburg and Nuremberg to see museums and important industrial sites, but many of my classmates went to Austria, France, and Italy. While those big trips weren't for me—I prefer to go to as many museums as I can find in a city—they were easily possible with enough planning.

I was incredibly lucky to take this course overseas, and I would recommend trying to do a study abroad if possible. The Bagley College of Engineering and the Shackouls Honors College both offer scholarships, so apply early in the year to make the opportunity as financially reasonable as possible. The chance to work with other engineering students and find common ground in engineering as a career is incredibly invaluable, and so is the chance to do it in an entirely new environment. Don't be afraid to travel, and even try to reach out to classmates early to see if there are common locations you all want to go to in order to avoid traveling alone!

CORNY CORNER ANSWER

Water;
Butane is lighter fluid.

Suggestions for future Corny Corners? We'd love to hear from you! Feel free to send your thoughts to elmore@che.msstate.edu

Thank you to everyone who took the time to contribute to making our Summer 2023 newsletter a success!

Keep your eyes peeled for our Fall 2023 issue. — Nathan Keen, AIChE Newsletter Editor