The 2011-2012 College of Arts & Sciences Year in Review
The 2011–2012 College of Arts & Sciences Year in Review was produced by the College of Arts & Sciences at Andrews University under the direction of Dr. Keith Mattingly. It was art-directed and designed by Ivan Ruiz and copy-edited by Lindsey Hollister.

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The College of Arts and Sciences (CAS) of Andrews University, home this past year to over 1,700 students, stands at the heart of this flagship institution offering undergraduate and graduate education to prepare students for rewarding careers and positions of leadership in our world. Our faculty are well-known for their excellence in disciplinary and faith-based teaching, as well as for their distinguished contributions in research and creative activity.

As of May 1, 2012, the five Health Professions Departments are no longer housed in the CAS but have become housed in the new School of Health Professions with its new dean, Dr. Emmanuel Rudatsikira. Additionally, the Art Department has joined the new school of Architecture, Art and Design under Dean Carey Carscallen. The CAS will continue with the three remaining divisions: Humanities, Social Sciences and Science/Engineering/Math or STEM. These organizational changes allow us to focus our energies on providing a superior liberal arts education.

We invite you to explore this brief review of 2012.

Keith Mattingly
The Success of Students

The Medical Laboratory Sciences (MLS) faculty focuses on every student’s success. “We’re passionate about the success of each student,” said Karen Reiner, associate professor of Medical Laboratory Sciences. “We want to help each student reach his/her full potential.”

For our department, successful completion of the MLS degree is defined as the student’s ability not only to graduate with a bachelor’s degree, but also to pass the Medical Laboratory Scientist (American Society for Clinical Pathology) National Certification Examination. National certification is required for employment and validates the high standards of education to which we subscribe.

Particularly inspiring stories of success come from students who some might deem as average in their academic performance. This article celebrates the transformation and successful outcomes of all of our students, not just those with the top grades in the class, into valuable members of the healthcare team. We applaud our students for having first-time pass rates for the National Certification Exam that exceeds the national average.

Because acceptance into the MLS Program is by competitive admissions, some students are not able to enter the program the first time they apply. We rejoice in the success of one of this year’s graduates in particular, who was not accepted the first time he applied to the program. Upon consultation with the MLS Program Director and further counsel from the MLS faculty, the student took an additional year to remediate his low science GPA. He was accepted into the program the following year and joined the MLS Class of 2011. His first month in the program was not stellar. “He had a rocky start in my class…” Mrs. Reiner said, “… and wondered if he would make it.” He was encouraged and mentored by the MLS faculty to work hard and focus on his studies. He took the challenge.

His on-campus academic performance continued to be a struggle for him, but he persevered and upon completion of the on-campus courses, he entered clinical practicals. The problem solving and critical thinking skills he had learned were so evidenced in his clinical rotations that he was asked to work at that hospital after graduation, even before he completed his practical training! He took the National Certification Exam and passed it on his first attempt. The Laboratory Director states that he has proven to be a valued employee in that laboratory and they are grateful to have him as part of their team.

After a 22-hour train ride across four states, 30 senior nursing students and 3 faculty members, Arlene Saliba, Giselle Kuhn, and Nancy Carter from Andrews University Department of Nursing arrived in Wolf Point, Montana. For several weeks, they had been preparing themselves to be immersed in the culture of the Assiniboine and Sioux Native American tribes, and to hopefully make a difference in the lives of the members of the Fort Peck Reservation. Students had previously researched the culture and the health challenges of the tribe, but this in no way compared to physically experiencing the culture.

Once settled in their living quarters, the group was driven to the Fort Peck Indian Reservation. Students had previously planned the activities they would do with the Native American children and community regarding obesity, suicide, substance abuse, and unemployment.

By the end of the week, almost all of the nearly 1,000 students based clinics in the towns of Poplar, Brockton, and Fraser. They applied their nursing knowledge by teaching a variety of health topics to the children in grades K through 12 including hygiene, the benefits of exercise, good nutrition and adequate sleep, good dental hygiene, interpersonal relationships, sex education, STD prevention, and “Project Alert,” a substance abuse prevention program for middle school children.
In the past three and a half years, the Department of Nutrition and Wellness has gone through many changes, including the addition of the Fitness and Exercise Studies program, as well as a new minor in fitness education, and changing the general education fitness education curriculum. In 2009, the department started the annual Fitness Fun Run and Expo, which includes the university and community. It has been increasing in attendance every year since it started, and this year looks to be no different.

