Tom Halverson
Tom.Halverson@dsu.edu
820 N. Washington Ave
Dakota State University
Madison SD, 57042
(605) 256-5838

Education:

The University of Iowa, Iowa City, Iowa,
Ph.D. in Computer Science
May 1999

The University of Iowa, Iowa City, Iowa,
M.S. in Computer Science
May 1992

University of Minnesota - Morris, Morris, Minnesota,
B.A in Computer Science Minor: Mathematics
May 1990

Academic Experience:

Professor: Computer Science, The Beacom College of Computer and Cyber Sciences, Dakota State University, Aug 2023 – Present

- Teach a wide range of courses from the freshman to senior level. This includes a sequence of courses for high-achieving freshmen which predates the honors program on campus.
- Focus efforts on student success through student engagement, advising, supplemental instruction, club involvement, and opportunities for student projects. Students also present these projects to campus visitors such as prospective students.
- Academic advisor to a high number of undergraduate students. Teach the GS100 University Experience course for all new Computer Science majors each year.
- Advise the DSU chapter of the ACM (Computer Club). This the largest and most active club on campus, with groups devoted to Offensive Security, Defensive Security, and Programming. The club also conducts Help Night to work with student that may need assistance in their computer science courses.
- Actively participate in faculty development activities, curriculum development, program assessment, and strategic initiative at the program, college, and university levels. Visit with companies about strategies to recruit students or develop partnerships.

Associate Dean for Undergraduate Programs: The Beacom College of Computer and Cyber Sciences, Dakota State University, Aug 2022 – present

- Provide administrative leadership for undergraduate programs in The Beacom College of Computer and Cyber Sciences: Computer Science, Cyber Operations, Network & Security Administration, Artificial Intelligence, and Game Design.
- Coordinate assessment activities for the programs: examinations, data collection, analysis, and reporting. Contribute to University assessment. Support Center of Academic Designations for Cyber Operations, Cyber Defense, and Cyber Research. ABET accreditation efforts are underway.
- Develop plans for the implementation of strategic goals, oversee assessment activities, establish course offerings/schedules, coordinate program curriculum. Work with college faculty to develop articulation agreements with universities and community colleges.
- Evaluate faculty performance of instructors for annual review.

- Identify and hire adjunct instructors.
- Establish the course schedule each term – courses offered, faculty assignments, rooms, etc. This frequently requires finding quality adjunct instructors to cover quite a few sections.
- Process academic forms such as change of major or course substitutions.
- Review transcripts and establish equivalencies for transfer students.

Associate Professor: Computer Science, The Beacom College of Computer and Cyber Sciences, Dakota State University, May 2005 – May 2022

Academic Coordinator: Undergraduate computer and cyber science programs: Dakota State University, 2000-2004, May 2016 – Aug 2022

- Academic Coordinator for undergraduate programs in The Beacom College of Computer and Cyber Sciences. Previously these programs were within the College of Business & Information Systems.
- Develop plans for the implementation of strategic goals, oversee assessment activities, establish course offerings/schedules, coordinate program curriculum. Work with college faculty to develop articulation agreements with universities and community colleges.
- Establish the course schedule each term – courses offered, faculty assignments, rooms, etc. This frequently requires finding quality adjunct instructors to cover quite a few sections.
- Process academic forms such as change of major or course substitutions.
- Review transcripts and establish equivalencies for transfer students.

Dean, College of Business and Information Systems: Dakota State University, July 2003 – June 2014

- Led the largest college at Dakota State University to significant growth in enrollment, programs, and research funding and capacity.
- Targeted the cyber security field as the key area of development and opportunity for the College of BIS, including being named National Center of Excellence through NSA and DHS, creating undergraduate and graduate programs and curriculum in cyber security and cyber operations.
- Developed new graduate & undergraduate programs from undergraduate to doctoral level.
- Multiple programs achieved initial or renewed program-specific accreditation. All programs also have regular reviews by the South Dakota Board of Regents.
- Managed significant growth in terms of the number of students, faculty, courses, and academic programs. This was accomplished within the constraints of limited budget and space.
- Conducted annual evaluations for faculty and staff.
- Addressed personnel issues for faculty/staff and academic issues for students.
- In 2015, the college was split and The Beacom College of Computer & Cyber Sciences became the home for the technology degrees.

Assistant Professor: Dakota State University, August 1999 – May 2005

- Duties reflected in the Associate Professor item.

Selected Publications and Presentations:

M.Ham, K.Cronin, and T.Halverson. “Electronic Cyber Badge: An Experiential Teaching Platform for Cybersecurity Concepts.” EDSIG Conference on Computing Education (EDSIGCON) 2022.

M. Ham, K. Cronin, and T. Halverson. “Wireless Security: Learning by Hacking with Software Defined Radios.” Midwest Instruction and Computing Symposium (MICS) 2022.

K. Cronin, M. Ham, and T. Halverson. “Internet of Strings: Introducing Routing Concepts to Kids.” Midwest Instruction and Computing Symposium (MICS) 2022.

