

THE COMPASS

Finding your way to an Engineering Career at SLCC



THE MAIN EVENT

While we all recognize the importance of excelling in math and science skills in order to be successful engineers, few people have recognized the importance of excellent communication skills for success in our field. However, research during the last decade suggests that the reason that almost 90% of young engineers who had lost their jobs was due to poor communication skills, not the lack of technical proficiency. So, under the direction of Dr. Holly Moore and with the support of Dean Clifton Sanders, it was decided to emphasize effective written and oral communication skills for future engineers in SLCC courses. Holly was determined that the students would graduate with the ability to articulate their technical knowledge, designs and solutions to anyone, be it other engineers, managers, customers or society at large.



Dr. Sally Asbell

This is how our Writing and Communication Program started. Dr. Sally Asbell, whose doctorate is in Communication and is from the Department of English at SLCC, joined us in the fall of 2011 and she and Dr. Moore began to formulate some plans to start introducing communication skills into our curriculum. This concept of Writing Across the Curriculum is an exciting new approach to teaching and one that is strongly supported by Dr. Stephen Ruffus, the Associate Dean of English at SLCC and a good friend to our program.

Sally started out in the labs of the Electrical Engineering classes, teaching students all about effective communication skills and helping them to write better lab reports. As the program expanded, Sally could be found in Civil Engineering classes, Mechanical Engineering classes, Introduction to Nanotechnology classes and many more. At first, our students seemed somewhat resistant to the idea of studying communication in their engineering classes, but recent assessments and numerous comments suggest that the Writing and Communication Program is a welcome addition to our courses and is definitely helping our engineering students.

The Writing and Communication Program continues to grow as Sally furthers her education in all things engineering. She has written and received grants to work on this program, one of which provided her with the opportunity to travel to Wisconsin to observe the University of Wisconsin at Madison's Engineering and Communication Program. This is one of the most effective programs in the country and the networking with Wisconsin faculty gave her many great ideas to bring back to SLCC.

This program also developed the idea (in collaboration with our Associate Dean, Peter Iles) for the First Annual SME Symposium, which proved to be a great success for the first year. Sally will continue to work with Dr. Iles to bring us exciting new symposia in the future. Her duties now expand into the entire Division of Natural Sciences and Engineering, where she is trying to have the program positively impact as many students as possible. Dr.

Asbell and Dr. Iles are working together on the development of communication curriculum for all science and engineering students.

Exciting things keep emerging from this program. The latest project is the introduction of a new version of the existing English 2100 course. Our new course is entitled ENGL 2100: Technical Writing for Engineers. Sally designed this course to offer the engineering student an alternative to the traditional English 2100 class. (Either ENGL 2010 or ENGL 2100 are currently required to meet the advanced English GE requirements). This class provides a solid foundation for professional writing in the real world setting. It looks specifically to the needs of future engineers; memo writing, progress reports, technical documentation, letter writing, resumes and more. We are excited to announce that effective fall semester, this class will now be a requirement for your second English GE course!!

If you are interested in joining Dr. Asbell this fall for Technical Writing for Engineers, it is being offered on Tues and Thurs from 8:30 – 9:50 am. Since it is a special section of English 2100, you need to contact her and she will register you for the class. You can reach her at 801-957-4549 or at sally.asbell@slcc.edu. There are only 25 seats so be sure to register early. Come join us!!

Sally welcomes any input that you might have regarding the Writing and Communication Program. Please go meet her, if you have not already done so, and let her know what you would like to learn from the program.



Vaughn Weston



From left to right: Zak Wilde, Tyler Green, and Matt Brady

ENGINEERS ON THE MOVE

Lots of exciting things are happening with our future engineers at SLCC. Our students are participating in all kinds of competitions and conferences, showing the community some of the fascinating things that we are doing here in the Department of Engineering. One recent example was the SLCC School of Science, Mathematics and Engineering First Annual Symposium.

Our engineers were well represented at the Symposium and we were awarded two of the top eight prizes for excellence in

scientific communication. The awards went to Vaughn Weston for his outstanding written submission: *The Application of Mathematics, Physics, Chemistry and Engineering to Evaluate Solutions in Process, Environmental, and Mineral Applications for Separating Suspended Matter and Soluble Constituents from an Aqueous Phase*.