The newest change to the department is the addition of a new certification. Starting in 2012, the department has added the Health and Fitness Ministry Certification, which incorporates ministry with health and fitness so people such as pastors can incorporate health and nutrition into their ministries.

The department also hosted its first Health and Fitness Symposium in May 2012 on campus with the theme “connect & inspire to share.” It included an amazing line-up of keynote speakers and a great array off seminars about health and fitness. Prepare to be inspired to connect the concepts of health, fitness and ministry to share with the world!” according to the brochure, including presentations from keynote presenters Monica Reed MD, Enrie Medina, Jr., DrPH, Don Morgan Ph.D., Katia Reinert, RN, MSN, FNP-BC, PHCNS-BC, FCN, and Fred Harding, DrPH, RD. The symposium also included seminars, practical workshops, poster presentations, a catered Sabbath lunch and dinner, and much more. Professionals, students, and enthusiastic and passionate people about health and fitness were all encouraged to attend.

One other new thing that happened this past year was the launching of the first in-house professional internship for Nutrition and Wellness majors, as well as an initiative for general students, called “The Edge.” Majors came up with designs in spring 2011 for the student wellness program, which is designed to improve the overall wellbeing of the undergraduate student population at Andrews University.

Located in the FitZone, interns provide the content, services, and educational workshops for students, including diet workshops and fitness classes, for example. Dominique Wakefield, the director of Fitness and Exercise Studies as well as the assistant chair of the Nutrition and Wellness Department, said, “It’s a great opportunity for students to intern on campus.” It is free for students, and has an incentive program where students earn points by participating in small group personal training classes. When it was first opened, over 70 people signed up, Alicia Fry, the student managing The Edge, said, “It was a really good turn out.”

After saying goodbye to Dr. Lynn Millar and Dr. John Banks, two long time faculty members, the department welcomed Dr. Mioara Diaconu and Mr. Leslie Samuel in July 2011 as new faculty members. Dr. Diaconu is the new Research Coordinator, with a background in social work, theology, and community and international development. Kim Coleman, the DPT assistant director, said, “We look forward to the knowledge and skills she will bring to our program as well as the benefits of collaboration across disciplines.” Mr. Samuel is the new Foundation Sciences Coordinator, with a background of biology and neurobiology, he desires to make a positive change in students’ thinking about biology. One of his specialties is integrating technology into the classroom, even maintaining a website he designed, www.interactive-biology.com.

“We are very excited to have Mr. Samuel join our faculty and look forward to the integration of technology to enhance our students’ learning experiences in the foundational sciences,” Coleman said.

Students were involved in Operation Christmas Child during the holiday season, thanks to Administrative Assistant Esther Jones presenting the project of packing shoeboxes to the Class of 2013 and 2014. “They embraced the project, and many chose to participate as one of their community service projects for their Doctor of Physical Therapy portfolios,” Jones said. The students assisted in packing 65 boxes with items they donated themselves. Coleman said, “We are proud of their willing spirits and cheerful giving!”

Several faculty members presented physical therapy poster presentations at the national Physical Therapy convention in Chicago in February 2012, including Dr. Lee Olson, Dr. Lynn Millar, Dr. David Village, and Dr. Wayne Perry, chair of the department.

The department has also been approved by the Andrews University Board to be part of the formation of a new School of Health Professions, which will include four other departments: Nursing, Nutrition and Wellness, Medical Laboratory Science, and Speech-Language Pathology and Audiology. The launch date for the school is Summer Semester 2012. Coleman said, “We are looking forward to the opportunity to collaborate better with each department and provide richer learning experiences for our students.”
Department of Speech-Language Pathology & Audiology

Change can be good! This has been a year of immense change and exciting new adventures for the Speech-Language Pathology and Audiology department. Although in comparison to many departments it is small in number, it is large on goals and growth potential.

