College of Business and Information Systems

CURRICULUM

The College of BIS is committed to providing the most relevant and meaningful curriculum for our students. Faculty members remain current in their discipline in a number of ways, and we value input from students, alumni, employers, and other stakeholders at any time. We are pleased with curriculum changes that will benefit our faculty and students.

For example, Dakota State University received approval from the S.D. Board of Regents and the Higher Learning Commission to offer our doctoral programs as Ph.D. degrees instead of D.Sc. degrees. The doctoral program in information systems has specializations in analytics and decision support, healthcare information systems, and information assurance and computer security. Information is available at dsu.edu/graduate-students/phdis

In addition, we received approval recently to offer a new graduate certificate in healthcare analytics. There are four required courses for this program, including:

- HIMS 701 Foundations in Healthcare Information,
- HIMS 744 Data Analytics in Healthcare,
- INFS 768 Predictive Modeling,
- and INFS 776 Business Intelligence and Visualization.

These courses will fit into DSU graduate degree programs and will be an advantage for students if they decide to continue their education to achieve additional academic goals.

You can find more information about all program curriculum in the DSU Undergraduate Catalog and the DSU Graduate Catalog at catalog.dsu.edu/. The website for public information about curriculum changes is public-info.dsu.edu/curriculum/

The College of Business and Information Systems offers programs that have been accredited or approved by meeting national standards!

ACBSP GLOBAL BUSINESS ACCREDITATION

www.acbsp.org

CAHIIM ACCREDITED PROGRAM

www.cahiim.org

HiMSS APPROVED Education Partner

www.himss.org

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WELCOME NEW FACULTY

OZLEM COSGUN

Ozlem received her Ph.D. degree in industrial engineering from Istanbul Technical University in Turkey in 2011. She has worked as an assistant professor at several universities in Turkey. In the past three years, she worked as a post-doctoral research associate at Wichita State University in Kan. and taught at Marshall University in W.Va. last year. Ozlem and her husband have a 5-year-old son Utku and a 10-year-old daughter Duru. She enjoys spending time with her kids very much.

ANDREW BEHRENS

Andy is from Milbank, South Dakota. He went to DSU for both his undergraduate degree (B.S. in Computer Information Systems) and masters degree (M.S. in Healthcare Information Systems). Andy has two dogs, one golden retriever named Leah and a bloodhound named Red. Before coming to DSU he was a system/network administrator for a critical access hospital in Minnesota. Andy enjoys playing basketball year-round, and in the spring and summer he likes to golf as much as possible.

WENDY SIMMERMON

Wendy is originally from Columbia, S.D., a small town north of Aberdeen, S.D. She attended Northern State University and earned her bachelor's in business education. She taught 2 ½ years as a high school business and computer science instructor along with serving as the junior high and assistant varsity girls basketball coach. She worked in banking, financial advising, and retail for 10 years before moving to Sioux Falls to teach at Kilian Community College for 17 years. During that time she earned a master's in business administration from the University of Sioux Falls and a doctorate in education leadership from University of South Dakota. She began adjunct teaching at DSU in the fall 2017 and began full-time in the fall of 2018. She splits her week between the University Center in Sioux Falls and the DSU campus in Madison. She lives on a small hobby farm between the two campuses.

RESEARCH

GRADUATE RESEARCH

The DSU 2018-2019 Graduate Research Initiative (GRI) process received nine proposals for funding, with eight grants awarded (seven from BIS!) The successful studies, students, and faculty advisors are:

- "Employee Acceptance of Employee Control Over BYOD Devices." (Kevin Callies, Ph.D.IS; Advisor Dr. Cherie Noteboom)

- "A Social Media Analytics of Innovative Strategies for Opioid Crisis." (Tareq Nasralah, Ph.D.IS; Advisors Dr. Omar El-Gayar and Dr. Yong Wang)

- "Factors Influencing Cybersecurity Curriculum Decision Making in Community Colleges." (Todd Whittaker, Ph.D.IS; Advisor Dr. Cherie Noteboom)

- "Smart Agriculture Beyond Industry: Analyzing The Future Of Agriculture Through Social Media Insights." (Martinson Ofori, MSCS; Advisor Dr. Omar El Gayar)