The other honors went to Matt Brady, Tyler Green, Mike Turley and Zak Wilde for their oral presentation entitled: *Artificial Gravity*. The Symposium was an exciting opportunity

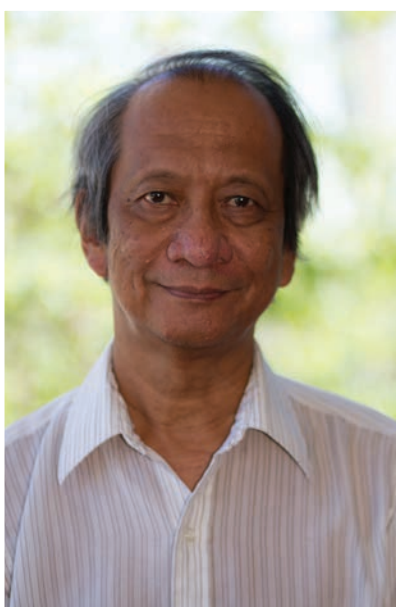
for all of our engineers to share their current research with the rest of our SLCC students. There was a large turnout at the Symposium so many people got a chance to see what we are up to over here in the SI building. Congratulations to our winners!!

Watch for more exciting student activities in the next newsletter. We will be taking a look at what our ASEE students have been doing!

PEOPLE MAKING IT HAPPEN

Joven Calara has worked with the SLCC Engineering Department for the last 3 years on a part-time basis, and was hired this spring as the full-time Engineering Lab Coordinator. He teaches the course "Testing of Engineering Materials" and assists with Materials Science, Thermodynamics and Nanotechnology labs.

Before joining SLCC in 2010, Joven was a Senior Research Scientist with a multinational copper mining company. In that capacity he was involved in research experimentation to solve engineering problems, from small bench lab setups to full-scale plant operations. He is a recognized expert on engineering test methods and tools as well as with such advanced research techniques as scanning electron microscopy and polarography.

Joven V. Calara,
M.S. in Metallurgical Engineering

Skills he acquired in trouble shooting or "putting out fires" (sometimes literally), at various company operations are indispensable in his current work assignment. Students at SLCC are lucky to have someone with Joven's vast experience guide them through the laboratory components of their courses.

Joven is always on the look-out for innovative and inexpensive ways to improve our labs – keep your eyes open for him at Harbor Freight or Deseret Industries looking for bargains that may become part of the next lab exercise at SLCC! For relaxation, Joven claims to play classical guitar, if he is not pulling weeds or mowing the lawn.

Please make a point of stopping by and congratulating Joven on his move to a full-time position at SLCC.

The Science Resource Center

We are excited to tell you about a new resource for all of our engineering students. The Science Resource Center has been in existence for several years but during the spring of 2013 it opened its



doors to engineering students. This exciting new opportunity for engineering students to get extra help with their studies proved to be very successful and we are hoping you will also take advantage of this great new opportunity!

The Science Resource Center (SRC) is a meeting place for students to have one-on-one interactions with adjunct professors and tutors. It also provides space for study groups, computing resources, various textbooks, and study guides. The SRC uses a three-tiered tutoring system composed of volunteer peer tutors, paid tutors, and adjunct professors. The tutors specialize in upper division chemistry, biology, physics, engineering and math classes. In the academic year 2012-2013, the SRC served over 6,100 students, which is the greatest student volume in the history of the center.

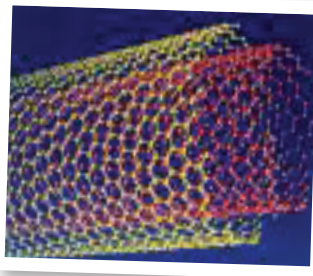
The SRC started offering tutoring in engineering and math during this past spring semester, and student visits for those subjects accounted for 15% of the total subjects tutored. The center is now working on expanding its selection of textbooks and solution manuals for various engineering and math courses.

The SRC is open from 9am-6pm Monday through Friday in room 359b of the Science Industry building. Tutors

schedules are listed on the door by subject. Certain Chemistry II and Physics II classes also offer extra credit opportunities for weekly tutoring in the SRC. This helps students in lower level science classes and it helps the tutor gain a better understanding of concepts. For further inquiries contact Sydney Richards, SRC Coordinator at SRCTUTORS@gmail.com or call the Division Office at (801)-957-4821. The tutors at SRC look forward to working with you whenever the need arises. Stop by!