The faculty is comprised of Brynja Davis, MS, CCC-SLP, a speech-language pathologist, Heather Ferguson, MS, CCC-SLP, a speech-language pathologist and a new faculty member in 2011 and Darah Regal, AuD, CCC-A, an audiologist and new chairperson of the department in 2011. In addition to the new faculty and/or changes in faculty position, the department also added a new full-time administrative assistant, Winona Hays. God has bountifully blessed this team of professionals to work together towards new projects for the department. Having a full-time administrative assistant has been a significant key to all the successful changes this year.

The department has had a long term goal of starting a master’s degree in speech-language pathology for several years. To reach this goal several changes needed to be made including ample space for the department, professional degree status, doctoral level faculty, approval of administration and certification through the American Speech and Hearing Association (ASHA). Many of these goals have either begun or were completed this year.

In May the department was moved temporarily while a new space is being renovated in Bell Hall. The new space has been designed with a master’s degree in mind. To say the department was “bursting at the seams” would have been an understatement with 75 majors and minors in 700 square feet. Administration has been very supportive of developing a space for faculty and students, which will allow for further growth and for a professional space for seeing patients. The new space will represent Andrews University well to students, parents, patients and colleagues. August 2012 will be an exciting month when the new space is completed, students return and faculty utilize new therapy and diagnostic areas.

Another step to reach the goal of a master’s degree happened in February when the program was approved to be a professional degree. The flexibility for students has greatly increased to allow students to fine-tune their program for their specific career goals. Students who are interested in working in the schools can add education courses. Students who would like to eventually own their own private practice can add business courses and bilingual students will be able to add a language major with more ease.

Two faculty members are actively working towards beginning a doctoral program. Heather Ferguson will be starting her doctoral degree in June 2012 through the education department at Andrews. Her emphasis in the correlation between literacy and language will strengthen the potential for speech-language pathologists to work more effectively with children who struggle in both areas. Brynja Davis plans to specialize in neurology and auditory processing in her doctoral program. She plans to start her degree within the next year.

The approval process of the master’s degree proposal has begun as well. As committees approve the degree, more excitement will build. Students will be blessed by the opportunity to work as speech-language pathologists and audiologists. Our community and world will be blessed by the improved communication ability these professionals will provide.
Students and Faculty Present at Research Conferences

In preparation for this conference, students and professors collaborated on their research as well as presenting together. “It was a privilege to mentor students in their research and participate in presenting together,” Dr. Jones, chair of the Department of English, said.

In the spring students and faculty attended another conference, the Michigan Academy of Sciences, Arts and Letters at Alma College on March 2, 2012, took place. Professors Beverly Matiko, Becky De Oliveira and Bruce Closser, and students Catherine Tetz, Jordan Arellano, Theron Calkins, Carolyn Davis, Christine Lairson, and Samantha Snively presented papers at the conference. The subjects varied from “vision, language and poetics in nineteenth and twentieth century literature” to “gender and subversion in early modern literature.” Professors Becky De Oliveira and Closser also presented their research on English composition.

The funding for travelling and research came from generous donations by English alumni. “It was an incredible advantage to go up the night before and arrive at the conference well-rested and well-practiced, thanks to the English department’s generosity,” Samantha Snively said.

Department of English

This past year the Department of English has had the opportunity to attend two research conferences and present research that both students and faculty have done. On October 14, 2011, Dr. Douglas Jones, Professors Julia Kim and Bruce Closser, as well as students Justina Clayburn, Thula Lambert, Ellen Rodrigues, Meghan Rudley, Erin Hotelling, Jarrod Lutz, Leah Rodriguez, Myles Compton, Karina Mamora and Liana Kim, all attended the Michigan College English Association conference at the University of Michigan, Dearborn campus.

The conference was titled “Taking Risks,” and presentations from the group ranged from Clayburn defending Chaucer’s squire, to Professor Kim, Lambert, Rodrigues, and Rudley discussing if the English language is at risk. Dr. Jones, Hotelling, Lutz, and Rodriguez presented their research about young adult literature in the classroom, while Professor Closser and Compton discussed their study about directness and subversion in early modern literature.” Professors Becky De Oliveira and Closser also presented their research on English composition.