- "Usage of Technology Enabled Services in Healthcare – A Research Survey." (Kaushik Muthusamy Ragothaman, Ph.D.IS; Advisor Dr. Cherie Noteboom)

- "The Fit of Data Visualization Design for Knowledge Activation." (Kari Sandouka, Ph.D.IS; Advisor Dr. Cherie Noteboom)

- "Effectiveness of Transfer Learning on Medical Image Classification Using Chest-Xray 14 Dataset." (James Boit, Ph.D.IS; Advisor Dr. David Zeng)

UNDERGRADUATE RESEARCH

Congratulations to Alexis Vanderwilt on receiving a 2018-19 Student Mentored Research Initiative Award for her project entitled "What is the Relationship between the Interpretation of Data and the Medium of Presentation?" Alexis is a computer science major who will be mentored by Dr. Cherie Noteboom on this project. We can look forward to seeing her poster during DSU's Research Day (March 27-28, 2019).

FACULTY RESEARCH

The Faculty Research Initiative (FRI) process received 17 proposals (11 from the College of BIS) with six studies awarded funding. The five successful proposals involving faculty from the College of BIS are:

- Associate Professor Cherie Noteboom, Associate Professor Dave Bishop and Instructor Andrew Behrens — "Understanding the Perceptions of Physicians and Healthcare Providers on IT Project Communications."

- Assistant Professor Pam Rowland and Associate Professor Cherie Noteboom — "Evaluating Influences on Middle School Girls Related to IT Courses."

- Assistant Professor Julie Wulf Plimpton, Assistant Professor Kyle Cronin, and Associate Professor Yong Wang — "Comparative Study of Healthcare Administrative Employee's Comprehension and Use of Data Protection Applications on Cell Phones."

- Assistant Professor David Zeng — "Using the Optimal Cut-off Layer in Fine-tuning to Measure the Effectiveness of Transfer Learning."

- Associate Professor Yen-Ling Chang and Professor Daniel Talley — "The Impact of the Minimum Leverage Ratio on South Dakota Community Banks."

RESEARCH SERIES

Dr. Cherie Noteboom spoke at the first fall event of the DSU Research Convergence Series on September 13. She presented a talk titled "Healthcare Challenges The Socio Technical Perspective: Empowering Proactive Health Ownership."

Rising healthcare costs, combined with challenges of an aging population and increasing growth in chronic diseases, has led to a critical need to deliver more effective and efficient healthcare. This research provides new insights by evaluating technical, behavioral, clinical, and managerial perspectives in the healthcare industry.

The active use and integration of various technology solutions to support superior healthcare delivery and wellness management were discussed during Dr. Noteboom's session.

FLORIDA RESEARCH SEMINAR

Dr. David Zeng was invited to give a research seminar titled "Contract Bundling in Software Application Development and Maintenance" on November 1 at the University of South Florida. David shared his research and introduced DSU's information systems (IS) and analytics graduate programs to faculty members and doctoral students in the IS department of Muma College of Business at the University of South Florida.

During the trip to Tampa, David collaborated with Professor S. Shivendu of USF on a working paper they plan to submit for publication. He also had the opportunity to interact with a 4-year-old alligator!

RESEARCH GRANT

Dakota State University partnered with the South Dakota School of Mines and Technology, South Dakota State University, and the University of South Dakota on a STEM-focused graduate-level program concentrated on anti-counterfeiting. This partnership received a five-year, $2,995,676 grant from the National Science Foundation Research Traineeship (NRT) Program. This project is led at DSU by Dr. Ashley Podhradsky.

The project titled "Cyber-Physical-Social System for Understanding and Thwarting the Illicit Economy" will take a multi-disciplinary group of graduate students and give them training in specialty areas outside of their core discipline to help with their understanding of the counterfeiting culture. Dr. Jun Liu from the College of BIS will be contributing by teaching modules related to the role that Big Data could play to help students understand counterfeiting, more specifically how Big Data could be used to determine how counterfeits are sold and marketed via the internet.

MWAIS

DSU alumnus Dennis Acuna received a plaque from the Midwest United States Association for Information Systems (MWAIS) in appreciation for assisting with the 2018 MWAIS Conference in the role as AIS Liaison.