M. Ham, K. Cronin, and T. Halverson. “IPv6 RPKI Implementation Validator: A Security Utility for BGP Administrators”. Conference on Information Systems Applied Research (CONISAR) 2021.

T. Rus, E. Van Wyk, and T. Halverson. Generating Model Checkers from Algebraic Specifications. Formal Methods in System Design, 20(3):249-284.

T. Halverson and J. Webster. Benefits of University and Data Center Collaboration on Research, Technology Development, and Education. Presented at the Science Data Centers Symposium 2001. March 26-28 in Pasadena CA.

T. Rus and T. Halverson. Algebraic Tools for Language Processing. In *Computer Languages*, 20(4), 213-238, 1994.

T. Rus, T. Halverson, E. Van Wyk, and R. Kooima. An Algebraic Language Processing Environment. In *Sixth International Conference on Algebraic Methodology and Software Technology, AMAST '97*, Proceedings, Sydney, Australia, December 13--17 1997. Published by Springer-Verlag in Lecture Notes in Computer Science 1349.

K. Lee, J. Ni, T. Halverson, E. Van Wyk, and J. R. Brown. Is an MVE the Right Environment for your Visualization Application? In *Computer Graphics*, ACM SIGGRAPH, 29(2), 1995.

T. Rus and T. Halverson. Language Analysis Tools, Student Research Forum at PLDI'94, (ACM SIGPLAN Conference on Programming Language Design and Implementation), Orlando, FL, 1994.

Curriculum Vitae

Dakota State University
CSC 105 Introduction to Computers
CSC 150 Computer Science I
CSC 250 Computer Science II
CSC 260 Object Oriented Design
CSC 274 Creative Coding
CSC 300 Data Structures
CSC 310 Advanced Data Structures
CSC 314 Assembly Language
CSC 317 Computer Organization and Architecture
CSC 374 Interdisciplinary Coding
CSC 410 Parallel Computing
CSC 443 Scripting for Network Administration
CSC 466 Language Processing
CSC 492 Topics: Android Development
CSC 492 Topics: IOS Development
CSC 492 Topics: Linux Administration
CIS 130 Visual Basic Programming
CIS 245 Cyber Security Fundamentals
CIS 275 Web Programming I
CIS 350 Computer Hardware, Data Communications, and Networking
CIS 375 Web Programming II
INFS 730 Web Application Development
PHIL 200 Introduction to Logic

The University of Iowa
Principles of Computing
Programming & Problem Solving
Computer Science I
Programming Language Foundations (graduate)

Kirkwood Community College
Introduction to Computers

Additional Activities:

Madison Cyber Labs, Lab Director: August 2019-present

- Director for two labs. Oversee projects, coordinate with project sponsors & partners, manage staff & budgets.
- Connected Home Project: collaboration with East River Electric to study ways to modernize the load management system and determine if smart-home devices may play a role.
- Software Development: lead a group of student developers on various projects for businesses and state agencies.

GenCyber summer camp: Summer 2014-present

- Summer camps supported by the NSF and NSA designed to increase interest in cyber security education and careers. Served as director, co-director, or instructor at the many camps hosted by DSU. These camps bring middle and high school aged students together for a week-long cyber security learning opportunity. DSU also hosts a camp for teachers. Involvement with GenCyber camps has reached approximately 2,000 students through DSU's efforts.
- Managed all registration efforts & communication for the coed camps since 2015.
- Developed curriculum and assessment for core and elective sessions to ensure that the curriculum satisfied the camp objectives.

CyberCorps Scholarship for Service: 2010-present

- I serve as a co-PI for Dakota State University's CyberCorps Scholarship for Service (SFS) program. DSU's program is one of the nation's largest in providing fullride scholarships and has supported 113 students since its inception. The scholarship program places graduates into full-time positions within the government (federal, state, local, or tribal) to help meet the need for qualified, technically capable cybersecurity professionals.

INSuRE: 2016-2018

- Served as co-pi on the grant to include undergraduate students in the research project. This was part of the national collaboration involving over 10 universities and several federal agencies.
- Supervised a research team the studied Internet of Things forensics.
- Supervised a team that researched the application of graph theory to binary analysis.

RITELink Project: Fall 2000 – Spring 2003

- Provided fundamental IT training to people in small communities throughout South Dakota to prepare them for career opportunities that require such experience.
- Trained over 100 participants in 8 communities through a weekly Vtel session and other supporting distance education technologies.
- Collaborative effort between Dakota State University, University of South Dakota, and Dakota State University.
- Head of the Information Technology Training Team and Co-PI for NSF funded activity
- Develop the Information Technology curriculum portion of the grant
- Supervised graduate and undergraduate students as they play an important role in the activities of this project

Immersive Technologies: Dakota State University, Summers 2002 and 2003

- Focus of the project was on the development of scientific visualization tools and infrastructure
- Purchased components necessary to construct a GeoWall system to allow for immersive 3-d visualization on the DSU campus