The department lectureship series this year included a political scientist, Peter W. Welshouwer, a specialist and consultant in mobilization politics, campaign strategy, religion and politics, and racial politics. He regularly speaks on faith and politics for academic, professional, and faith-based organizations. His presentation focused on the relationship between government and people of faith. Welshouwer addressed the observation that government too often senses a threat from people of faith. People of faith are perceived as having a higher loyalty to God and thus less loyalty to government. Dr. Welshouwer stressed the importance of the need for people of faith to be politically active and that their political activism should be informed by their religious faith.

Of particular interest was Welshouwer’s clarification of the original meaning of the often used yet misunderstood term, the “wall of separation” between the state and religion. While this term is normally interpreted as keeping religion out of government Jefferson actually argued that the “wall of separation” is there to keep government out the realm of religion and should be maintained in order to preserve religious freedom. However, people of faith must be active in government and political life while remembering that public policy is made for all people. Welshouwer encouraged people of faith to become involved in public life committed to the “wall of separation” as a protection for people of all faiths.
Two of the several majors offered by the Department of International Language Studies have to do with languages and business, and both majors require that students spend time participating in an internship dealing with the target language. The sites for internships have been growing and current students can choose Argentina, Chile, Puerto Rico, Mexico, Peru, or the Dominican Republic. Agreements exist between the department and private companies that are willing to offer an opportunity to foreign students to complete their internship in their offices.

In the last few years, several students have been able to complete their internship requirement at one of those business sites and gained valuable experience that has helped them to find jobs after graduating. One of the students who recently completed her internship was Meruany Soriano. She went to the Dominican Republic during her last year of studies and decided to share her experience with the community.

“I had the opportunity of visiting the island of the Dominican Republic for an international internship as part of my Spanish for International Trade Degree,” Soriano said. “My internship was based in a different country representing Andrews University in every aspect. The internship took place at The Marriott Renaissance Jaragua Hotel and Casino. This hotel has over 300 rooms, 13 meeting rooms, 23,360 sq. ft. of total meeting space, three concierge levels, an on-site casino, with over 1000 employees (associates) working for the facility to make sure everything runs smoothly.

“I worked for five weeks, 40 hours a week. I had to explore and work in four different departments: Sales and Marketing, Office of Events, Event Operation, and Reception. The experience I had in the hotel as an intern was great, much more than what I expected. The things I learned while I was there were intense, the work is constantly going on, and there is no break when you own a hotel. I received training on how a hotel operates from both an employee and employer perspective. A hotel looks great to the eyes of the guest and through a website, basically from the outside. However, the inside takes a lot of effort to make a four star hotel a leader in business and the preference of all possible customers, and there are high levels of stress that the associates and directors of every department go through.

“My experience as an intern was excellent and extremely professional. Directors of every department were well qualified and proficient in every aspect of their job. The interns are well trained on how to run their units. Every morning they had a meeting called “The Stand Up,” in which every director of a department talked about sales of each section, goals of the day and a short description of what events taking place that day and what to expect. Every department also has a WIG or GSS board that helps them keep track of their sales or expectation in terms of percentage the entire year.

“Something that impressed me the most was the fact that when students go to complete their hours as interns, they will get the opportunity to experience how everything functions or works in terms of administrating a hotel, from the housekeeping duties to the General Manager objectives in terms of revenue or profit. I learned a lot during my internship, including that a hotel can improve only if the team is willing to work together as a group and respect each other professionally. Soriano said, “I am really glad that the Department of International Language Studies keeps opening doors for students to participate in international internships because the experience they gain will definitely encourage them to be better professionals or to continue with graduate studies.”

Department of Music
International Adventist Youth Music Festival in Costa Rica

This past December, the Music Department created a musical festival in collaboration with students and instructors from several different countries, including Mexico, Philippines, Peru, Korea, and Canada, just to name a few. Dr. Claudio Gonzalez travelled to Costa Rica along with the orchestra to collaborate with many different people to put together a major concert that was performed in a large venue twice. This is the second International Adventist Youth Music Festival that the Andrews Music Department has put together; the first was a music festival in the Philippines, with many students travelling from Asia and surrounding countries. Part of the purpose of the music festival, instead of a general music study tour, is to bring Andrews University to other parts of the world, showcasing it, and taking leading roles in the music field in the world. Some of the students are from Adventist universities, but some are not.