MIDWEST BIG DATA HUB

Three of our doctoral students, James Boit, Ganga Basyal, and Rajesh Godasu, presented research posters at the Midwest Big Data Hub (MBDH) All-Hands Meeting in Cleveland, Ohio on November 6-7. Their research projects are:

- "Exploring Drivers for Diabetes in the US: A data mining approach" — Ganga Basyal working with Dr. Omar El-Gayar and Dr. David Zeng

- "Effectiveness of Transfer Learning for Medical Image Classification" — James Boit and Rajesh Godasu working with Dr. David Zeng.

Dr. Zeng and the students received financial support from Midwest Big Data Hub to attend the conference, where they shared their research projects with faculty members and graduate students attending the conference, including the executive director of MBDH, Professor Melissa Cragin, from the University of Illinois at Urbana-Champaign (pictured at right).

The theme for this year's MBDH All-Hands Meeting was "Data Futures: Advances, Limits, Potentials." The MBDH All-Hands meetings are organized annually to bring together the broad MBDH membership and interested new parties to share information on data and data science-related projects, collaborations, tools, practices, and discoveries in the thematic areas of interest in the MBDH region. The meeting is intended to build the community, share successes and opportunities, and to also provide interesting or emergent big data applications across the R+D space.

INTERNATIONAL TEACHING

Thanks to the help of the International Programs at DSU and the Magellan Exchange Organization, Professor Deb Tech had the opportunity to teach "Disruptive Technologies and Marketing" at FH Vorarlberg in Dornbirn, Austria in December.

Publications:

Dr. David Zeng had his manuscript titled "Optimal Asset Transfer in IT Outsourcing Contracts" accepted for publication in the MIS Quarterly. This is a peer reviewed scholarly journal published by the Management Information Systems Research Center, at the University of Minnesota's Carlson School of Management.
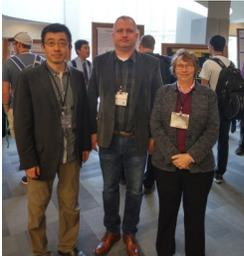
In September, Dr. Zixing Shen published a first-authored paper titled "Challenges in Learning UML: From the Perspective of Diagrammatic Representation and Reasoning" in Communications of the Association of Information Systems.

Presentations:

Renae Spohn presented at the South Dakota Health Information Management Association's Fall Convention about "Healthcare Delivery and Financing System Models."

Dr. Dan Talley made a presentation titled "Credit Scores and Integrity Signaling: Exploring Variations in Credit Scores Across U.S. States" at the International Academy Of Business And Public Administration Disciplines (IABPAD) conference.

CONFERENCE PRESENTATION

Dr. David Zeng presented his research on "Transfer Learning in Medical Image Classification" at the Research and Technology Development (RTD) Conference 2018. The conference, held at Missouri University of Science & Technology on September 17 -18, is an all-encompassing event for researchers, students, and academics who are involved with research and technology. He shared his research with conference participants, including Aaron Bergstrom of University of North Dakota and Melissa Cragin of University of Illinois at Urbana-Champaign.

WORKSHOP

Dr. Insu Park was an associate editor for the Information Systems & Society Track of the International Conference on Information Systems (ICIS) 2018 held in San Francisco in December. His topic areas included cyber-security, privacy, and ethics of IS. ICIS is a conference of the Association for Information Systems (AIS).

Dr. Park also participated in a pre-ICIS Workshop on Information Security & Privacy (WISP '18), which is hosted by the AIS Special Interest Group on Information Security and Privacy (SIGSEC). He presented in the Economics of Security and Risk Track, and the title of his presentation was "An Examination of Resilience in Healthcare Information Systems in the Context of Natural Disasters."

CENTER FOR TEACHING & LEARNING

DSU's Center for Teaching and Learning (CTL) invited Dr. Omar El-Gayar to share information at one of their fall semester sessions for faculty and students. His presentation was titled "Crimson-Hexagon: A Tool for Social Media Analytics."

According to Gohfar Khan, social media analytics is the "the art and science of extracting valuable hidden insights from vast amounts of semi-structured and unstructured social media data to enable informed and insightful decision making." However, analyzing the wealth of social media data available has been hampered by the complexity of the techniques and algorithms used to harvest and analyze such data, as well as the ability to gain meaningful insight from what is sometimes referred to as messy data. Tools such as Crimson-Hexagon are aiming to fill this gap.