Introduction to Nanotechnology: ENGR 1050

What do stain resistant pants, computer components, LED flashlights and space elevators have in common? They are all applications of nanotechnology. This fall ENGR 1050 – Introduction to Nanotechnology – becomes a physical science general education course so it can count



toward your GE requirements. Join us as we learn about the vast world of small things and their very large impact on the present and future! In this class we will examine many important products and ideas that involve using really small parts. These nano-sized parts are a million times smaller than an ant or a drop of water and 100,000 times thinner than a strand of hair. Technologies built from nano-sized components are already all around us and we will examine their impact on everything from cancer treatments to cell phones. In this course, we will also make nano-sized products and characterize them using SLCC scanning electron and atomic force microscopes. It is estimated that by the end of this decade nanotechnologies will become a \$3 trillion market and could create an additional 6 million jobs. In ENGR 1050 you will be able to identify and prepare for nanotechnology related opportunities in the vocation of your

choice. Be prepared for the future of sciences and engineering. Classes are offered on: M, W 2:30-3:50 pm, M, W 4:00 – 5:20 pm, T, TH 10- 11:20 am and T, TH 3-4:20 pm. Sign up today for one of the four sections offered and come join in the fun!

Engineering the Guitar: ENGR 1600



The Engineering Department is proud to announce an exciting new general education course, ENGR 1600 – Engineering the Guitar. In this course you will build your own fully functional electric guitar, starting with a block of wood and a box of electronics. You'll get the chance to work with the shop equipment used in many manufacturing applications, learn wood crafting skills and utilize engineering design concepts. In addition you'll be introduced to the science behind the guitar as you learn about vibrations, acoustics, the function of the human ear, music theory and much more.

This is a great way to meet the interdisciplinary general education requirement, and you'll take home your very own guitar. ENGR 1600 fulfills your interdisciplinary (ID) general education requirement at SLCC. Seats are limited to 12 students per class – so sign up early. Contact: holly.moore@slcc.edu



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COMMENTS FROM THE COORDINATOR



Welcome to the first issue of The Compass – the SLCC Engineering newsletter. We have a lot of exciting news to share with you. We've had many successes during this last year and other big changes are coming to our department in the upcoming months. This spring we welcomed Joven Calara as our full-time lab coordinator, who is in charge of all of the Civil/Mechanical labs. Be sure to read about him as our featured member of the faculty/staff in "People Making It Happen". Engineering teams won big at the SME symposium, taking first

place awards in both the written and oral presentation categories. You can read all about their successes in "Engineers on the Move". We also have some new courses for you to consider as you put together your schedules. Our Introduction to Nanotechnology class is now officially a physical science general education offering, so we hope to see increased enrollment in this very interesting subject. Big things should be happening in the small world of nanotechnology. The Engineering the Guitar class, ENGR 1600, was approved as an interdisciplinary (ID) general education course. Consider joining us to build your own guitar, and learn some fundamentals of manufacturing techniques at the same time. Technical Writing, ENGL 2100, was successfully offered for the first time to a cohort of just engineering students by our own Writing Initiative Coordinator, Dr. Sally Asbell. Please read about all of the exciting changes in our Writing and Communication Program in "The Main Event". We plan to make Technical Writing a requirement for all APE degrees.

In upcoming issues of The Compass we'll be introducing you to our other new

faculty members, Andrew Vogt, Jim Smith and Quentin McRae. We'll also take a look at the changes we've been working on to MEEN 1050 and MEEN 2655 – the Mechanical Engineering Design Course and the Manufacturing Lab. If you see Sally Asbell (the editor of our newsletter) or me in the hall, please let us know if you have any ideas for future feature articles. We look forward to seeing you in August for another successful school year.

—Holly
Dr. Holly J. Moore

*If you talk about going to the moon,
they call you a poet. If you actually go
there, they call you an engineer.*

—anonymous

Many Thanks

to our Associate Dean Peter Iles for his ongoing support and his financial commitment to this project. Also, we extend our gratitude to Carol Acevedo for her creativity and patience in working with us on this publication.