Instead of a regular music tour, those who went stayed in one place and invited students and instructors from other countries to meet for one week to rehearse and prepare a music concert. The emphasis wasn’t on travelling the world; instead, the emphasis was education. Highly professional and section-specific instructors came from around the world to teach students and provide coaching. The students spent eight or nine hours a day rehearsing in their sections, not to mention practice that they put in after hours. “The students are so excited about finding out what music can do,” Jason Grel, woodwind instructor, said.

“We always want to do one concert for our institution, but for the second concert, we wanted to take the orchestra out for the general public,” Dr. Claudio Gonzalez, Andrews University conductor and festival coordinator, said. This way, there could be more collaboration between different universities and students, instead of just Andrews University putting on the music festival. As part of the community outreach, the brass ensemble had a mini concert at the local high school, and held a Christmas concert in the central lobby of the public university which hosted the second concert.
Department of Religion & Biblical Languages

This past year has been the year of firsts and new things for the Religion and Biblical Languages Department. The department had its first lectureship with Dr. Daniel Block, its first open house in Buller Hall during the winter months, new Bible studies and small groups, and a new faculty member joining the department.

The department’s first lectureship series featured Dr. Daniel Block in what Dr. Paul Petersen, the chair of the department, intends to be an annual event. The goal of the lectureship is to have a prominent theologian from outside of Andrews University come and present, both at a Chapel or Forum as well as a fellowship at night, to “expand the academic horizon,” Dr. Petersen said.

After moving into Buller Hall this year, the department started an open house in the winter months of January, February and March, when it was dark and cold on Sabbath afternoons. The open house included games, hot chocolate, snacks, and singing. The Vine was also created, and is “one of several Bible Study/Sabbath Schools in which religion faculty are involved” Dr. Petersen said. These options are led by different religion teachers, including Dr. Eduard Gállos, Pastor Glenn Russell, Dr. Ante Jeroncic, and Dr. Petersen. Pastor Russell also creates and broadcasts Scriptural Pursuit on the radio and TV every Sabbath, with students becoming more and more involved.

Rahel Schafer has joined the Religion department as a new faculty member, teaching Hebrew and God and Human Life. He is currently finishing his doctoral dissertation, and specializes in animals and the Bible and is enthusiastic about the ethics of animals. He is the only faculty member to specialize in this particular area, which gives the department a little more breadth in specialized subjects.
Department of Biology

Four Faculty Members Retiring, Four New Members Joining the Department

In the past 75 years since its beginning in the mid-1930s, the Biology Department has only had seven department chairs and 19 faculty members leave due to retirement or moving on to other jobs, and the last members to leave were over ten years ago! “There will be new faces appearing in the department over the next couple years as we are currently searching for, interviewing, and finding replacements for four biology faculty who are retiring but are graciously staying around to help lift the load until all the replacements are on board and stay around to help lift the load until all the replacements are on board and up to speed,” Dr. David Steen, chair of the department, said.

Bill Chobotar, David Steen, Jack Stout and Dennis Woodland all plan to retire within the next year. Combined, they have given nearly 145 years of service to the department, and the department plans to celebrate their careers and contributions during alumni homecoming, September 27-30, 2012. The four new faculty are expected to join the department in July 2012, and January and July 2013. Peter Lyons and Pamela Coburn-Litvak will join the faculty in July 2012; Lyons earned his PhD at Dalhousie University. Coburn-Litvak earned her doctorate degree at State University of New York. Kanya Long and Daniel Gonzalez will be joining the department in 2013; Long earned her PhD at the University of Texas. Gonzalez earned his is completing his doctorate at Duke. In addition, Denise Smith will join the faculty in July 2012 as coordinator of labs and the high school biology program. Smith earned her doctorate at Western Michigan University. Tom Goodwin has also been elected as the chair of the department, taking over for Dr. David Steen beginning July 1, 2012, becoming the seventh member to lead the department.

Text by Lindsey Hollister

Department of Chemistry & Biochemistry

Dr. Desmond Murray Receives 2012 College Science Teacher of the Year Award

When asked about Murray, the Interim Vice Provost of Research at Central Michigan University, James Hageman, wrote, “My admiration and respect for all that he has done to promote deep chemical understanding by an active participation of students in authentic research, from high school and younger students to undergraduate and master’s students, has grown and grown. He has thrown his heart and soul into these teaching enterprises in a selfless way, often sacrificing his own research possibilities and ability to publish.”