In his presentation, Dr. Omar El-Gayar provided an overview of Crimson-Hexagon with an emphasis on social media analytics. DSU has a two-year subscription to this immense data base which can be an asset to anyone who seeks to leverage social media for research or teaching in healthcare, politics, consumer trends, and other contemporary topics.

PROFESSIONAL SERVICE

Professor Scott Morstad joined the Member Service Committee of the South Dakota Society of CPAs in September. The responsibility of this group is to review and implement programs and proposals to enhance member value and benefits.

WEBINAR

Assistant Professor Julie Wulf Plimpton presented a webinar for the American Health Information Management Association (AHIMA) during Health Information Technology Week in October. The title of the webinar was "EHR Customization: Improved Efficiencies or Risky Business?"

Customizing the electronic health record (EHR) to improve efficiencies is not only beneficial for the end users, but

can also produce unintended consequences if done improperly. This session highlighted the pros and cons of customization and its impact on patient safety, end-user engagement/experience, data reporting, reimbursement, interoperability, and system management.

ACBSP REGION 5 CONFERENCE

Dakota State University hosted the annual Accreditation Council for Business Schools and Programs (ACBSP) Region 5 Conference in October. During the three-day event, attendees enjoyed the venues available on the DSU campus, at nearby Lake Madison and Lake Herman, and at historic Prairie Village. The agenda included networking opportunities and a number of informational sessions and presentations related to the theme of *The Art of Developing Entrepreneurial Leaders*.   Dr. Jack Walters of DSU's College of BIS spoke on "Walking the Line Between Optimism And Pessimism In Teaching Entrepreneurship."

Dr. Deb Tech serves as the Accreditation Faculty Champion for the College of BIS and she is also Chair-elect of ACBSP's Region 5 Midwestern Council of Business Schools and Programs, which covers the states of Iowa, Kansas, Missouri, Nebraska, North Dakota and South Dakota.

SCOTT STERN

Scott Stern, the State of South Dakota's Commissioner of the Governor's Office of Economic Development from 2016-2018, visited Madison for two events in October. He was a featured speaker at the ACBSP Region 5 Conference which was hosted by DSU (see above). In addition, the DSU Collegiate Entrepreneurs Organization (CEO) invited Mr. Stern to speak at a campus-wide forum. At both sessions, he spoke about entrepreneurship and the resources available to entrepreneurs and business start-ups through the state.

Appointed by Governor Daugaard in July of 2016, Commissioner Stern led the state's economic development efforts, including its emphasis on entrepreneurism in South Dakota and on the state's campuses. Prior to taking on that role, Stern worked with Stern Oil Company of Freeman, including 14 years as vice president and general manager; and he also worked as a district sales manager for PetroCanada America, a division of Suncor Energy. He resigned as commissioner in late 2018 and returned to a leadership position at Stern Oil when Governor Kristi Noem took office in January of 2019.

PASSPORT PROGRAM

Renae Spohn represented DSU in attending the Interstate Passport Program "Train the Trainer" Workshop in Boulder, Colo. in September. The purpose of this workshop was for attendees to learn about the current status of Interstate Passport and how the program assists students through the transfer process. Attendees are then able to train others on their campuses about it.

The Interstate Passport Program facilitates block transfer of lower-division general education attainment based on learning outcomes. This allows students completing lower-level general education courses at approved technical universities or other partner institutions to achieve a passport, which is then recognized by the receiving institution as an acceptable lower-level general education block of courses meeting transfer requirements. There are currently 27 institutions participating in the Interstate Passport Program in ten states, including the South Dakota Board of Regents institutions, which are members of the Western Interstate Commission for Higher Education (WICHE). For more information, you can visit interstatepassport.wiche.edu/

REAL WORLD CONNECTIONS

Advisory board meetings for business, health information management, and computer information system programs met during the fall semester. Members of these groups come from a variety of businesses and organizations to learn about our programs as well as to provide feedback and input to contribute to the quality and relevancy of our curriculum. The advice and advocacy that we receive from them are valuable and we appreciate their time and contributions.

Faculty frequently invite professionals to classes to share their experiences with the DSU students. Scott Morstad arranged to have Aaron Clayton and Brent Impecoven from Eide Bailly come to the DSU campus to speak to students interested in accounting and financial auditing.