When asked about his most important contribution, Desmond wrote, “I think that the single most important contribution to my students, fellow teachers, educational institutions and district is my promotion, implementation and continuous improvement of early research participation programs at both the high school and college levels.”

Murray has become the founder and director of BEST, Building Excellence in Science and Technology, a nonprofit program that leads the charge for providing research opportunities to high school-aged students. Mike Tasker, a former student at Niles High School, participated in the program and commented, “This semester’s Bioorganic Chemistry course has been very beneficial to me as a student entering college within less than four months. Untill January, I hadn’t ever experienced a lab-based class. Because of my experiences in the lab, I now feel much more prepared for the college setting. For the most part, high school teachers have held our hands through the last four years. This is why the class has been so beneficial to me. It taught me to think and work independently.”

Text by Princella Tobias

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Text by Princella Tobias
Department of Engineering & Computer Science

Engineering Seniors—Helping the World, One Project at a Time

Text by Lindsey Hollister

Every year for the past six years, senior Engineering and Computer Science majors are required to complete a design project in order to graduate. The department encourages the community to give the department engineering problems that they need solving, and students come up with solution designs as their projects. This year, a couple groups of students took different filtration systems (filters) depending on the problem brought to their attention by Dr. Thomas Chittick and Verlyn Benson, who travel to various countries to find agricultural projects for students. They went to Lesotho, Africa, and discovered the issue with the school’s water hand pump. Younger students couldn’t pump water, and it was the only option for pumping water, because electricity isn’t reliable, natural energy is cumbersome, and solar energy is expensive and hard to get. The hand pump requires a lot of force to use, so Akyiano and Brown designed a way for it to be easier and fun for children to use. They designed a contraption that has a seesaw connected to the pump, which changes the way force is applied. They tested the seesaw design at Andrews with weights instead of a pump, with four smaller children testing it, and it was a success. Akyiano and Brown also made a manual that will be sent to the school for the setup and use of their design. The department enjoys facilitating with the public to generate more problems such as these that students can design solutions and projects to, as well as donors and sponsors to help give the students real goals. “Donors and sponsors help push students with real-life type of projects with realistic constraints,” Dr. George Agoki, chair of the department, said.

spencer groff and adam shull, created a solution to its full benefits. The device can be told to bypass Akyiano and Brown designed a project based on a filtration system that would be effective as well as fun for the students to use. Groff and Shall created a portable, low-power water filtration system for use by aid workers in underdeveloped world regions. While the device is small, and easy to use, it is much more intricate than it looks. There are multiple power sources so that people can use it in various settings. It can be plugged in to a power outlet, run on batteries, or powered by pedals. There is also an option the group built in, so that people can modulate the system to use it to its full benefits. The device can be told to bypass certain filtration systems (filters) depending on the water sources that are being filtered. The students came up with the idea because Shull was an intern at a water purification company, and Groff was a student missionary. They put their experiences together, with Groff bringing the problem that missionaries often get sick in third world countries because of the water, and Shull bringing the solution idea, a portable, low-power system. Livingston Associates, a company that creates water purification systems, sponsored the project, and the owner came with his son from Arizona, where he was at the time, to see the students present. Akyiano and Brown designed a solution to its full benefits. The device can be told to bypass certain filtration systems (filters) depending on the water sources that are being filtered. The students came up with the idea because Shull was an intern at a water purification company, and Groff was a student missionary. They put their experiences together, with Groff bringing the problem that missionaries often get sick in third world countries because of the water, and Shull bringing the solution idea, a portable, low-power system. Livingston Associates, a company that creates water purification systems, sponsored the project, and the owner came with his son from Arizona, where he was at the time, to see the students present.

This same trend toward diversity is seen in the gender of students, of which 63 percent of Andrews students are women. The department is demonstrated by the fact that mathematics majors during the past five years have come from home countries such as Bermuda, Bolivia, Canada, the Czech Republic, France, Japan, Kenya, Korea, Mexico, Taiwan, Trinidad and Tobago, the U.S., and Zambia. On average, ethnicities have been 59.8 percent white, 24.8 percent black, 9.2 percent Hispanic, and 6.2 percent Asian, compared to the demographics of the Andrews University undergraduate student body, which in 2010-11 was 45 percent white, 26 percent black, 17 percent Hispanic, and 7 percent Asian.

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Whatever their gender or background, mathematics majors have many options while here at Andrews. Those who plan to enter fields such as mathematics, physics, actuarial science, or economics can pursue the BS Mathematics major, while those who want to teach math at the K-12 level can take a BS in Mathematics Education. Some choose to take a traditional double major, and others take a Mathematics Studies second major (nine hours less than a BS Math degree), an option that is very popular with students taking primary majors in Computing, Chemistry, Engineering, Finance. Also, students taking the Behavioral Neuroscience program can choose to take a math concentration. In the past five years, areas in which math majors have double-majored include all of the previous majors plus Biology, Biophysics, English Literature, and Political Science.

When they graduate, in addition to finding careers as mathematicians and becoming university mathematics professors or secondary school teachers, Andrews math majors have gone on to succeed in careers such as law, economics, dentistry, medicine, actuarial science, mathematical biology, and quantitative psychology.

Rich in diversity, mathematics at Andrews University is a great option for students no matter what their ethnicity, gender, other interests, or future plans.

Department of Mathematics

The New Face of Mathematics

Text by Karen Johnson-McWilliams

Diversity is a word that aptly describes Andrews University, and some departments on campus reflect that diversity more than others do. What some people may not know is that, unlike many mathematics departments—which tend to be monochromatic and male-dominated—the Andrews Department of Mathematics is surprisingly diverse, having a rich ethnic and gender diversity as well as diversity in opportunities available to students while at the university and diversity of career options available after graduation.

The ethnic diversity of the math department is demonstrated by the fact that mathematics majors during the past five years have come from home countries such as Bermuda, Bolivia, Canada, the Czech Republic, France, Japan, Kenya, Korea, Mexico, Taiwan, Trinidad and Tobago, the U.S., and Zambia. On average, ethnicities have been 59.8 percent white, 24.8 percent black, 9.2 percent Hispanic, and 6.2 percent Asian, compared to the demographics of the Andrews University undergraduate student body, which in 2010-11 was 45 percent white, 26 percent black, 17 percent Hispanic, and 7 percent Asian.

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Department of Physics

Getting to the Bottom: AFM Captures Nanoscale Images

Text by Dr. Margarita Mattingly
Photos by Brendan Cross and AFM Workshop

Physics is good at using mathematical models to intuit structure abstractly, but direct visual images provide us special satisfaction and new handles on problems we want and need to solve. The “bottom” is intriguing, where mysterious, inscrutably small, intricate structures make things like smartphones possible.

This year the Physics Department invested in a new microscope—an atomic force microscope (AFM) to capture images of structures at the smallest scales approaching the size of an atom by using atomic forces on a cantilever probe thinner than a human hair with an even thinner tip capable of detecting features less than a nanometer tall. By 2007, it was already clear that we needed to move in this direction and give our students exposure and experience in nanotechnology. After all, AFM technology was not all that new. The first AFM was built in 1986 and commercialized in 1989. First attention to nanotechnology as a possibility came much earlier in 1959, when Richard Feynman presented his famous lecture “There’s Plenty of Room at the Bottom.”

AFM will give students hands-on experience at these scales and pose them for continued development of nanotechnology. Their involvement will inform and motivate their theoretical work as they experience the thrill of direct observation of what they had only imagined. It will open doors for students and faculty alike to collaborate on projects with other departments on campus and with established AFM programs at research universities and labs.

AFM units are costly, and the University’s Capital Expenditures Committee agreed to partner with the department to make the $50,000 purchase. Mickey Kutzner and Brendan Cross studied the possibilities and found very few options for the kind of open system the faculty envisioned. From the beginning, the physics faculty favored purchasing an AFM unit that would be open and accessible in order for students to be able to adjust, modify, and otherwise interact with the inner workings. Kutzner and Cross recommended we build the AFM from the ground up, purchasing the design and parts from AFM Workshop in Long Beach, CA, and assemble the unit over a week’s time at their location under their direction with added training in calibration and maintenance. This would make it possible for us to make modifications as needed and to service the unit ourselves rather than relying on outside experts.