Dr. Wendy Simmermon invited Arleen Weerheim from the Volunteer Income Tax Assistant (VITA) program to visit an accounting class. Students have previously participated with the program and encouraged the opportunity. Interested volunteers are invited to contact her at aweerheim@interlakescap.com.

Students in the BADM 344 Managerial Communications class gained experience from participating in "mock" interviews, many of them by Skype or telephone, with employers from a number of area companies. The volunteer interviewers came from:

- East River Cooperative (Liz Avery)
- Midcontinent (Jeremy Swenson)
- City of Madison (Lexi Bohlander)
- Dakota Ethanol (Rob Buchholtz)
- Reach Literacy (Paige Carda)
- First PREMIER Bank (Kelsey Fonkert)
- Dakota State University (Angi Kappenman and Jenny Ries)
- SONIFI (Kris Wathier)
- Heartland Consumers Power District (Theresa Schaefer)
- Children's Home Society of S.D. (Cindy Schuck)
- Modern Woodmen of America (Joe Sztapka)
- Falcon Plastics (Janet VanRosendale)
- Hartford Area Chamber of Commerce (Jesse Fonkert)
- The Weston Group (Mary Jo Vance)
- Colonial Life (Dana Wohlwend)
- Southeast Technical Institute (Kelly Molstad)
- S.D. Department of Labor and Regulations (Jim Balzer)

INVESTMENT CONTEST

During the fall semester, the Finance, Investment and Real Estate (FIRE) Club invited all DSU students and faculty to join in an Investment Challenge. The game gives participants a relaxed way to gain experience with stocks and the stock market without the downside of real risk. The Investment Challenge made use of a free internet resource site called Investopedia to make the process of buying and selling your stocks both easy and realistic. The goal of the competition was to see who can do the best turning $100,000 into hopefully much more money while managing the risk of the investments in their portfolio.

Ten people accepted the challenge and actively participated in the game. During the contest period, stock markets were very volatile and so was the competition. Every two weeks, the administrator of the simulation ranked every player's performance in terms of average daily return and volatility of the return during a two-week period. The one who performed with higher daily return and lower volatility of the return was the winner of that period, winning a $20 Amazon gift card.

Winners for the four periods of the contest were Josh Hughes, visiting professor from the College of Arts and Sciences, Jan Enright, director of the Karl E. Mundt Library, Jonathan Fauth, DSU business student, and Lindsey Vogl, DSU business student. At the end of the competition, the grand prize winner was Jonathan Fauth who was awarded a $50 Amazon gift card.

DECORATING OFFICE

The theme for DSU's Homecoming festivities this year was *Dakota Space: Infinite Possibilities,* and the

College of BIS entered the office decorating contest. Faculty, staff and students were pictured in astronaut uniforms as some of the features, along with a spaceship and launch countdown.

The College of BIS entered the DSU Holiday Office & Building *Favorite Holiday Movie* Decorating Contest. The staff and students did a great job of decorating the BIS College office for "Rudolph, The Red-Nosed Reindeer."

As you might know, there is an Island of Misfit Toys in the movie, and we invited people to donate new or gently-used toys which we gave to the Madison Food Pantry to be shared. Thank you to everyone who contributed!

GRADUATION

The commencement ceremony for fall graduates was held on December 8. Graduate students earning a degree were honored as well as the undergraduate students earning a degree. The commencement was live-streamed and all students were recognized whether in attendance or not. youtube.com/watch?v=8LImM50HOQg

The College of BIS had 22 students who completed a baccalaureate degree and 11 students who completed an associate degree. Baccalaureate students graduating with honors were Benjamin Aasheim (*Cum Laude*) and Megan Burbach (*Cum Laude*). Associate students graduating with honors were Adam Martin (*With Honor*) and Sarah Stout (*With Highest Honor*). Using a 4.0 grade point average (GPA) scale, *Cum Laude* and *With Honor* graduates have a GPA of 3.5 to less than 3.7, and the GPA for students graduating *With Highest Honor* is 3.9 or above.