Cross travelled to the AFM Workshop’s Signal Hill Headquarters during spring break in March 2012 to assemble our unit. After spending a week at the Workshop and California State University building and learning about the AFM, it was shipped in a container that doubles as its housing, and arrived on campus on March 29, 2012. It was installed in a dedicated, ground floor, windowless room that had formerly served Physics Enterprises for storage. The Advanced Lab class is including the AFM in its April 2012 projects and interest has been expressed in using the instrument for imaging nanopolymers. We are very pleased to finally get to the “bottom” here at Andrews with the new AFM.
Department of Art & Design

We would like to thank the College of Art & Sciences for being a wonderful home for our department for the last 61 years (the Art Department was started in 1951). We will always share with CAS the belief in the importance and joy of the “Arts” and Sciences, in the education of students who will serve our God, no matter where we are housed in this University. We have not moved very far so each of you are welcome to visit us anytime. On this page we would like to share some examples of the creativity of our students. Thanks again for your support of our department!

—Faculty of the new Department of Visual Art & Design
Department of Communication

New Minors Introduced into the Department of Communication

This past school year the Department of Communication has been working hard to create 11 new minors with the collaboration of other departments. Dr. Karl Bailey analyzed the trends in various departments relevant to communication; the study showed that the departments were losing majors but gaining minors, and this gave the department the idea to create new minors to facilitate this need. The department has been collaborating with different departments to share courses because the discipline of Communication is interdisciplinary. The department wanted to create minors that would help students in other majors gain additional skills for use in the workplace.

Two types of minors have been developed because of the study. One type is with the collaboration with other departments or majors, and the other type offers skill sets that correspond to majors offered in the Department of Communication at present. The beneficial thing to note is that none of the new minors require any new classes to be offered. The classes have been grouped differently to help simplify and focus the minors to skill sets that will be needed in the work force, without the need to create new classes. Dr. Delyse Steyn, the chair of the Department of Communications, said, “We believe our divisional strategy of packaging existing classes into social sciences skill-development minors offers a service to the campus community and may help attract students into our classes in the departments.” In addition to developing skill sets that reflect various career tracks, the minors also prepare students for internships by the packaging of courses. “As a liberal arts school and an interdisciplinary program, we’re honored to collaborate with different campus departments to offer students such specified career tracks. It’s an opportunity for them to enhance their futures and skills,” Dr. Steyn said.

The minors will be added to the 2012-2013 bulletin, first appearing in the Fall semester. The new minors are:

- Electronic Journalism
- Event Management
- Health Communication
- Strategic Communication
- Image, Identity and Popular Culture
- Photojournalism
- Publication Production
- Communication and the Family (In collaboration with Family Studies)
- Communication and Community Development (In collaboration with Community and International Development)
- Advocacy of Public Policy (In collaboration with History and Political Science)
- International Relations and Peace Studies
- Publication Production
- Communication and the Family (In collaboration with Family Studies)
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- International Relations and Peace Studies

Pastors Daniel Vega and Elvis Velez became social work interns at Neighbor to Neighbor when Lucy Randall, their mentor, gave them the idea to start a ministry in the community. Vega and Velez took the idea to Dowagiac, Michigan, figuring out what the community needed and catering to those needs to become friends with people. They discovered that people needed clothes, and Neighbor to Neighbor was happy to donate clothes for them to give out. Vega and Velez gave out clothes to start opening doors to people, allowing them to get acquainted with families, and then start discussing different things with people as friends, including religion and faith. They came up with the idea from Jesus’ example in His ministry, which was to go out and preach and meet the needs of the people.

Vega and Velez’s plans for the future are to keep sharing and spreading the ministry, appeal to the community for support and funding to get a larger place to meet for church, Bible studies and activities they run in Dowagiac, because the place they have is extremely small and cannot fit everyone who wants to come.

“Everywhere we go, we share the plan,” Vega and Velez said, and everywhere they share their plan, the pastors listening have taken it and put it into practice, starting the ministry where they are. It keeps spreading in a huge ripple effect that all started with one little church in Dowagiac and two social work interns with a vision.