There were graduates from each of the masters programs in the College of BIS with four students earning the Master of Business Administration in General Management (MBA), four students earning the Master of Science in Analytics (MSA), three students earning the Master of Science in Health Informatics and Information Management (MSHIIM), and seven students earning the Master of Science in Information Systems (MSIS). These students also were recognized prior to commencement at a hooding ceremony during which faculty members placed the masters hood over the head of the degree candidates signifying his or her success in completing the graduate program. The hooding ceremony was also live-streamed with all graduates recognized. youtube.com/watch?v=CMzTCpDnHmE

Michael Cleveland, a management major and workstudy student for the College of BIS, graduated in December and was the invited student to speak on behalf of the graduates. Congratulations, Michael!

BUSINESS EXPO

College of BIS faculty members, Omar El-Gayar, Scott Morstad and Dan Talley, manned a booth at the Sioux Falls Business Expo in September to let attendees know about our College of BIS programs.

The Expo is a networking and learning opportunity for business owners and their management team.

Promoting HIM

Renae Spohn attended the University of Nebraska Kearney (UNK) Career Fair to market DSU's Health Information Management Programs on September 26. There were about 350 high school and pre-health students in attendance!

HIM faculty were busy during the homecoming season participating in area parades to represent DSU and the HIM programs.

Renae Spohn was a part of Scrubs Camps in Yankton, Watertown, Aberdeen, and Huron to share information about the HIM programs. Scrubs Camps provide high school students with opportunities to increase awareness, interest, and understanding of health careers available in S.D.

COMMUNITY AWARD

Coach Geoff Schaab and BIS's Assistant Professor Mike Roach (who assists with coaching DSU's baseball team) served as tournament directors for the state VFW 10- and 12-year old baseball tournaments held in Madison during the summer. They managed nearly three dozen teams through dozens of games over the course of a three-day weekend.

The state VFW awards a $1,000 grant each year to the community that they believe ran the best tournament, and Geoff and Mike were informed that Madison was the recipient of that grant. It was formally presented and recognized by the City of Madison at a City Commission meeting, with Geoff and Mike invited to be a part of its acceptance.

BIS IN THE MEDIA

The Fall 2018 semester found faculty from the College of BIS in the media – newspaper, magazine, and television.

Dr. Deb Tech was interviewed by KSFY television and she spoke about online retailers. ksfy.com/content/news/Selling-of-Christmas-trees-marks-Amazons-continued-expansion-502066402.html?fbclid=IwAR04S-vN10eFiFFIPpL-SXdAGR-9O_ju7srq07bMcpK3R2ZxaN96TU-KdPY

An article about the health information management programs with an interview with HIM Program Director, Renae Spohn, was on the front page of the Madison Daily Leader newspaper. dailyleaderextra.com/news/local/article_9a58c19e-c813-11e8-b75b-9b1039475c42.html

The Prairie Business Magazine included an article from College of BIS Dean Dorine Bennett addressing stackable programs that allow students to achieve short-term goals, such as certificates, that may build (or stack) into degree programs. prairie-businessmagazine.com/opinion/columns/4537519-dorine-bennett-dakota-state-university-stackable-credentials-serve-rungs

Dr. Chris Olson joined Dr. Kevin Smith of the College of Education for an interview on KSFY television about Dewey, the robot. They purchased the robot through an innovation grant from the Office of the Provost and are exploring ways that it can be used to benefit faculty and students. ksfy.com/content/news/Dewey-the-robot-joins-DSU-education-team-502360651.html

Jon Hunter, publisher of the Madison Daily Leader, wrote an editorial highlighting the health information management programs at DSU. dailyleaderextra.com/opinion/editorials/article_1e712ff2-fe56-11e8-bebd-4f0524253f00.html

The College of BIS was featured in the Fall 2018 issue of the Dakota State Magazine. dsu.edu/assets/uploads/general/18_DSU_Alumni_Magazine.pdf

DSU Service Day

BIS's Professor Omar El Gayar worked with Sarah Rasmussen and Paige Metzinger of the Office of Online Education, as well as others from DSU, at Lake Herman State Park as part of DSU's Service Day.

Members of the Phi Beta Lambda (PBL) Business Club helped rake leaves in the Madison community during DSU's Service Day.

Blood Drive

The blood drive was back on campus October 31 with the Phi Beta Lambda (PBL) Business Club taking over from the Health Information Management students as the organizers for the event. They had a very successful drive, with donations of 42 pints of blood which will help to save 126 lives!